



# MIND TOOLS

Essential skills for an excellent career



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# Mind Tools

## Practical Thinking Skills for an Excellent Life!

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**Disclaimer:**

Stress can cause severe health problems and, in extreme cases, can even cause death. While stress management techniques are conclusively shown to have a positive effect on reducing stress, readers should take the advice of suitably qualified medical professionals if they have any concerns over stress-related illnesses. These medical professionals should also be consulted before changing diet or levels of exercise.

## About the Author... James Manktelow

James Manktelow has developed Mind Tools since 1995.

The Mind Tools concept started with his research into the practical skills and techniques he needed to progress his own career - he found it frustrating that so many simple, but important, life and career skills were so little known and taught.

Mind Tools exists to help correct this. Since 1995, visitors have viewed more than 8 million Mind Tools pages on the Mind Tools web site at [www.mindtools.com](http://www.mindtools.com). Many have been kind enough to send us very positive testimonials on how the techniques we have helped to popularize have helped them in their daily lives and their careers.

Outside his work with Mind Tools, James is a Director of UK financial software house, CQ Systems Ltd, which produces Europe's leading leasing and loan systems. His career with CQ has spanned marketing, business development, strategy, production and project management, business and systems analysis, software development and consultancy. In this capacity, he has provided extensive consultancy for major corporations in most European countries. Clients have included DaimlerChrysler, Bank of Scotland, Ford and Capital One, among many others.

James gained his MBA at London Business School, specializing in entrepreneurship, finance and strategy. He lives with his wife Rachel and son Alex in Wimbledon in London.

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# How to use this e-book

Welcome to Mind Tools!

This e-book is a tool kit for your mind.

On its own, a screwdriver will only help you in a small way. Although it can be very useful, there are only a few jobs that you can use it for. When, however, you use this screwdriver as part of a complete tool kit, the range of options open to you is enormous. A craftsman with a good tool kit can make many different, useful things.

Similarly, individual thinking skills used on their own may help you in a small way. When, however, you use many different thinking skills together, your ability to solve problems increases significantly. Mind Tools is a tool kit of thinking techniques. It will help you to think and live excellently.

The first four modules of Mind Tools cover the techniques that will make you a more effective business thinker. Module 1, *Creativity Tools*, shows you how to generate fresh and innovative ideas reliably. The next two modules, *Tools for Understanding Complex Situations* and *Techniques for Effective Decision Making*, give you the skills you need to understand many difficult problems, and make the best decisions possible with the information available. Module 4, *Project Planning & Management Skills*, shows you how to plan, schedule and implement complex projects.

Modules 5 and 6 explain how to study and remember information. These techniques will help you to study more effectively when you need to master a new subject or when you want to pass examinations. The section on Memory Techniques also explains useful ways of remembering people's names, lists of information, foreign languages, etc.

The final two modules explain the time and stress management skills that you will need as you become increasingly successful. They explain how to control and dissipate the pressures that will build around you. These tools will help you to live a happy life as well as a highly successful one.

The best way to use this e-book is to skim through it quickly so that you get an overview of what is contained within it. Then read through the sections that are useful to you in more detail, so that you remember the bones of the methods. Finally, keep Mind Tools on your PC desktop, and refer to it whenever you need a new approach to solving a problem. It will be worth skimming through it periodically to keep the range of tools you now have available fresh within your mind.

The Tool List at the start of the e-book will help you to select techniques, as you need them. Whenever you begin to feel out of control or feel that you are not being fully effective, try scanning this list to see if there is a technique that can help you. Once you understand the basic tool, adapt it and refine it to suit your circumstances and the way that you think.

Welcome to powerful thinking!

# Module 1

## Creativity Tools

- Improving a product or service - *Reversal and SCAMPER*
- Creating new products, services & strategies  
- *Attribute Listing, Morphological Analysis & Matrix Analysis*
- Generating many radical ideas - *Brainstorming*
- Making creative leaps - *Random Input*
- Widening the search for solutions - *Concept Fan*
- Looking at problems from different perspectives - *Reframing Matrix*
- Carrying out thought experiments - *Provocation*
- A simple process for creativity - *DO IT*
- A powerful integrated problem solving process - *Simplex*
- Subconscious problem solving



## 1. Creativity Tools

The tools in this module can help you to become intensely creative. They will help you both solve problems and spot opportunities that you might otherwise miss.

We will discuss the following techniques:

- Improving a product or service - *Reversal and SCAMPER*
- Creating new products, services & strategies
  - *Attribute Listing, Morphological Analysis & Matrix Analysis*
- Generating many radical ideas - *Brainstorming*
- Making creative leaps - *Random Input*
- Widening the search for solutions - *Concept Fan*
- Looking at problems from different perspectives - *Reframing Matrix*
- Carrying out thought experiments - *Provocation*
- A simple process for creativity - *DO IT*
- A powerful integrated problem solving process - *Simplex*
- Subconscious problem solving

It is important to understand what we mean by creativity, as there are two completely different types. The first is technical creativity, where people create new theories, technologies or ideas. This is the type of creativity we discuss here. The second is artistic creativity, which is more born of skill, technique and self-expression. Artistic creativity is very specific to the medium chosen, and would probably not benefit from a general discussion.

Many of the techniques in this module are those used by great thinkers to drive their creativity. Albert Einstein, for example, used his own informal variant of Provocation ([1.8](#)) to trigger ideas that lead to the Theory of Relativity.

### Approaches to Creativity

There are two main strands to technical creativity: programmed thinking and lateral thinking. Programmed thinking relies on logical or structured ways of creating a new product or service. Examples of this approach are Morphological Analysis (see [1.3](#)) and the Reframing Matrix (see [1.7](#)). Another example of this sort of approach is the enormously powerful TRIZ process, which would require an e-book-length summary and is therefore beyond the scope of this e-book.

The other main strand uses "Lateral Thinking". Examples of this are Brainstorming (see [1.4](#)), Random Input ([1.5](#)) and Provocation ([1.8](#)). Edward de Bono has popularized Lateral Thinking.

Lateral thinking recognizes that our brains are pattern recognition systems, and they do not function like computers. It takes years of training before we learn to do simple arithmetic, something that computers do very easily. On the other hand, we can instantly recognize patterns such as faces, language, and handwriting. The only computers that begin to be able to do these things do it by modeling the way that

human brain cells work<sup>1</sup>. Even then, computers will need to become vastly more powerful before they approach our ability to handle patterns.

The benefit of good pattern recognition is that we can recognize objects and situations very quickly. Imagine how much time would be wasted if you had to run a full analysis every time you came across a cylindrical canister of effervescent fluid. Most people would just open a can of fizzy drink. Without pattern recognition we would starve or be eaten. We could not cross the road safely.

Unfortunately, we get stuck in our patterns. We tend to think within them. Solutions we develop are based on previous solutions to similar problems. Normally, it does not occur to us to use solutions belonging to other patterns.

We use lateral thinking techniques to break out of this patterned way of thinking. They help us to come up with startling, brilliant and original solutions to problems and opportunities.

It is important to point out that each type of approach has its strength. Logical, disciplined thinking is enormously effective in making products and services better. It can, however, only go so far before all practical improvements have been carried out. Lateral thinking can generate completely new concepts and ideas, and brilliant improvements to existing systems. It can, however, be sterile, unnecessarily disruptive or an undisciplined waste of time.

A number of techniques fuse the strengths of the two different strands of creativity. Techniques such as the Concept Fan (see [1.6](#)) use a combination of structured and lateral thinking. DO IT ([1.9](#)) and Min Basadur's Simplex ([1.10](#)) embed the two approaches within problem solving processes. While these may be considered overkill when dealing with minor problems, they provide excellent frameworks for solving difficult and serious ones.

### **The Creative Frame of Mind**

Often the only difference between creative and uncreative people is self-perception. Creative people see themselves as creative, and give themselves the freedom to create. Uncreative people do not think about creativity, and do not give themselves the opportunity to create anything new.

Being creative may just be a matter of setting aside the time needed to take a step back. Ask yourself if there is a better way of doing something. Edward de Bono calls this a "Creative Pause". He suggests that this should be a short break of maybe only 30 seconds, but that this should be a habitual part of thinking. This needs self-discipline, as it is easy to forget.

Another important attitude-shift is to view problems as opportunities for improvement. While this is something of a cliché, it is true. Whenever you solve a problem, you have a better product or service to offer afterwards.

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<sup>1</sup> This is achieved using neural networks. These are fascinating computer models that mimic the way brain cells work. Knowledge of neural networks is essential to anyone who is genuinely interested in why people behave the way that they do. Using them you can show how patterns are recognized, and how problems such as prejudice arise. An excellent (if slightly old) coverage of neural networks is 'Explorations in Parallel Distributed Processing' by James L McClelland and David E Rumelhart - ISBN 0-262-63113-X.

## Using Creativity

Creativity is sterile if action does not follow from it. Ideas must be evaluated, improved, polished and marketed before they have any value. Other sections of Mind Tools lay out the evaluation, analysis and planning tools needed to do this. They also explain the time and stress management techniques you will need when your creative ideas take off.

Have fun creating!

## Reversal (1.1)

Function: **Improving products or services**

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How to use tool: Reversal is a good tool for improving a product or a service. To use it, ask the opposite of the question you want to ask, and apply the results.

---

Example: Imagine that you want to improve the response of a service centre. Using Reversal you would ask: "How would I reduce customer satisfaction?" After considering this question, you might give the following answers:

- Not answering the phone when customers call
- Not returning phone calls
- Have people with no product knowledge answering the phone
- Use rude staff
- Give the wrong advice
- Etc.

After using Reversal, you would ensure that the appropriate staff members were handling incoming phone calls efficiently and pleasantly. You would set up training programs to ensure that they were giving accurate and effective advice.

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Key points: Reversal is a good, easy process for improving products and services. You use it by asking the exact opposite of the question you want answered, and then apply the results appropriately.

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## SCAMPER (1.2)

Function: **Generating new products and services**

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How to use tool: SCAMPER is a checklist that helps you to think of changes you can make to an existing product to create a new one. You can use these changes either as direct suggestions or as starting points for lateral thinking.

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The changes SCAMPER stands for are:

- S** - **Substitute** - components, materials, people
- C** - **Combine** - mix, combine with other assemblies or services, integrate
- A** - **Adapt** - alter, change function, use part of another element
- M** - **Modify** - increase or reduce in scale, change shape, modify attributes (for example, color)
- P** - **Put to another use**
- E** - **Eliminate** - remove elements, make as simple as possible, reduce to core functionality
- R** - **Reverse** - turn inside out or upside down, also use of Reversal (see 1.1)

SCAMPER was devised by Alex Osborn in his book '[Applied Imagination](#)'.

**Example:** As an example, imagine that you are a manufacturer of nuts and bolts, and you were looking for new products. SCAMPER would give you:

- Substitute** - use of high tech materials for niche markets, such as high-speed steel? Carbon fiber? Plastics? Glass? Non-reactive material?
- Combine** - integrate nut and bolt? Bolt and washer? Bolt and spanner?
- Adapt** - put Allen key or Star head on bolt? Countersink head?
- Modify** - produce bolts for watches or bridges? Produce different shaped bolts (e.g. screw in plugs)? Pre-painted green bolts?
- Put to another use** - bolts as hinge pins? As axles?
- Eliminate** - Eliminate nuts, washers, heads, thread, etc.
- Reverse** - make dies as well as bolts, make bolts that cut threads for themselves in material, etc.

Here, SCAMPER has helped to define possible new products. Many of the ideas may be impractical or may not suit the equipment used by the manufacturer. However, some of these ideas could be good starting points for new products.

**Key points:** SCAMPER is an acronym for **Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, Reverse**. This is a list of changes that you could make to existing products and services to open up new opportunities.

### Attribute Listing, Morphological Analysis & Matrix Analysis (1.3)

**Function:** Creating New Products, Services & Strategies

**How to use tool:** Attribute Listing, Morphological Analysis and Matrix Analysis are good techniques for finding new combinations of products or services. They are sufficiently similar to be

discussed together. We use Attribute Listing and Morphological Analysis to generate new products and services. Matrix Analysis is a good tool for creating things like marketing strategies.

To use the technique, first list the attributes of the product, service or strategy you are examining. Attributes are parts, properties, qualities or design elements of the thing being looked at. Attributes of a pencil would be shaft material, lead material, hardness of lead, width of lead, quality, color, weight, price, etc. A television plot would have attributes of characters, actions, locations, weather, etc. For a marketing strategy you might use attributes of markets open to you, uses of the product, skills you have available, etc.

Draw up a table using these attributes as column headings. Write down as many variations of the attribute as possible in the columns. This might be an exercise that benefits from Brainstorming (see [1.4](#)). The table should now show all possible variations of each attribute.

Now, select one entry from each column. Either do this randomly or select interesting combinations. By mixing one item from each column, you will create a new mixture of components. This is a new product, service or strategy.

Now evaluate and improve that mixture to see if you can imagine a profitable market for it.

Attribute Listing focuses on the attributes of an object, seeing how each attribute could be improved. Morphological Analysis uses the same basic technique, but is used to create a new product by mixing components in a new way. Matrix Analysis focuses on businesses. It is used to generate new approaches, using attributes such as market sectors, customer needs, products, promotional methods, etc.

Example: Imagine that you want to create a new lamp. The starting point for this might be to carry out a morphological analysis. Properties of a lamp might be power supply, bulb type, light intensity, size, style, finish, material, shade, etc.

You can set these out as column headings on a table:

<b>Power Supply</b>	<b>Bulb Type</b>	<b>Light Intensity</b>	<b>Size</b>	<b>Style</b>	<b>Color</b>	<b>Material</b>
Battery	Halogen	Low	Very large	Modern	Black	Metal
Mains	Bulb	Medium	Large	Antique	White	Ceramic
Solar	Daylight	High	Medium	Roman	Metallic	Concrete
Generator	Colored	Variable	Small	Art	Terra cotta	Bone
Crank	Arc		Very small	Nouveau	Enamel	Glass
Gas	Flame		Hand held	Industrial	Natural	Wood
Oil/Petrol				Ethnic	Fabric	Stone
						Plastic

Interesting combinations might be:

- Solar powered/battery, medium intensity, daylight bulb - possibly used in clothes shops to allow customers to see the true color of clothes.
- Large hand cranked arc lights - used in developing countries, or far from a mains power supply.
- A ceramic oil lamp in Roman style - resurrecting the olive oil lamps of 2000 years ago.
- A normal table lamp designed to be painted, wallpapered or covered in fabric so that it matches the style of the room perfectly.

Some of these might be practical, novel ideas for the lighting manufacturer. Some might not. This is where the manufacturer's experience and market knowledge are important.

**Key points:** Morphological Analysis, Matrix Analysis and Attribute Listing are useful techniques for making new combinations of products, services and strategies.

You use the tools by identifying the attributes of the product, service or strategy you are examining. Attributes might be components, assemblies, dimensions, color, weight, style, speed of service, skills available, etc.

Use these attributes as column headings. Underneath the column headings list as many variations of that attribute as you can.

You can now use the table by randomly selecting one item from each column, or by selecting interesting combinations of items. This will give you ideas that you can examine for practicality.

## Brainstorming (1.4)

**Function:** Generating many radical ideas

**How to use tool:** Brainstorming is an excellent way of developing many creative solutions to a problem. It works by focusing on a problem, and then coming up with very many radical solutions to it. Ideas should be as broad and odd as possible, and should be developed as fast as you can. Brainstorming is a lateral thinking process (see the introduction to this module for further information). It helps you to break out of your thinking patterns into new ways of looking at things.

During brainstorming sessions there should be no criticism of ideas. You are trying to open possibilities and break down wrong assumptions about the limits of the problem. Judgments or analysis at this stage will stunt idea generation. You should only evaluate ideas after a brainstorming session has finished. You can then explore solutions further using conventional approaches.



If your ideas begin to dry up, you can “seed” the session with a random word (see Random Input, section [1.5](#)).

You can brainstorm your own or in a group.

### **Individual Brainstorming**

When you brainstorm on your own, you will tend to produce a wider range of ideas than group brainstorming. You do not have to worry about other people’s egos or opinions, and so can be more freely creative. You may not, however, develop ideas as effectively as you do not have the experience of the group to help you.

When Brainstorming on your own, it can be helpful to use Concept Maps (see [5.1](#)) to arrange and develop ideas.

### **Group Brainstorming**

Group brainstorming can be very effective as it uses the experience and creativity of all members of the group. When individual members reach their limit on an idea, another member's creativity and experience can take it to the next stage. Therefore, group brainstorming tends to develop ideas in more depth than individual brainstorming.

Brainstorming in a group can be risky for individuals. Strange and often very valuable suggestions may appear stupid at first sight. Because of such, you need to chair sessions tightly so that uncreative people do not crush these ideas and leave group members feeling humiliated.

To run a group brainstorming session effectively, do the following:

- Define the problem you want solved clearly, and lay out any criteria to be met.
- Keep the session focused on the problem.
- Ensure that no one criticizes or evaluates ideas during the session. Criticism introduces an element of risk for group members when putting forward an idea. This stifles creativity and cripples the free running nature of a good brainstorming session.
- Encourage an enthusiastic, uncritical attitude among members of the group. Try to get everyone to contribute and develop ideas, including the quietest members of the group.
- Let people have fun brainstorming. Encourage them to come up with as many ideas as possible, from solidly practical ones to wildly impractical ones. Welcome creativity.
- Ensure that no train of thought is followed for too long.
- Encourage people to develop other people’s ideas, or to use other ideas to create new ones.
- Appoint one person to note down ideas that come out of the session. A good way of doing this is to use a flip chart. This should be studied and evaluated after the session.

Where possible, participants in the brainstorming process should come from as wide a range of disciplines as possible. This brings a broad range of experience to the session and helps to make it more creative.

**Key points:** Brainstorming is a formal way of generating radical ideas. During the brainstorming process there is no criticism of ideas, as free rein is given to people's creativity. Criticism and judgment cramp creativity.

Individual brainstorming is best for generating many ideas, but tends to be less effective at developing them. Group brainstorming tends to develop fewer ideas, but takes each idea further. Group brainstorming needs formal rules for it to work smoothly.

## Random Input (1.5)

**Function:** Making Creative Leaps

---

**How to use tool:** Random Input is a lateral thinking tool. It is very useful when you need fresh ideas or new perspectives during problem solving.

As explained in the introduction to this module, we tend to think by recognizing patterns. We react to these patterns based on past experience and extensions to that experience. Sometimes, though, we get stuck inside them, and within a particular pattern there may be no good solution to a particular sort of problem.

Random input is a technique for linking another thinking pattern into the one we are using. Along with this new pattern comes all the experience you have connected to it.

To use Random Input, select a random noun from either a dictionary or a pre-prepared word list. It often helps if the noun is something that can be seen or touched (e.g. "helicopter", "dog") rather than a concept (e.g. "fairness"). Use this noun as the starting point for brainstorming (see [1.4](#)) on your problem.

You may find that you get good insights if you select a word from a separate field in which you have some expertise.

If you choose a good word, you will add a range of new ideas and concepts to your brainstorming. While some will be useless, hopefully you will gain some good new insights into your problem. If you persist, then at least one of these is likely to be a startling creative leap.

---

**Example:** Imagine that you are thinking about the problem of reducing car pollution. So far in thinking through the problem you have considered all the conventional solutions of catalytic conversion and clean fuels.

Selecting a random noun from the titles of the books in a bookcase you might see the word "Plants". Brainstorming from this you could generate a number of new ideas:

- Plant trees on the side of roads to convert CO<sub>2</sub> back into oxygen.
- Similarly, pass exhaust gases through a soup of algae to convert CO<sub>2</sub> back into oxygen. Perhaps this is how an "air scrubber" in a space craft works?

- Put sulfur-metabolizing bacteria into an exhaust gas processor to clean up exhaust gases. Would nitrogen compounds fertilize these bacteria?
- Another meaning of “Plant” is factory. Perhaps exhaust gases could be collected in a container, and sent to a special plant to be cleaned? Perhaps you could off-load these gases at the same time as you fill up with fuel?

These ideas are very raw. Some may be wrong or impractical. One of them might be original and the basis of some useful development.

**Key points:** Random input is an excellent way of getting new perspectives on a problem. It often leads to startling creative leaps.

It provides an easy way of breaking out of restrictive thinking patterns. It helps you to link in whole ranges of new solutions that you would not otherwise associate with the problem.

The best words to use are concrete nouns, which may come from areas in which you have some expertise. Nouns should not, however, come from the same field as the problem you are considering, as the whole idea of Random Input is to link in new thinking patterns, not to stay inside old ones.

## Concept Fan (1.6)

**Function:** Widening the Search for Solutions

**How to use tool:** The Concept Fan is a way of finding different approaches to a problem when you have rejected all obvious solutions. It develops the principle of “taking one step back” to get a broader perspective.

To start a Concept Fan, draw a circle in the middle of a large piece of paper. Write the problem you are trying to solve into it. To the right of it radiate lines representing possible solutions to the problem. This is shown in figure 1 below:

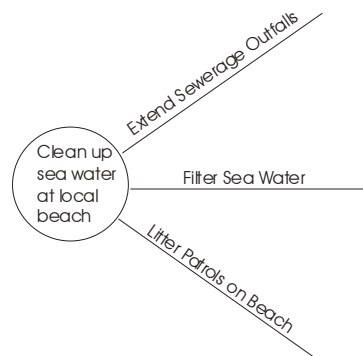


Figure 1: First Stage of a Concept Fan

It may be that the ideas you have are impractical or do not really solve the problem. If this is the case, take a “step back” for a broader view of the problem.

Do this by drawing a circle to the left of the first circle, and write the broader definition into this new circle. Link it with an arrow to show that it comes from the first circle:

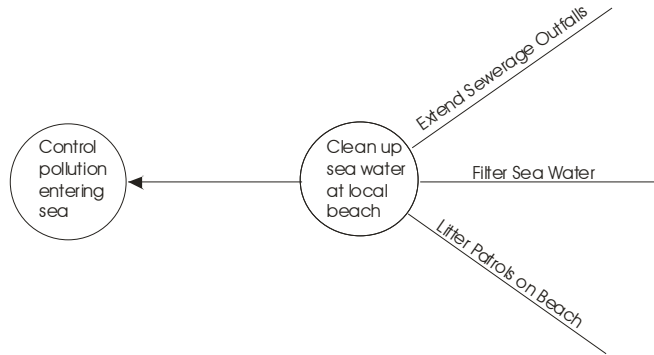


Figure 2: Broadening the Problem Definition on a Concept Fan

Use this as a starting point to radiate out other ideas:

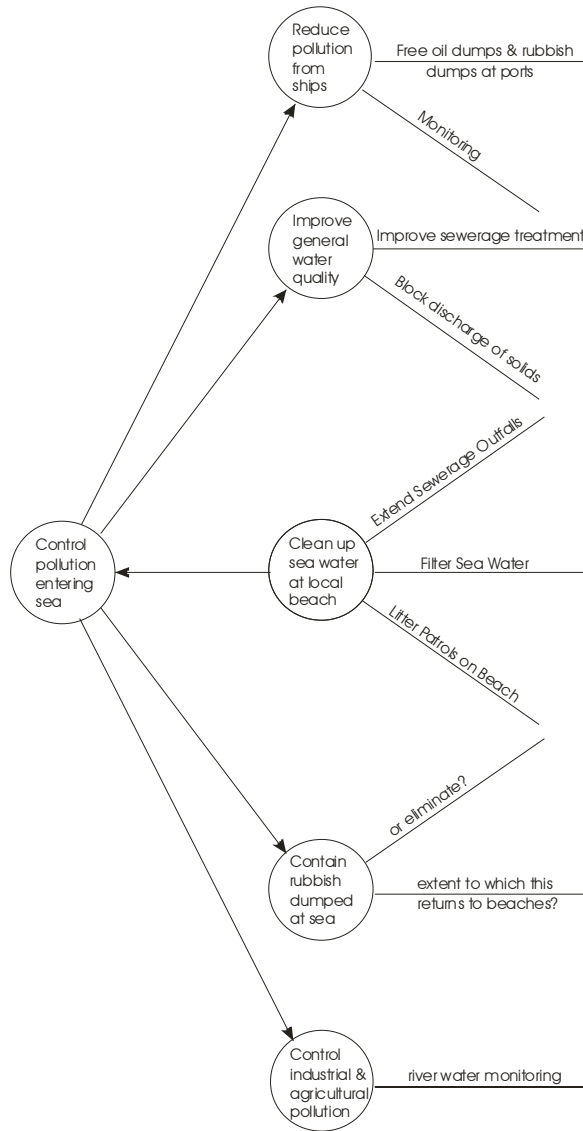


Figure 1.6.3: Radiating Ideas from the Broader Problem Definition

If this does not give you enough new ideas, you can take yet another step back (and another, and another...):

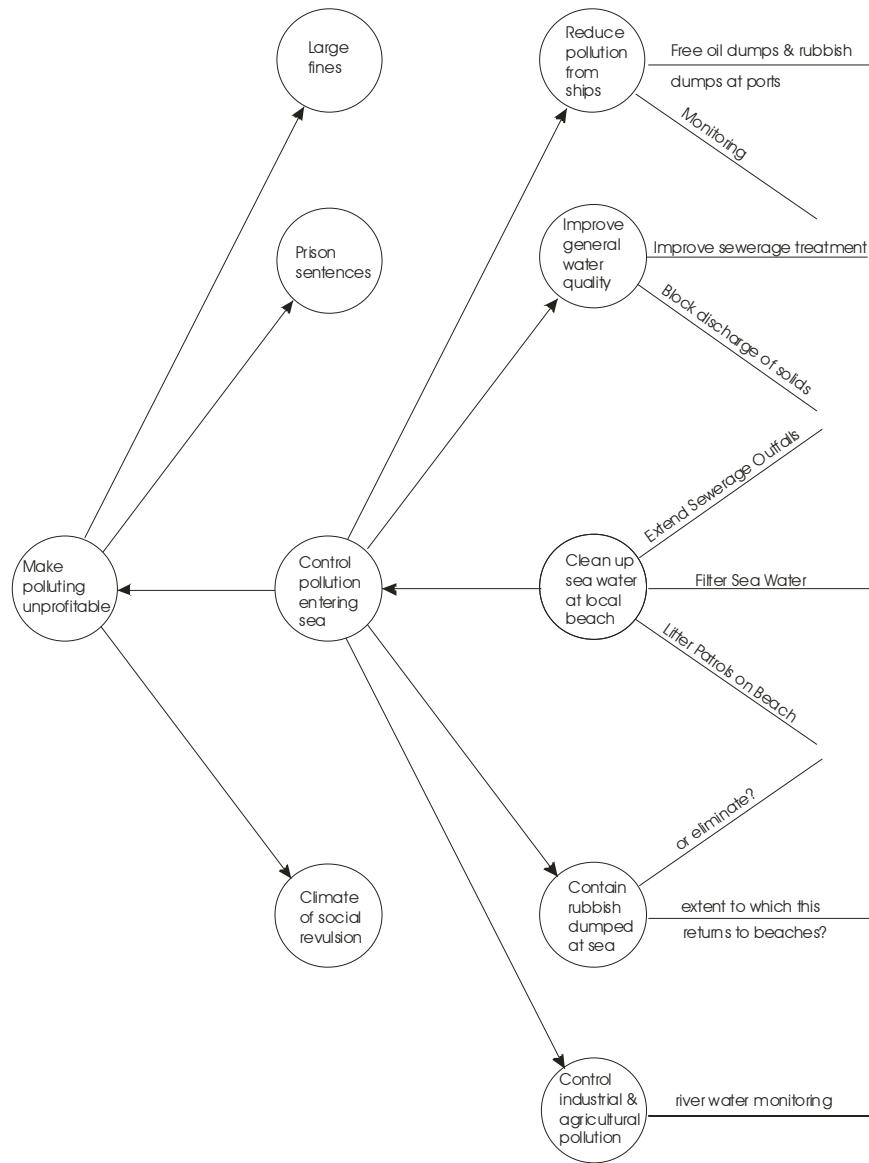


Figure 4: A Developed Concept Fan

The Concept Fan was devised by Edward de Bono in his book [‘Serious Creativity’](#).



**Key points:** The Concept Fan is a useful technique for widening the search for solutions when you have rejected all obvious approaches. It gives you a clear framework within which you can take “one step back” to get a broader view of a problem.

To start a concept fan, write the problem in the middle of a piece of paper. Write possible solutions to this problem on lines radiating from this circle.

If no idea is good enough, redefine the problem more broadly. Write this broader definition in a circle to the left of the first one. Draw an arrow from the initial problem definition to the new one to show the linkage between the problems. Then radiate possible solutions from this broader definition.

Keep on expanding and redefining the problem until you have a useful solution.

## Reframing Matrix (1.7)

**Function:** Looking at a problems from different perspectives

---

**How to use tool:** A Reframing Matrix is a simple technique that helps you to look at business problems from a number of different viewpoints. It expands the range of creative solutions that you can generate.

The approach relies on the fact that different people with different experience approach problems in different ways. What this technique helps you to do is to put yourself into the minds of different people, to imagine the solutions they would come up with.

We do this by putting the question to be asked in the middle of a grid. We use boxes around the grid for the different perspectives. This is just an easy way of laying the problem out, so if it does not suit you, change it.

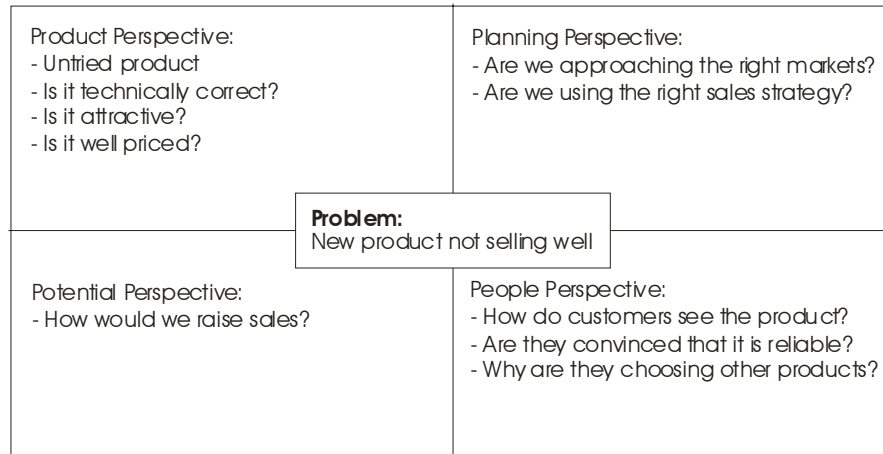
We will look at two different approaches to the reframing matrix. You could look at problems in a large number of different ways.

### **The 4 Ps Approach**

This relies on looking at a problem from different perspectives within a business. The 4 Ps approach looks at problems from the following viewpoints:

- **Product perspective:** Is there something wrong with the product?
- **Planning perspective:** Are our business plans or marketing plans at fault?
- **Potential perspective:** If we were to seriously increase our targets, how would we achieve these increases?
- **People perspective:** Why do people choose one product over another?

An example of this approach is shown below:

**Figure 1. Reframing matrix example - New product not selling well****The “Professions Approach”**

Another approach to using a reframing matrix is to look at the problem from the viewpoints of different specialists. The way, for example, that a doctor looks at a problem would be different from the approach a civil engineer would use. And, this would be different from a sales manager’s perspective.

The idea of the Reframing Matrix was devised by Michael Morgan in his book [‘Creating Workforce Innovation’](#).

**Key points:** The Reframing Matrix is a formal technique used to look at problems from different perspectives. It helps to expand the number of options open to you for solving a problem.

You draw up a reframing matrix by posing a question in a box in the middle of a piece of paper. You then draw a grid around it. Each cell will contain approaches to the problem, seen from one perspective.

One of the ways of using the technique is the ‘4 Ps’ approach. This looks at the problem from the following viewpoints: Product, Planning, Potential and People. Another set of perspectives is to ask your self how different professionals would approach the problem. Useful professions to consider would be medical doctors, engineers, systems analysts, sales managers, etc.

## Provocation (1.8)

Function: **Carrying Out Thought Experiments**

---

How to use tool: Provocation is an important lateral thinking technique. Just like Random Input (see 1.5), it works by moving your thinking out of the established patterns that you use to solve problems.

As explained earlier, we think by recognizing patterns and reacting to them. These reactions come from our past experiences and logical extensions to those experiences. Often we do not think outside these patterns. While we may know the answer as part of a different type of problem, the structure of our brains makes it difficult for us to link this in.

Provocation is one of the tools we use to make links between these patterns.

We use it by making deliberately stupid statements (Provocations), in which something we take for granted about the situation is not true. Statements need to be stupid to shock our minds out of existing ways of thinking. Once we have made a provocative statement, we then suspend judgment and use that statement to generate ideas. Provocations give us original starting points for creative thinking.

As an example, we could make a statement: "Houses should not have roofs". Normally, this would not be a good idea! However this leads one to think of houses with opening roofs, or houses with glass roofs. These would allow you to lie in bed and look up at the stars.

Once you have made the Provocation, you can use it in a number of different ways, by examining:

- The consequences of the statement
- What the benefits would be
- What special circumstances would make it a sensible solution
- The principles needed to support it and make it work
- How it would work moment-to-moment
- What would happen if a sequence of events was changed
- Etc.

You can use this list as a checklist.

[Edward de Bono](#) developed and popularized use of Provocation by using the word "Po". "Po" stands for "Provocative operation". As well as laying out how to use Provocation effectively, he suggests that when we make a Provocative statement in public that we label it as such with "Po" (e.g. "Po: the earth is flat"). This does rely on all members of your audience knowing about Provocation, and if they do not, they will think you are mad!

As with other lateral thinking techniques, Provocation does not always produce good or relevant ideas. Often, though, it does. Ideas generated using Provocation are likely to be fresh and original.

Example: The owner of a video-hire shop is looking at new ideas for business to compete with the Internet. She starts with the provocation: "Customers should not pay to borrow videos".

She then examines the provocation:

- **Consequences:** The shop would get no rental revenue and therefore would need alternative sources of cash. It would be cheaper to borrow the video from the shop than to download the film or order it from a catalogue.
- **Benefits:** Many more people would come to borrow videos. More people would pass through the shop. The shop would spoil the market for other video shops in the area.
- **Circumstances:** The shop would need other revenue. Perhaps the owner could sell advertising in the shop, or sell popcorn, sweets, bottles of wine or pizzas to people borrowing films. This would make her shop a one-stop "Night at home" shop. Perhaps it would only lend videos to people who had absorbed a 30-second commercial, or completed a market research questionnaire.

After using the Provocation, the owner of the video shop decides to run an experiment for several months. She will allow customers to borrow the top ten videos free (but naturally will fine them for late returns). She puts the videos at the back of the shop. In front of them she places displays of bottles of wine, soft drinks, popcorn and sweets so that customers have to walk past them to get to the videos. Next to the film return counter she sells merchandise from the top ten films being hired.

If the approach is a success she will open a pizza stand inside the shop.

---

Key points: Provocation is an important lateral thinking technique that helps to generate original starting points for creative thinking.

To use provocation, make a deliberately stupid comment relating to the problem you are thinking about. Then suspend judgment, and use the statement as the starting point for generating ideas.

Often this approach will help you to generate completely new concepts.

## DO IT (1.9)

Function: Simple Process for Creativity

---

How to use tool: DO IT is a process for creativity.

Techniques outlined earlier in this module focus on specific aspects of creative thinking. DO IT bundles them together, and introduces formal methods of problem definition and evaluation. These help you to get the best out of the creativity techniques.

DO IT is an acronym that stands for:

- **D** - Define problem
- **O** - Open mind and apply creative techniques
- **I** - Identify best solution
- **T** - Transform

These stages are explained in more detail below:

### **1. Problem Definition**

This section concentrates on analyzing the problem to ensure that the correct question is being asked. The following steps will help you to do this:

- a) Check that you are tackling the problem, not the symptoms of the problem. To do this, ask yourself why the problem exists repeatedly until you get to the root of it.
- b) Lay out the bounds of the problem. Work out the objectives that you must achieve and the constraints that you are operating under.
- c) Where a problem appears to be very large, break it down into smaller parts. Keep on going until each part is achievable in its own right, or needs a precisely defined area of research to be carried out. See section [2.2](#) (Drill-Down) for a detailed description of this process.
- d) Summarize the problem in as concise a form as possible. Robert W. Olsen suggests that the best way to do this is to write down a number of 2-word problem statements and choose the best one.

### **2. Open Mind and Apply Creative Techniques**

Once you know the problem that you want to solve, you are ready to start generating possible solutions. It is very tempting just to accept the first good idea that you come across. If you do this, you will miss many even better solutions.

At this stage of DO IT we are not interested in evaluating ideas. Instead, we are trying to generate as many different ideas as possible. Even bad ideas may be the seeds of good ones.

You can use the whole battery of creativity techniques covered earlier in this module to search for possible solutions. See sections 1.1 to 1.8 for full detail on these. Each tool has its particular strengths and benefits, depending on the problems that you want to solve. While you are generating solutions, remember that other people will have different perspectives on the problem, and it will almost certainly be worth asking for the opinions of your colleagues as part of this process.

### **3. Identify the Best Solution**

Only at this stage do you select the best of the ideas you have generated. It may be that the best idea is obvious. Alternatively, it may be worth examining and developing a number of ideas in detail before you select one.

Section 3 of Mind Tools explains a range of excellent decision-making techniques. Decision Tree Analysis ([3.4](#)) and Force Field Analysis ([3.6](#)) are particularly useful. These will help you to choose between the solutions available to you.

When you are selecting a solution, keep in mind your own or your organization's goals. Often decision-making becomes easy once you know these. Section [7.6](#) discusses the setting of personal goals.

#### 4. **Transform**

Having identified the problem and created a solution to it, the final stage is to implement this solution. This involves not only development of a reliable product from your idea, but all the marketing and business side as well. This may take a great deal of time and energy.

Many very creative people fail at this stage. They will have fun creating new products and services that may be years ahead of what is available on the market. They will then fail to develop them, and watch someone else make a fortune out of the idea several years later.

The first stage in transforming an idea is to develop an Action Plan for the transformation (see [7.4](#)). This may lead to creation of a Business or Marketing Plan. Once you have done this, the work of implementation begins!

DO IT was devised by Robert W Olsen in his book '[The Art of Creative Thinking](#)'.

---

Key points: DO IT is a structured process for creativity. Using DO IT ensures that you carry out the essential groundwork that helps you to get the most out of creativity tools.

These steps are:

1. **Problem Definition:** During this stage you apply a number of techniques to ensure that you are asking the right question.
2. **Open Mind:** Here you apply creativity techniques to generate as many answers as possible to the question you are asking. At this stage you are not evaluating the answers.
3. **Identify the best solution:** Only at this stage do you select the best solutions from the ones you came up with in step 2. Where you are having difficulty in selecting ideas, use formal techniques to help.
4. **Transform:** The final stage is to make an Action Plan for the implementation of the solution, and to carry it out. Without implementation, your creativity is sterile.



## Simplex (1.10)

Function: **Powerful integrated problem solving process**

---

How to use tool: Simplex is an excellent, industrial strength creativity tool. It takes the approach of DO IT (see [1.9](#)) to the next level of sophistication.

Rather than seeing creativity as a single straight-line process, Simplex sees it as the continuous cycle it should be. Completion and implementation of one cycle of creativity leads straight into the next cycle of creative improvement.

Simplex uses the following eight stages:

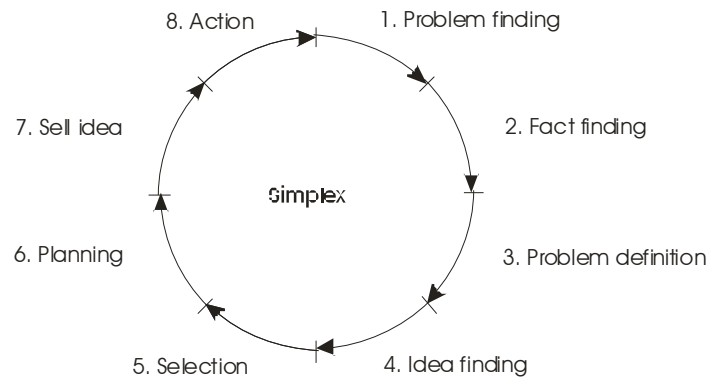


Figure 1: The Simplex Process

These are explained below:

### 1. Problem finding

Often finding the right problem to solve is the most difficult part of the creative process. When using Simplex, actively seek problems out. Wherever they exist, you have opportunities for change and improvement.

Problems may be obvious, or can be flushed out using trigger questions like the ones below:

- What would your customers want you to improve?
- What could they be doing better if we could help them?
- Who else could we help using our core competences?
- What small problems do we have which could grow into bigger ones?
- What slows our work or makes it more difficult? What do we often fail to achieve?
- How can we improve quality?

- What are our competitors doing that we could do?
- What is frustrating and irritating?

These questions deal with problems that exist now. It is also useful to try to look into the future. Think about how you expect markets and customers to change over the next few years; the problems you may experience as your organization expands; and social, political and legal changes that may affect it.

At this stage you may not have enough information to formulate your problem precisely. Do not worry about this until step 3!

## 2. Fact Finding

The next stage is to find out as much information relating to the problem as possible. This gives you the depth of knowledge you need to:

- Use the best ideas your competitors have had
- Understand customers needs in more detail
- Know what has already been tried
- Fully understand any processes, components, services or technologies that you may need to use
- Ensure that the benefits of solving the problem will be worth the effort you will put into it

This stage also involves assessing the quality of the information that you have. Here it is worth listing your assumptions and checking that they are correct.

## 3. Problem definition

By the time you reach this stage, you should know roughly what the problem is and should have a good understanding of the facts relating to it. From here, the thing to do is to crystallize the exact problem or problems you want to solve.

It is important to solve a problem at the right level. If you ask questions that are too broad, then you will never have enough resources to answer them effectively. If you ask questions that are too narrow, you may end up fixing symptoms of a problem, rather than the problem itself.

[Min Basadur](#) (who created the Simplex Process) suggests using the question “Why?” to broaden a question, and “What’s stopping you?” to narrow it. For example, if your problem is one of trees dying, ask “Why do I want to keep trees healthy?” This might broaden the question to “How can I maintain the quality of our environment?”

A “What’s stopping you?” here could be “I do not know how to control a disease killing the tree”.

Big problems are normally made up of many smaller ones. This is the stage at which you can use a technique like Drill-Down (see [2.2](#)) to break the problem down to its component parts.

#### **4. Idea finding**

The next stage is to generate as many ideas as possible. Ways of doing this range from asking other people for their opinions, through programmed creativity tools (see [1.1](#), [1.2](#), [1.3](#), [1.6](#) and [1.7](#)) and lateral thinking techniques ([1.5](#) and [1.8](#)) to brainstorming (see [1.4](#)).

Do not evaluate ideas during this stage. Instead, concentrate on generating many ideas as possible. Bad ideas often trigger good ones.

#### **5. Selection & Evaluation**

Once you have a number of possible solutions to your problem, it is time to select the best one.

The best solution may be obvious. If it is not, then it is important to think through the criteria you will use to select the best idea. Section 3 of Mind Tools (Decision Making Techniques) lays out a number of good methods for this. Particularly useful techniques may be Decision Trees ([3.4](#)), Paired Comparison Analysis ([3.2](#)) and Grid Analysis ([3.3](#)).

Once you have selected an idea, develop it as far as possible. It is then essential to evaluate it to see if it is good enough to be considered worth using. It is important not to let your ego get in the way of your common sense. If your idea does not give big enough benefit, then either see if you can generate more ideas, or restart the whole process. You can waste years of your life developing creative ideas that no one wants.

There are two excellent techniques for doing this. One is Edward de Bono's 6 Thinking Hats (see [3.7](#)), which is an excellent tool for qualitative analysis. The other is Cost/Benefit Analysis ([3.8](#)), which gives you a good basis for financially based decisions.

#### **6. Planning**

Once you have selected an idea, and are confident that your idea is worthwhile, then it is time to plan its implementation.

The best way of doing this is to set this out as an Action Plan (see [7.4](#)), which lays out who, what, when, where, why and how of making it work. For large projects it may be worth using more formal planning techniques. These are laid out in sections 4.1 to 4.5.

#### **7. Sell Idea**

Up to this stage you may have done all this work on your own or with a small committee. Now you will have to sell the idea to the people who must support it. This might be your boss, a bank manager or other people involved with the project.

In selling the project you will have to address not only the practicality of the project, but also things such as internal politics, hidden fear of change, etc.

#### **8. Action**

Finally, after all the creativity and preparation, comes action! This is where all the careful work and planning pays off.

Once the action is firmly under way, return to stage 1, Problem Finding, to continue improving your idea.

---

**Key points:** The Simplex Process is a powerful, sophisticated approach to innovation. It is suitable for projects and organizations of almost any scale.

The Process is an eight-stage cycle. Upon completion of the eight stages you start it again to find and solve another problem. This helps to ensure continuous improvement.

Stages in the process are:

1. Problem finding
2. Fact finding
3. Problem Definition
4. Idea Finding
5. Selection and Evaluation
6. Planning
7. Selling of the Idea
8. Action

By moving through these stages you ensure that you solve the most significant problems with the best solutions available to you. This process can help you to be intensely creative.

## Subconscious Problem Solving (1.11)

**Function:** Using all your brain to solve problems

---

**How to use tool:** Often when you have immersed yourself in a difficult problem, you will have found that the answer pops into your mind when you have relaxed or looked at something else. Perhaps the answer came to you when you were drifting off to sleep.

This happens when your whole brain is working on a problem, and includes the parts of your brain that do not have the focus of your current consciousness. When you relax that focus, you may notice the solutions that other parts of your brain have created.

Often this will happen of its own accord, and may not need to be codified as a formal technique. Alternatively, when you are making no progress on a problem, it may be worth asking yourself a question, relaxing and letting your thoughts float. Relaxation techniques are explained in section 7.

When you do come across a solution, write it down quickly. Often you may be so relaxed that you forget good ideas!

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Key points:      When you have tried to solve a problem for some time, you may find that an idea pops into your mind when you relax or turn your mind to something else.

## Module 2

# Tools for Understanding Complex Situations

- Extracting maximum information from facts - *Appreciation*
- Understanding problems in detail - *Drill-Down*
- Identifying possible causes of problems - *Cause & Effect Diagrams*
- Understanding the way factors affect one-another - *Systems Diagrams*
- Analyzing Strengths, Weaknesses, Opportunities and Threats - *SWOT Analysis*
- Making *Forecasts with Spreadsheets*
- Methods of *Risk Analysis*



## 2. Tools for Understanding Complex Situations

The tools in this section help you understand complicated, difficult situations. Without them problems might seem huge, overwhelming and excessively complex. By using these formal techniques you can ensure that you carry out the best analysis possible. You will have considered all factors involved and identified further information needed. These tools give you a starting point in problem solving where other people would just feel helpless and intimidated by the situation.

We will look at the following tools:

- Extracting maximum information from facts - *Appreciation*
- Understanding problems in detail - *Drill-Down*
- Identifying possible causes of problems - *Cause & Effect Diagrams*
- Understanding the way factors affect one-another - *Systems Diagrams*
- Analyzing Strengths, Weaknesses, Opportunities and Threats - *SWOT Analysis*
- Making *Forecasts with Spreadsheets*
- Methods of *Risk Analysis*

The first half of the module covers general approaches. Appreciation is a useful technique for extracting good information from dry facts. Drill Down helps you to break large, seemingly unmanageable problems down into achievable parts. It also helps you to see where you need more information. Cause & Effect Diagrams are very useful for making sure that you have considered all factors relating to a problem, while Systems Diagrams are hugely powerful tools for showing how factors interact in complex situations.

The second half of the module discusses specific tools for specific situations. SWOT Analysis helps you to work out a survival and success strategy in a competitive environment. Forecasting with Spreadsheets shows you how to make financial models of your organization or projects. You can use these to work out whether projects are viable and use them to forecast the effects of changes in underlying factors. Risk Analysis provides a formal framework for identifying the risks you face, and helps you to work out a strategy for controlling them.

### Appreciation (2.1)

Function: **Extracting maximum information from facts**

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How to use tool: Appreciation is a very simple but powerful technique for extracting the maximum amount of information from a simple fact.

Starting with a fact, ask the question: "So what?" - i.e. what are the implications of that fact? Keep on asking that question until you have drawn all possible inferences.

---

Example: Appreciation is a technique used by military planners, so we will take a military example:

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*Fact: It rained heavily last night*

- *So What?*  
The ground will be wet
- *So What?*  
It will turn into mud quickly
- *So What?*  
If many troops and vehicles pass over the same ground, movement will be progressively slower and more difficult as the ground gets muddier and more difficult.
- *So What?*  
Where possible, stick to paved roads. Otherwise expect movement to be much slower than normal.

While it would be possible to reach this conclusion without the use of a formal technique, appreciation provides a framework within which you can extract information quickly, effectively and reliably.

---

Key points: Asking “so what?” repeatedly helps you to extract all important information implied by a fact.

## Drill Down (2.2)

Function: Breaking complex problems down into manageable parts

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How to use tool: Drill Down is a useful technique for breaking complex problems down into progressively smaller parts.

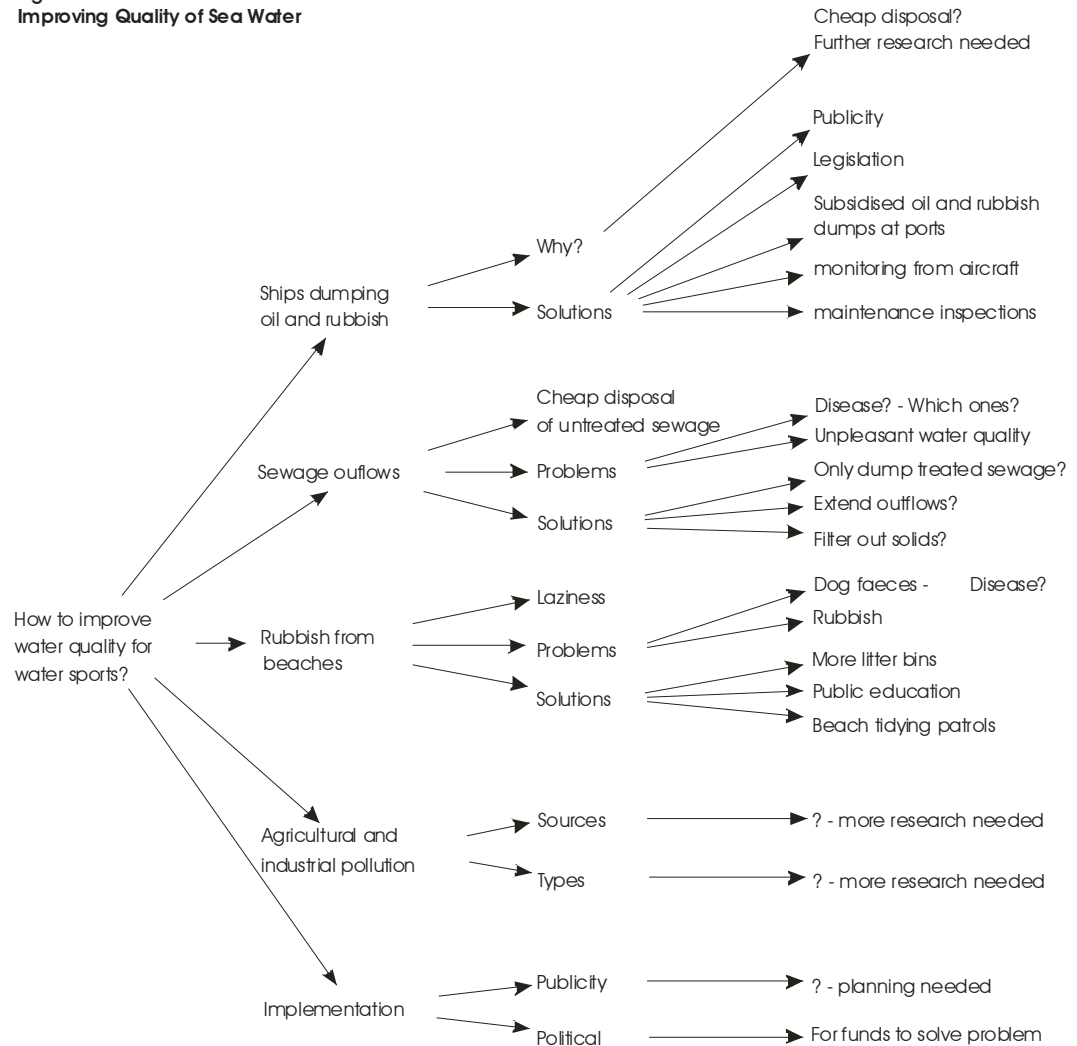
To use the technique, start by writing the problem down on the left-hand side of a large sheet of paper. Next, write down the points that make up the next level of detail on the problem a little to the right of this. These may be factors contributing to the problem, information relating to it, or questions raised by it. This process of breaking the problem down into its component part is called “Drilling Down”.

For each of these points, repeat the process. Keep on drilling down into points until you fully understand the factors contributing to the problem. If you cannot break them down using the knowledge you have, then carry out whatever research is necessary to understand the point.

Drilling into a question helps you to get a much deeper understanding of it. The process helps you to recognize and understand the factors that contribute to it. Drill Down prompts you to link in information that you had not initially associated with a problem. It also shows exactly where you need further information.

Example: The owner of a windsurfing club is having complaints from its members about the unpleasant quality of the water close to the clubhouse. This seems like a huge problem. She carries out the analysis below:

Figure 1: Drill Down Into Problem of Improving Quality of Sea Water



This gives her a starting point in which to begin thinking about solving the problem. It highlights where she does not fully understand the problem, and shows where she needs to carry out further research.

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Key points: “Drill Down” helps you to break a large and complex problem down into its component parts, so that you can develop plans to deal with these parts. It also shows you which points you need to research in more detail.

---

## Cause & Effect Diagrams (2.3)

Function: Identifying the likely causes of problems  
Other Names: Fishbone diagrams, Ishikawa diagrams

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Why use the tool? Cause & Effect Diagrams help you to think through causes of a problem thoroughly. Their major benefit is that they push you to consider all possible causes of the problem, rather than just the ones that are most obvious.

The approach combines Brainstorming with use of a type of Concept Map (see [5.1](#)).

Cause & Effect Diagrams are also known as “Fish Bone Diagrams”. The boxes and lines that comprise them can be thought of as the head and spine of the fish.

How to use tool: Follow these steps to solve a problem with a Cause & Effect diagram:

### 1. Identify the problem:

Write down the exact problem you face in detail. Where appropriate identify who is involved, what the problem is, and when and where it occurs. Write the problem in a box on the left hand side of a large sheet of paper. Draw a line across the paper horizontally from the box. This gives you space to develop ideas.

### 2. Work out the major factors involved:

Next identify the factors that may contribute to the problem. Draw lines off the spine for each factor, and label it. These may be people involved with the problem, systems, equipment, materials, external forces, etc. Try to draw out as many possible factors as possible. If you are trying to solve the problem as part of a group, then this may be a good time for some brainstorming!

Using the 'Fish bone' analogy, the factors you find can be thought of as the bones of the fish.

### 3. Identify possible causes:

For each of the factors you considered in stage ii, brainstorm possible causes of the problem that may be related to the factor. Show these as smaller lines coming off the 'bones' of the fish. Where a cause is large or complex, then it may be best to break the it down into sub-causes. Show these as lines coming off each cause line.

### 4. Analyse your diagram:

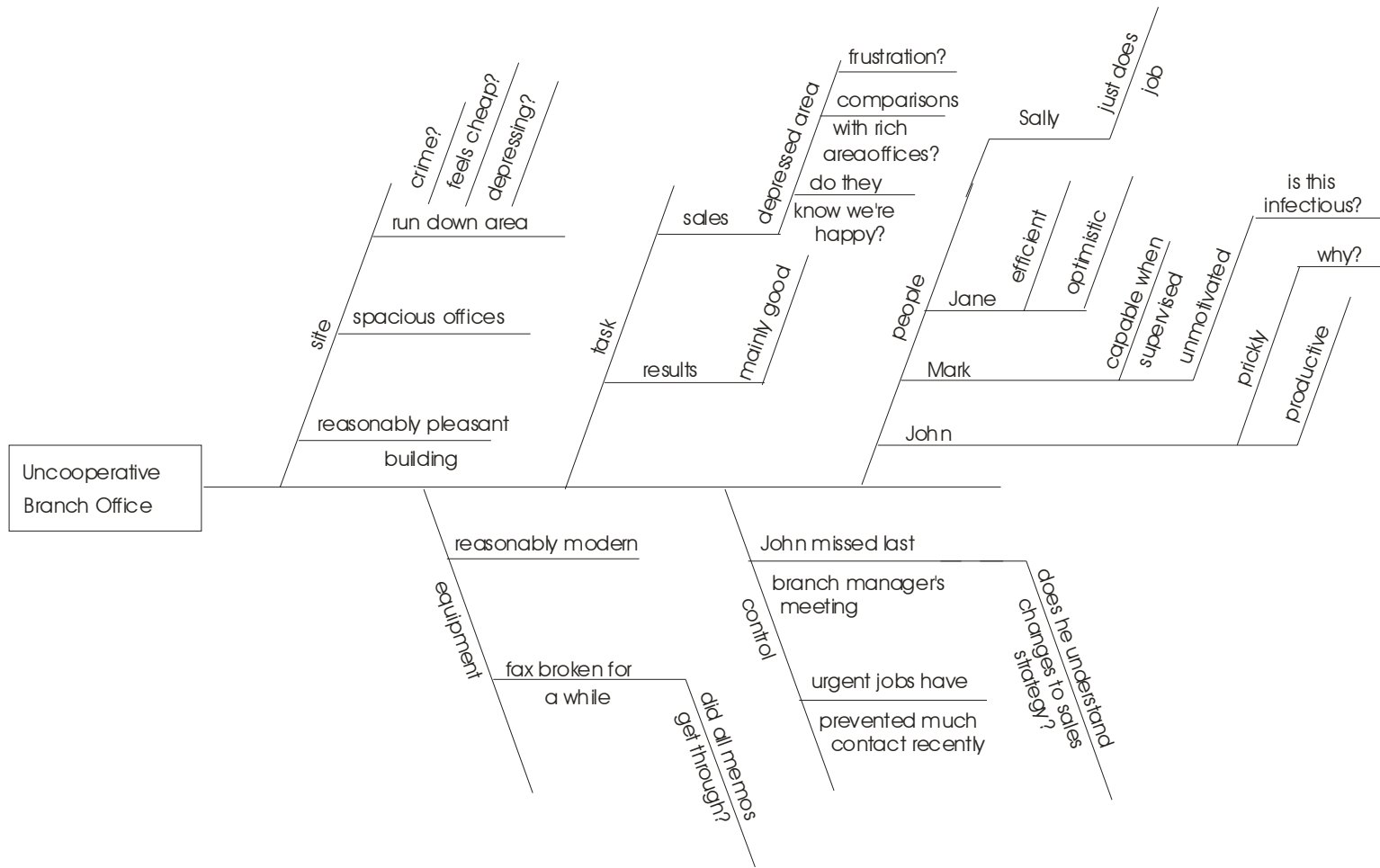
By this stage you should have a diagram showing all the possible causes of your problem. Depending on the complexity and importance of the problem, you can now investigate the most likely causes further. This may involve setting up investigations, carrying out surveys, etc. These will be designed to test whether your assessments are correct.

*Cause & Effect Diagrams were devised by Kaoru Ishakawa in his book '[What is Total Quality Control?](#)'.*

---

Example: The example below shows a Cause & Effect diagram drawn by a manager who is having trouble getting cooperation from a branch office:

**Figure 1: Cause & Effect Diagram Example:**  
A Manager's Analysis of Problems with a Branch Office



If the manager had not thought the problem through (in this case using the Cause & Effect Diagram), he might have dealt with the problem by assuming that people were being difficult. Instead he might think that the best approach is to arrange a meeting with the Branch Manager. This would allow him to brief the manager fully, and talk through any problems that he may be facing.

---

**Key points:** Cause & Effect diagrams provide a structured way to help you think through all possible causes of a problem. This helps you to carry out a thorough analysis of a situation.

## System Diagrams (2.4)

**Function:** Understanding the way factors affect one-another

---

**Why use the tool?** System diagrams are powerful tools that help you to understand how complex systems work. Systems analyzed may be anything from businesses, through biological population models, to the impact of social policy, etc.

System diagrams are particularly helpful in showing you how a change in one factor may impact elsewhere. They are excellent tools for flushing out the long-term impacts of a change. Importantly, a good system diagram will show how changing a factor may feed back to affect itself!

Drawing a system diagram is a good way of starting to build a computer model. The technique helps you to map out the structure of the system to be modeled. It shows the factors and relationships that are important, and helps you to start quantifying the linkages between factors.

**How to use tool:** **Relationships between factors:**  
At the heart of the use of system diagrams is the idea of linking factors to show a relationship between them.

For example, a company may link the factors of product quality and customer satisfaction. It believes that as the quality of its goods change, so will customers' happiness. We show this as an arrow linking the two factors:



Figure 1: A Simple Same Way Relationship Between Two Factors

---

The **S** shows that the factors move in the **Same** way: As quality improves, so will the happiness of customers. The arrow shows the direction of the relationship: Raising customer happiness does not necessarily raise the quality of the goods!

These relationships can also work the other way. The company may link price with the customers' perceptions of the "good value" of its goods. This is shown below:



Figure 2: An Opposite Relationship Between Two Factors

The **O** shows that the relationship works in the opposite way. In this case, as you raise price, customers' perceptions of good value reduce.

**Feedback Loops:**

Feedback is an important concept in the use of system diagrams: In very many cases changing one factor will impact on another factor, which will then affect the first.

Feedback will either reduce the impact of the change, or will amplify it.

**Balancing Loops:**

Where feedback reduces the impact of a change, we call this a **Balancing Loop**. The example below shows an example of a balancing loop, where an under-resourced service company is trying to raise quality:

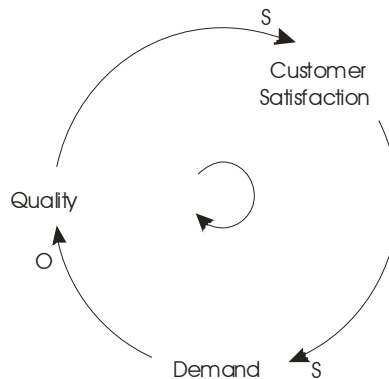


Figure 3: An Example Balancing Loop

In this situation, improving the quality of service leads to improved customer satisfaction, which leads to an increase in demand for the company's service. In trying to meet this demand, the company has less time to devote to individual customers, which reduces its ability to improve quality further.



Note the small circular arrow in the middle of the loop. This shows which way round the loop is running. In complex diagrams with many loops, this arrow will be labeled and will identify loops.

The graph below shows how quality of service might vary with time in the example above:

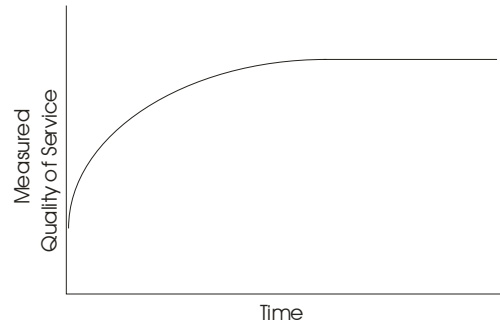


Figure 4: Graph Showing How Quality Changes Over Time in the Balancing Loop in Figure 3.

**Reinforcing loops:**

Where feedback increases the impact of a change, we call this a **Reinforcing Loop**. The example below shows an example of a theatre trying to improve its profitability by investing more in productions.

As more investment is put into a production, the theatre is able to put on more lavish plays with more famous actors. Better plays should bring better reviews, and therefore higher ticket sales. This should lead to higher profitability, and therefore more money available to invest in future productions.

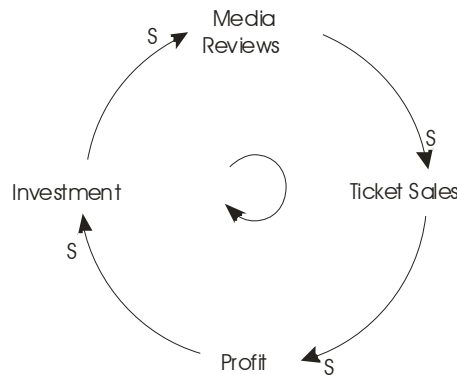
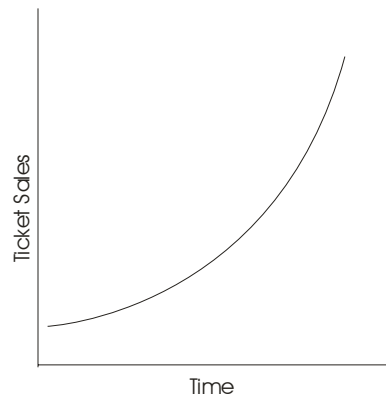


Figure 5: Reinforcing Loop Showing the Effect of Increasing Investment in a Theatre

A graph showing how ticket sales might vary against time is shown below:



**Figure 6: Graph Showing the Effect on Sales of the Reinforcing Loop in Figure 5**

Note that this assumes that investment is increasing as time goes on. It also ignores some important facts: First, there are only a certain number of seats in the theatre, and second, the external factors such as competition and market saturation will eventually limit growth. On a system diagram showing the way that the theatre operates, these factors would be shown as balancing loops impacting on this reinforcing loop.

**External Factors:**

The system diagrams we have looked at so far completely ignore the impact of these external factors on them.

In our balancing loop example above, we assumed that demand was raised only as customers became more satisfied. In reality, demand is just as likely to be affected by the state of the economy. This is shown in a modified diagram below:

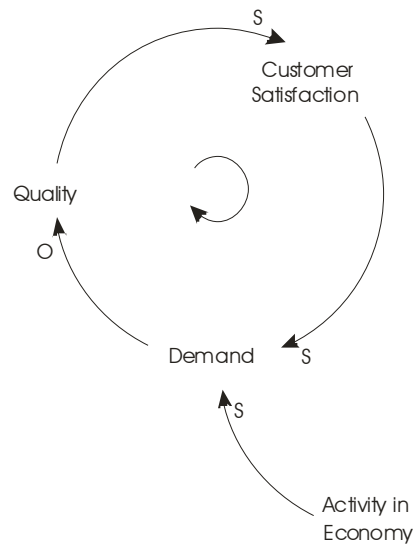


Figure 7: Diagram Showing the Effect of an External Factor on a System

We show an external factor as a labeled relationship arrow pointing to the appropriate part of the system diagram.

### Gaps:

In our reinforcing loop example above, we related sales of theatre seats to investment in productions. What we were not able to build into the model was the fact that there are only a limited number of seats in the theatre.

Inevitably, this will cap the growth of ticket sales as the theatre will seriously upset customers if it sells more tickets than it has seats available!

We build this into our model with the idea of a **gap**. There is a gap between the number of seats available (an external factor we have not yet built into our model), and the number of seats used (tickets sold).

As the theatre sells more tickets, the size of this gap reduces. At a particular point, it cannot sell any more tickets. Increases in investment beyond this point may not yield any more profit.

We show this by modifying our diagram to show both the external factor of the limit of the number of seats, and to show the gap:

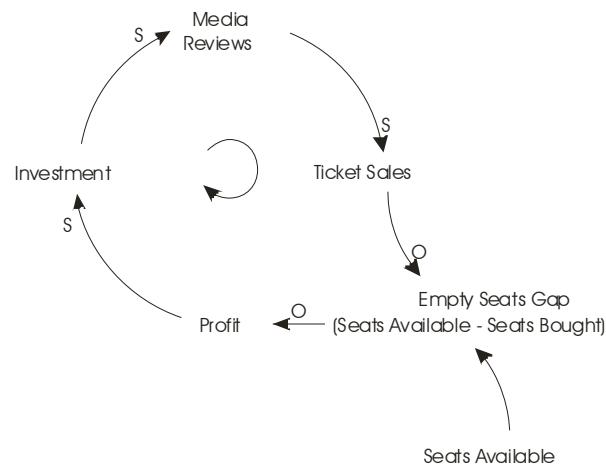


Figure 8: Systems Diagram Showing the Effect of a Gap on a System

When all seats are sold, i.e. *when seats available - seats bought = 0*, then profit will not rise any higher unless other factors are brought into the system.

Note that it is very important to get the gap definition correct for your model.

### Delay:

The impact of delay is the final area we need to consider in our system diagrams.

Ideally, when we make a change to a system it should adjust immediately to its new state. In reality, there is almost always a delay before other factors adjust. This delay may occur in a mechanical system simply as a result of inertia and friction. In a human system it will occur as people take time to communicate, get use to new ideas, and implement change.

We can show this delay in a simple model using antelopes and cheetahs. As the number of antelopes rises, more food is available for the cheetahs. More cheetahs will therefore survive, and will be able to breed.

One part of the delay within this system is given by the length of time it takes for a cheetah to be born and grow to maturity. The other part occurs as starving cheetahs take time to die.

Feedback occurs as cheetahs kill antelopes. The higher the number of cheetahs, the greater will be their impact on the antelope population.

The system below shows this:

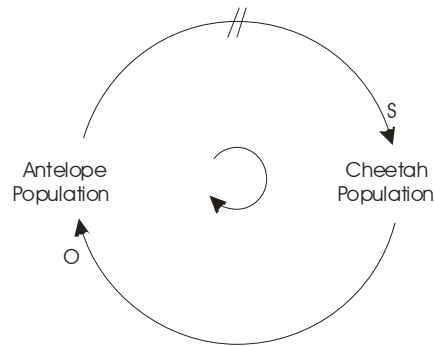


Figure 9: Diagram Showing Delay in a System

Note the double slash on the line showing the relationship between the antelope and cheetah populations. This shows that some form of delay is slowing the change of the related factor.

If there was no delay within the system, we might expect to see a graph showing the number of cheetahs over time like the one below:



Figure 10: Graph Showing the Adjustment in Cheetah Population in the Example in Figure 9 if there was no Delay

Here adjustment would be immediate. Any change in the antelope population would be instantly matched by an increase in the cheetah population. These additional cheetahs would eat the additional antelopes, and then die immediately.

The delay in the system causes it to behave in a different way:

- First, the cheetah population will take time to increase.
- Next, the large population of cheetahs will continue to breed as food starts to become scarce.
- This number of cheetahs will cause a big reduction in the number of antelopes.
- This will then lead to a crash in cheetah population as animals starve.

- The antelope population will then recover, as there will be fewer cheetahs to restrict their numbers.

If nothing else has any impact on this system, then cheetah numbers may oscillate as shown below:

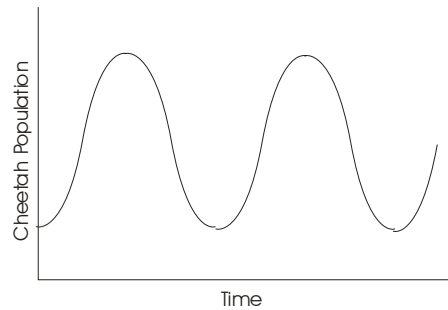


Figure 11: Graph Showing the Effect on Cheetah Populations when Delay is Considered in Figure 9.

This occurs as the cheetah population continually over-adjusts, first in growth, and second in decline. In this system, the longer it takes for a cheetah to starve - i.e. the greater the delay - the greater will be the variations in cheetah populations.

#### Improving the Systems Model:

The models we have looked at so far have been simple. They have ignored many possible impacts on each system. For example, in our model of antelopes and cheetahs, we have ignored the impact of disease, drought, human activity, etc.

We improve the model by building in as many of these external factors as we can think of. We can then simplify it by eliminating those factors that have a negligible impact.

External factors might be:

- Natural - weather, natural resources, disease, environmental change, etc.
- Technological - new technologies, changes in technology, etc.
- Human - psychological, emotional, ambitions, expectations, etc.
- Political - ideology, corruption, effectiveness, interest, etc.
- Social - values, social inertia, traditions, philosophies, etc.
- Financial - state of the economy, capital available, etc.
- Etc.

Ultimately, you may end up with a model made up of a number of reinforcing loops, balancing loops and external factors. The example below shows a more sophisticated diagram of the antelopes and cheetahs system:

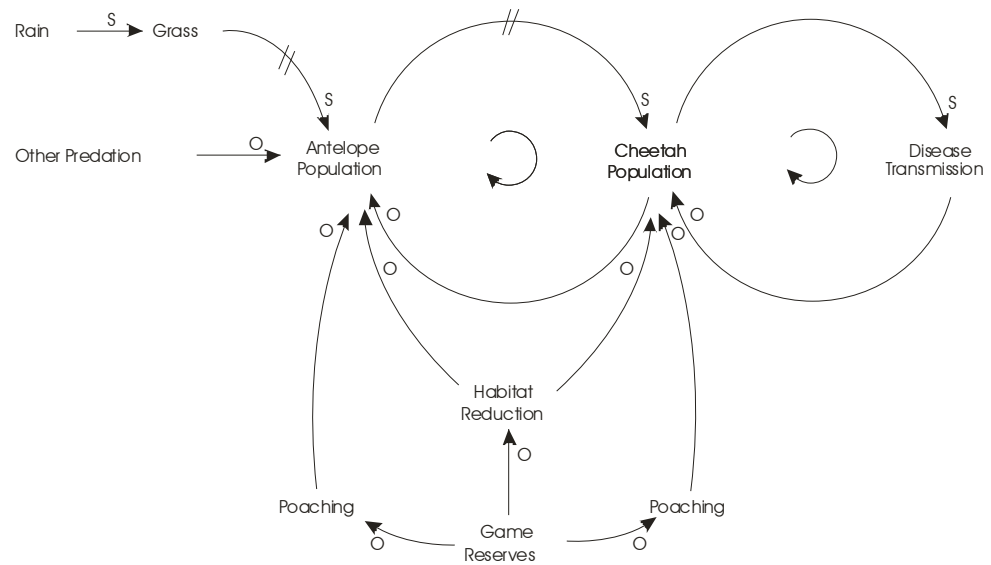


Figure 12: The Completed Systems Model Showing the Way in Which Antelope And Cheetah Populations Vary

### Systems Diagrams as the basis of computer models:

Once you have established the relationships between factors on your diagram, you can look to see if you can put numbers to the relationships. In the example above, you may find that if drought halves the amount of grass available to antelopes, then the antelope population reduces by one third.

You can build this relationship into a computer model. A useful way of starting this with simple and moderately complex model is to build the model on a spreadsheet.

You can use this model to make predictions by changing factors within it. This would allow you to assess the likely impact on your system of external changes, and investigate the effect of changes you might make within the system.

---

**Key points:** Systems diagrams allow you to model the way in which complex systems work. They help you to think through the way in which the factors within a system interact and feed back upon themselves.

You should now be able to analyse:

- How factors are related, and how one factor will change when another changes
- How factors may feed back in either balancing loops or reinforcing loops
- How external factors impact on the system
- How gaps operate
- How delay affects the system
- All the complexities of a system

## SWOT Analysis (2.5)

Function: **Analyzing Your Strengths, Weaknesses, Opportunities and Threats**

---

**Why use the tool?** SWOT Analysis is a very effective way of identifying your Strengths and Weaknesses, and of examining the Opportunities and Threats you face. Carrying out an analysis using the SWOT framework will help you to focus your activities into areas where you are strong, and where the greatest opportunities lie.

**How to use tool:** To carry out a SWOT Analysis write down answers to the following questions:

### **Strengths:**

- What are your advantages?
- What do you do well?
- What do other people see as your strengths?

Consider this from your own point of view and from the point of view of the people you deal with. Don't be modest. Be realistic. If you are having any difficulty with this, try writing down a list of your characteristics. Some of these will hopefully be strengths!

### **Weaknesses:**

- What could you improve?
- What do you do badly?
- What should you avoid?

Again, consider this from an internal and external basis: Do other people seem to perceive weaknesses that you do not see? Are your competitors doing any better than you? It is best to be realistic now, and face any unpleasant truths as soon as possible.

### **Opportunities:**

- Where are the good opportunities facing you?
- What are the interesting trends you are aware of?

Useful opportunities can come from such things as:

- Changes in technology and markets on both a broad and narrow scale
- Changes in government policy related to your field
- Changes in social patterns, population profiles, lifestyle changes, etc.
- Local Events

### **Threats**

- What obstacles do you face?
- What is your competition doing?
- Are the required specifications for your job, products or services changing?
- Is changing technology threatening your position?



- Do you have bad debt or cash-flow problems?

Carrying out this analysis will often be illuminating, both in terms of pointing out what needs to be done, and in putting problems into perspective.

You can also apply SWOT analysis to your competitors, as this may produce some interesting insights!

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Example: A start-up small consultancy business might carry out the following SWOT analysis:

**Strengths:**

- We are able to respond very quickly as we have no red tape, no need for higher management approval, etc.
- We are able to give really good customer care, as the current small amount of work means we have plenty of time to devote to customers.
- Michael Johnson has strong reputation within the market.
- We can change direction quickly if we find that our marketing is not working.
- We have little overhead, so can offer good value to customers.

**Weaknesses:**

- Our company has no market presence or reputation.
- We have a small staff with a shallow skills base in many areas.
- We are vulnerable to vital staff being sick, leaving, etc.
- Our cash flow will be unreliable in the early stages.

**Opportunities:**

- Our business sector is expanding, with many future opportunities for success.
- Our local council wants to encourage local businesses with work where possible.
- Our competitors may be slow to adopt new technologies.

**Threats:**

- Will developments in XYZ technology change this market beyond our ability to adapt?
- A small change in focus of a large competitor might wipe out any market position we achieve.

The consultancy might therefore decide to specialise in rapid response, good value services to local businesses. Marketing would be in selected local publications, to get the greatest possible market presence for a set advertising budget. The consultancy should keep up-to-date with changes in technology where possible.

---

Key points: SWOT analysis is a framework for analyzing your strengths and weaknesses, and the opportunities and threats you face.

This will help you to focus on your strengths, minimize weaknesses, and take the greatest possible advantage of opportunities available.

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## Cash Flow Forecasting with Spreadsheets (2.6)

Function: Predicting whether a financial decision will be viable, and investigating the impact of changing factors

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Why use the tool? Cash Flow forecasts help you to build a model of the way in which cash moves within a project or organization. They help you to predict whether the sales or income you forecast will cover the costs of operation. They also allow you to analyze whether a project will be sufficiently profitable to justify the effort put into it.

Cash Flow forecasts can also be useful for analyzing your own personal finances. This is useful when you are about to make difficult financial decisions.

By carrying out a Cash Flow forecast on a spreadsheet package, you can investigate the impact of changing factors within the forecast. If you have structured the spreadsheet correctly then you will be able to see, more or less instantly, the effect that changes will have.

Normally, we structure Cash Flow Forecasts in a standard way. This is explained below. Other sorts of forecasting can be carried out with spreadsheets. A good way of structuring these is to analyze the system being forecasted with a system diagram (see [2.4](#)). This system diagram will show the relationships between factors. You can then quantify these relationships, and build a model based on them. The structure of the model will depend on the system being modeled.

How to use tool: We structure the Cash Flow Forecast as a table. On the table we have columns for each period (normally a month) within the forecast. Rows show individual cash movements such as sales of a product, sales costs, and particular expenses.

We create the table for the forecast in three stages. Refer to the example in figure [2.6](#) as we run through the stages:

### 1. Set Up Column Headings:

Decide the period of time over which you want to run your forecast, and the length of the periods within it. Typically, the forecast will run over 1-2 years, with the periods as months.

Head up one column with the title "Cash Movement". Then enter the periods of the forecast as the next column headings. This will give you column headings of, for example, *Cash Movement, January, February, March, April....* etc.

### 2. Set Up Row Titles:

We organize rows into three main groups:

- Income:

These rows show income expected during the period. Set up a separate row for each source of income. Examples might be:

*Sales of ABC product*  
*Sales of BCD service*  
*Investment income*  
*Etc.*

Where costs of operation are directly dependent on the amount sold, you may decide to deduct the direct cost of the sales made within this group of rows. Put in a subtotal at the bottom of the group.

- **Outgoings:**

These rows show all of your costs, itemized by the type of cost. Examples might be:

*Staff salaries*  
*Payroll taxes*  
*Stationery*  
*Telephones*  
*Etc.*

Set up a subtotal at the bottom of this group.

- **Totals:**

The next row shows the total of the income rows minus the total of the out-going rows for the month. This shows you your profit or loss for the month.

Underneath this, put in a running total. In this row add your profit or loss for the period to the previous running total. This shows your financial position at the end of the period.

### **3. Estimate values:**

By now you should have a table marked out with column headings and row titles. Now fill in the values of the cells on your table. An easy way of doing this is to fill in the first column, and then use the spreadsheet "fill right" function to copy values across. Then adjust values in the other columns appropriately.

When you are entering projections for sales for a new business, bear in mind you will not sell much until your customers have seen mention of your business several times (often 6 or 7 times). Your estimates for sales will be much more reliable if you base them either on previous years' revenues, on trial marketing, or on good quality market research.

When you are entering values for costs, try, where possible, to base projections on costs from previous years. If this is not possible, base your estimates on real prices quoted. This keeps your estimates as realistic as possible.

### **4. Calculate!**

On most modern spreadsheet packages, this will happen automatically, providing you have set up totals correctly as described in section 2. As you enter and change the values of cells within the spreadsheet, you should see that the period totals and running totals change appropriately.

**Example:** A yachting enthusiast has decided that he wants to set up a yacht hire company. He has researched the costs of set up, and estimated the number of weeks of hire he can sell during the year.

Note that he has been quite optimistic in hoping to sell all the weeks of holiday available during the high season of July and August. He will charge the same price as his competitors for a holiday.

He works out the cash flow forecast below:

Figure 2.6.1: Cash Flow Forecast for ABC Yacht Charter Corporation (All values in US\$)

	Price of 6 berth boat for 1 week		Number of boats on hire:									
	850.00		2									
Cash Movement	January	February	March	April	May	June	July	August	September	October	November	December
<b>Income:</b>												
Boat Hire	0.00	0.00	850.00	1700.00	4250.00	5950.00	7650.00	7650.00	5100.00	2550.00	1700.00	850.00
Travel Insurance	0.00	0.00	85.00	170.00	425.00	595.00	765.00	765.00	510.00	255.00	170.00	85.00
Cancellation Insurance	0.00	0.00	25.50	51.00	127.50	178.50	229.50	229.50	153.00	76.50	51.00	25.50
Support Services	0.00	0.00	127.50	255.00	637.50	892.50	1147.50	1147.50	765.00	382.50	255.00	127.50
<b>Total Income</b>	<b>0.00</b>	<b>0.00</b>	<b>1088.00</b>	<b>2176.00</b>	<b>5440.00</b>	<b>7616.00</b>	<b>9792.00</b>	<b>9792.00</b>	<b>6528.00</b>	<b>3264.00</b>	<b>2176.00</b>	<b>1088.00</b>
<b>Outgoings:</b>												
Salaries	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00
Payroll Taxes	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00
Office Expenses	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
Office Rental	230.00	230.00	230.00	230.00	230.00	230.00	230.00	230.00	230.00	230.00	230.00	230.00
Boat Yard Rent	800.00	800.00	800.00	800.00	800.00	800.00	800.00	800.00	800.00	800.00	800.00	800.00
Utilities	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Maintenance	100.00	100.00	132.69	165.38	263.46	328.85	394.23	394.23	296.15	198.08	165.38	132.69
Boat Purchase Loans	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00	1500.00
Laundry & Cleaning	0.00	0.00	6.54	13.08	32.69	45.77	58.85	58.85	39.23	19.62	13.08	6.54
Insurance	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Brochures	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
Advertising	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00
<b>Total Expenses</b>	<b>5550.00</b>	<b>5550.00</b>	<b>5589.23</b>	<b>5628.46</b>	<b>5746.15</b>	<b>5824.62</b>	<b>5903.08</b>	<b>5903.08</b>	<b>5785.38</b>	<b>5667.69</b>	<b>5628.46</b>	<b>5589.23</b>
<b>Monthly Total:</b>	<b>-5550.00</b>	<b>-5550.00</b>	<b>-4501.23</b>	<b>-3452.46</b>	<b>-306.15</b>	<b>1791.38</b>	<b>3888.92</b>	<b>3888.92</b>	<b>742.62</b>	<b>-2403.69</b>	<b>-3452.46</b>	<b>-4501.23</b>
<b>Running Total:</b>	<b>-5550.00</b>	<b>-11100.00</b>	<b>-15601.23</b>	<b>-19053.69</b>	<b>-19359.85</b>	<b>-17568.46</b>	<b>-13679.54</b>	<b>-9790.62</b>	<b>-9048.00</b>	<b>-11451.69</b>	<b>-14904.15</b>	<b>-19405.38</b>

Looking at these figures the enthusiast is very worried. Under the business scheme he wants to set up, he stands to lose about \$20,000 each year. Either he will have to control costs in a major way, find a different business structure to operate under, or he must find another way of making a living.

He may have just saved a lot of money and stress by using a Cash Flow Forecast!

**Key points:** Cash Flow Forecasts are important tools for investigating whether a project or business is viable. They allow you to experiment with changing factors, to see the impact that this will have. Spreadsheet packages are invaluable for cash flow forecasting.

We set up Cash Flow Forecasts in the following stages:

1. Setting out column headings for periods (normally months) during the forecast.
2. Setting out three main groups of rows:
  - Income rows, with a subtotal
  - Expenditure rows, with a subtotal
  - Period total and running total rows

3. Entering values within cells: Ideally you should do this from real data, or from formal market research information. If this is not possible, then you will have to use the best estimates you can make.
4. Calculation

## Risk Analysis & Risk Management (2.7)

Function: How to evaluate and control the risks you face

---

Why use the tool? Risk Analysis is a formal framework that helps you to assess the risks that you or your organization face. A good risk analysis will help you to decide what actions to take to minimize disruptions to your plans. It will also help you to decide whether the strategies you could use to control risk are cost-effective.

How to use the tool: Here we define risk as “the perceived extent of possible loss”. Different people will have different views of the impact of a particular risk: What may be a small risk for one person may destroy the livelihood of someone else.

One way of putting figures to risk is to calculate a value for it as:

$$\text{risk} = \text{probability of event} \times \text{cost of event}$$

This allows you to compare risks objectively. We use this approach formally in decision making with Decision Trees (see [3.4](#)).

To carry out a risk analysis, follow these steps:

### 1. Identify Threats:

The first stage of a risk analysis is to identify threats facing you. Threats may be:

- Human - from individuals or organizations, illness, death, etc.
- Procedural - from failures of accountability, internal systems and controls, organization, etc.
- Natural - threats from weather, natural disaster, accident, disease, etc.
- Technical - from advances in technology, technical failure, etc.
- Political - from changes in tax regimes, public opinion, government policy, foreign influence, etc.
- Project - risks of cost over-runs, jobs taking too long, of insufficient product or service quality, etc.
- Financial - from business failure, stock market, interest rates, unemployment, etc.
- Others

This analysis of threat is important because it is so easy to overlook important threats. Perhaps the best way to identifying all threats is to use a number of approaches:

- Firstly, run through a list such as the one above, to see if any apply.
- Secondly, think through the systems, organizations or structures you operate, and analyse risks to any part of those.

- See if you can see any vulnerability within these systems or structures.
- Ask other people, who might have different perspectives.

## 2. Estimate Risk:

Once you have identified the threats you face, the next step is to work out the likelihood of the threat being realized and to assess its impact.

One approach to this is to work out the probability of the event occurring, and to multiply this by the amount it will cost you to set things right after it has happened. This gives you a value for the risk.

Your estimates of the probability of the risk occurring and of the cost of the event will depend on your knowledge of your own systems, controls and resources.

## 3. Managing Risk:

Once you have worked out the value of risks you face, you can start to look at ways of minimizing them. When you are doing this, it is important to choose cost effective approaches. There is no point in spending more to eliminating a risk than the cost of the event if it occurs. In many cases it may be better to accept the risk than to use excessive resources to eliminate it.

Risk may be managed in a number of ways:

- **By using existing assets:** Here existing resources can be used to counter risk. This may involve improvements to existing methods and systems, changes in responsibilities, improvements to accountability and internal controls, etc.
- **By contingency planning:** You may decide to accept a risk, but choose to develop a plan to minimize its effects. A good contingency plan will allow you to take action immediately, with the minimum of project control.
- **By investing in new resources:** Your risk analysis should give you the basis for deciding whether to bring in additional resources to counter the risk.

## 4. Reviews:

Once you have carried out a risk analysis and management exercise, it may be worth carrying out regular reviews. These might involve formal reviews of the risk analysis, or may involve testing systems and plans appropriately.

---

Key points:

Risk analysis allows you to examine the risks that you or your organization face. It is based on a structured approach to thinking through threats, followed by an evaluation of the probability and cost of events occurring.

Risk analysis forms the basis for risk management. Here the emphasis is on cost effectiveness. Risk management involves adapting the use of existing resources, contingency planning and good use of new resources.



## Module 3

# Techniques for Effective Decision Making

- Selecting the most important changes to make
  - *Pareto Analysis*
- Evaluating the relative importance of different options
  - *Paired Comparison Analysis*
- Selecting between good options - *Grid Analysis*
- Choosing between options by projecting likely outcomes
  - *Decision Trees*
- Weighing the Pros and Cons of a decision - *PMI*
- Analyzing the pressures for and against change
  - *Force Field Analysis*
- Looking at a decision from all points of view
  - *Six Thinking Hats*
- Seeing whether a change is worth making
  - *Cost/Benefit Analysis*



## 3. Techniques for Effective Decision-Making

The techniques in this module help you to make the best decisions possible with the information you have available. With these tools, you will be able to map out the likely consequences of decisions, work out the importance of individual factors, and choose the best course of action to take.

Tools we will discuss are:

- Selecting the most important changes to make - *Pareto Analysis*
- Evaluating the relative importance of different options - *Paired Comparison Analysis*
- Selecting between good options - *Grid Analysis*
- Choosing between options by projecting likely outcomes - *Decision Trees*
- Weighing the pros and cons of a decision - *PMI*
- Analyzing the pressures for and against change - *Force Field Analysis*
- Looking at a decision from all points of view - *Six Thinking Hats*
- Seeing whether a change is worth making - *Cost/Benefit Analysis*

In this module we look at decision-making tools in two stages. First, we will look at a set of good techniques that help you to select between different options. This part finishes by discussing Decision Trees, which are excellent decision-making tools. The second set helps you to decide whether a course of action is worth following.

These techniques build on the tools discussed in Module 2 (Tools for Understanding Complex Situations), in that decision-making follows on from an understanding of the situation. Section 1 (Creativity Tools) will help you to explore the alternatives that are open to you.

Do remember, though, that the tools in this module exist only to assist your intelligence and common sense, and these are your most important assets in good decision-making.

### Pareto Analysis (3.1)

Function:           Selecting the most important changes to make

---

How to use tool:   Pareto Analysis is a simple technique that helps you to choose the most effective changes to make.

It uses the Pareto principle, the idea that by doing 20% of work you can generate 80% of the advantage of doing the entire job<sup>2</sup>. Pareto analysis is a formal technique for finding

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<sup>2</sup> This is only one application of this important 80/20 principle. It shows the lack of symmetry that almost always appears between work put in and results achieved. This can be seen in area after area of competitive activity. The figures 80 and 20 are illustrative. For example, 13% of work could generate 92% of returns.

the changes that will give the biggest benefits. It is useful where many possible courses of action are competing for your attention.

To start using the tool, write out a list of the changes you could make. If you have a long list, group it into related changes.

Then score the items or groups. The scoring method you use depends on the sort of problem you are trying to solve. For example, if you are trying to improve profitability, you will score options on the basis of the profit each group might generate. If you are trying to improve customer satisfaction, you might score on the basis of the number of complaints eliminated by each change.

The first change to tackle is the one that has the highest score. This one will give you the biggest benefit if you solve it. Options with the lowest scores may not even be worth bothering with.

Example: A manager has taken over a failing service-center. He commissions research to find out why customers think that service is poor.

He gets the following comments back from the customers:

- a) Phones are only answered after many rings.
- b) Staff seem distracted and under pressure.
- c) Engineers do not appear to be well organized. They need second visits to bring extra parts. This means that customers have to take more vacation to be there a second time.
- d) They do not know what time they will arrive. This means that customers may have to be in all day for an engineer to visit.
- e) Staff members do not always seem to know what they are doing.
- f) Sometimes when staff members arrive, the customer finds that the problem could have been solved over the phone.

The manager groups these problems together. He then scores each group by the number of complaints, and orders the list:

- |                                     |               |               |
|-------------------------------------|---------------|---------------|
| • Lack of staff training            | items e, f    | 51 complaints |
| • Too few staff                     | items a, b, d | 21 complaints |
| • Poor organization and preparation | item c        | 2 complaints  |

By doing the Pareto analysis above, the manager can better see the vast majority of problems (69%) and can see that the problems can be remedied by improving staff member's skills.

Vilfredo Pareto was an Italian economist who noted that approximately 80% of wealth was owned by only 20% of the population. This was true in almost all the societies he studied.

Once this is done, it may be worth looking at increasing the number of staff members. Alternatively, as staff members become better and start to solve problems over the phone, maybe the need for new staff members will decline.

It looks as if comments on poor organization and preparation may be rare, and could be caused by problems beyond the manager's control.

By carrying out a Pareto Analysis, the manager is able to focus on training as an issue, rather than spreading effort over training, taking on new staff members, and possibly installing a new computer system.

---

**Key points:** Pareto Analysis is a simple technique that helps you to identify the most important problem to solve.

**To use it:**

- List the problems you face, or the options you have available.
- Group options where they are facets of the same larger problem.
- Apply an appropriate score to each group.
- Work on the group with the highest score.

Pareto analysis not only shows you the most important problem to solve, it also gives you a score showing how severe the problem is.

## Paired Comparison Analysis (3.2)

**Function:** Working out the relative importance of different options

---

**How to use tool:** Paired Comparison Analysis helps you to work out the importance of a number of options relative to each other. It is particularly useful when you do not have objective data to base this on.

This makes it easy to choose the most important problem to solve, or select the solution that will give you the greatest advantage. Paired Comparison Analysis helps you to set priorities when there are conflicting demands on your resources.

To use the technique, compare each option with each other option, one-by-one. For each comparison, decide which of the two options is most important, and then assign a score to show how much more important it is. You can then consolidate these comparisons so that each option is given a percentage importance.

Follow these steps to use the technique:

1. List the options you will compare. Assign a letter to each option.
2. Set up a table with these options as row and column headings.

3. Block out cells on the table where you will be comparing an option with itself. (There will never be a difference in these cells!). These will normally be on the diagonal running from the top left to the bottom right.
4. Also block out cells on the table where you will be duplicating a comparison. Normally, these will be the cells below the diagonal.
5. Within the remaining cells, compare the option in the row with the one in the column. For each cell, decide which of the two options is more important. Write down the letter of the more important option in the cell, and score the difference in importance from 0 (no difference) to 3 (major difference).
6. Finally, consolidate the results by adding up the total of all the values for each of the options. You may want to convert these values into a percentage of the total score.

Example: An entrepreneur is looking at ways in which he can expand his business. He has limited resources, but also has the options he lists below:

- Expand into overseas markets
- Expand in home markets
- Improve customer service
- Improve quality

Firstly he draws up the Paired Comparison Analysis table below:

	<b>Overseas markets (A)</b>	<b>Home market (B)</b>	<b>Customer service (C)</b>	<b>Quality (D)</b>
<b>Overseas markets (A)</b>	Blocked out (Step 3)			
<b>Home market (B)</b>	Blocked out (Step 4)	Blocked out (Step 3)		
<b>Customer service (C)</b>	Blocked out (Step 4)	Blocked out (Step 4)	Blocked out (Step 3)	
<b>Quality (D)</b>	Blocked out (Step 4)	Blocked out (Step 4)	Blocked out (Step 4)	Blocked out (Step 3)

Then he compares options and scores their difference in importance:

	<b>Overseas markets (A)</b>	<b>Home market (B)</b>	<b>Customer service (C)</b>	<b>Quality (D)</b>
<b>Overseas markets (A)</b>		A 2	C 1	A 1
<b>Home market (B)</b>			C 1	B 1
<b>Customer service (C)</b>				C 2
<b>Quality (D)</b>				

Finally he adds up the A, B, C and D values, and converts each into a percentage of the total. This gives these totals: A=3 (37.5%), B = 1 (12.5%), C = 4 (50%), D = 0.

Here it is most important to improve customer service (C) and then to tackle export markets (A). Quality is not a high priority; perhaps it is good already.

---

**Key points:** Paired Comparison Analysis is a good way of weighing up the relative importance of different courses of action. It is useful where priorities are not clear, or are competing in importance.

The tool provides a framework for comparing each course of action against all others, and helps to show the difference in importance between factors.

## Grid Analysis (3.3)

**Function:** Making a choice where many factors must be balanced

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**How to use tool:** Grid Analysis is a useful technique to use for making a decision. It is most effective where you have a number of good alternatives and many factors to take into account.

The first step is to list your options and then the factors that are important for making the decision. Lay these out in a table, with options as the row labels, and factors as the column headings.

Next work out the relative importance of the factors in your decision. Show these as numbers. We will use these to weight your preferences by the importance of the factor. These values may be obvious, and if they are not, then use a technique such as Paired Comparison Analysis (see [3.2](#)) to calculate them.

The next step is to work your way across your table, scoring each option for each of the important factors in your decision. Score each option from 0 (poor) to 3 (very good). Note that you do not have to have a different score for each option. If none of them are good for a particular factor in your decision, then all options should score 0.

Now multiply each of your scores by the values for your relative importance. This will give them the correct overall weight in your decision.

Finally add up these weighted scores for your options. The option that scores the highest wins!

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**Example:** A windsurfing enthusiast is about to replace his car. He needs one that not only carries a board and sails, but also that will be good for business travel.

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He has always loved open-topped sports cars. No car he can find is good for all three things.

His options are:

- A four wheel drive, hard topped vehicle
- A comfortable family car
- An estate car
- A sports car

Criteria that need to be considered are:

- Cost
- Ability to carry a sail board at normal driving speed
- Ability to store sails and equipment securely
- Comfort over long distances
- Fun!
- Nice look and build quality to car

He draws up the table below, and scores each option by how well it satisfies each factor:

<b>Factors:</b>	<b>Cost</b>	<b>Board</b>	<b>Storage</b>	<b>Comfort</b>	<b>Fun</b>	<b>Look</b>	<b>Total</b>
<b>Weights:</b>							
<b>Sports Car</b>	1	0	0	1	3	3	
<b>4 Wheel Drive</b>	0	3	2	2	1	1	
<b>Family Car</b>	2	2	1	3	0	0	
<b>Estate Car</b>	2	3	3	3	0	1	

Next he works out the relative weights for each of the factors, multiplies the scores by the weights, and totals them:

<b>Factors:</b>	<b>Cost</b>	<b>Board</b>	<b>Storage</b>	<b>Comfort</b>	<b>Fun</b>	<b>Look</b>	<b>Total</b>
<b>Weights:</b>	<b>4</b>	<b>5</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
<b>Sports Car</b>	4	0	0	2	9	12	<b>27</b>
<b>4 Wheel Drive</b>	0	15	2	4	3	4	<b>28</b>
<b>Family Car</b>	8	10	1	6	0	0	<b>25</b>
<b>Estate Car</b>	8	15	3	6	0	4	<b>36</b>

This gives an interesting result, and despite its lack of fun, an estate car may be the best choice.

If he still feels unhappy with the decision, maybe he has under-estimated the importance of one of the factors. Perhaps he should weight "fun" at a 7!

---

**Key points:** Grid Analysis helps you to decide between several options while taking into account the many factors that may be considered.

To use the tool, lay out your options as rows on a table. Set up the columns to show your factors. Allocate weights to show the importance of each of these factors.

Score each choice for each factor using numbers from 0 (poor) to 3 (very good). Multiply each score by the weight of the factor, to show its contribution to the overall selection.

Finally add up the total scores for each option. Select the highest scoring option.

## Decision Tree Analysis (3.4)

**Function:** Choosing Between Options by Projecting Likely Outcomes

---

**How to use tool:** Decision Trees are excellent tools for helping you to choose between several courses of action. They provide a highly effective structure within which you can lay out options and investigate the possible outcomes of choosing those options. They also help you to form a balanced picture of the risks and rewards associated with each possible course of action.

### **Drawing a Decision Tree**

You start a Decision Tree with a decision that you need to make. Draw a small square to represent this towards the left of a large piece of paper.

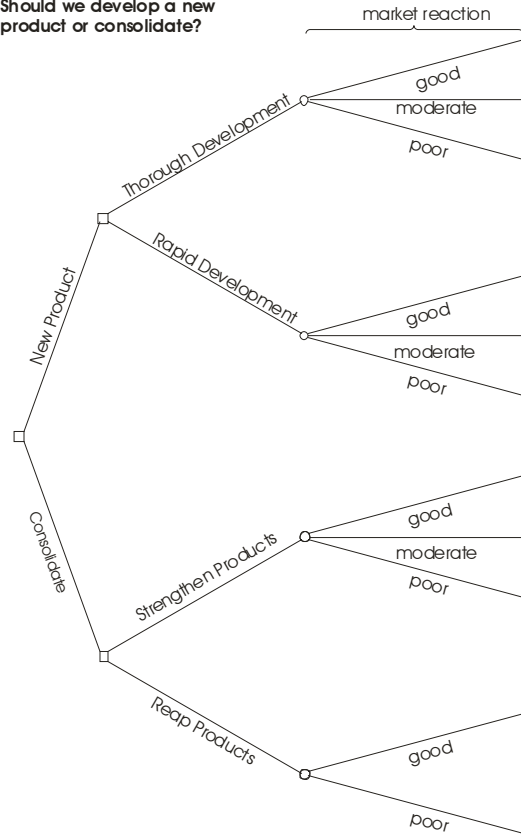
From this box draw out lines towards the right for each possible solution, and write that solution along the line. Keep the lines apart as far as possible so that you can expand your thoughts.

At the end of each line, consider the results. If the result of taking that decision is uncertain, draw a small circle. If the result is another decision that you need to make, draw another square. Squares represent decisions, and circles represent uncertain outcomes. Write the decision or factor above the square or circle. If you have completed the solution at the end of the line, just leave it blank.

Starting from the new decision squares on your diagram, draw out lines representing the options that you could select. From the circles, draw lines representing possible outcomes. Again, make a brief note on the line saying what it means. Keep on doing this until you have drawn out as many of the possible outcomes and decisions as you can see leading on from the original decisions.

An example of the sort of thing you will end up with is shown in figure 1:

Figure 1:  
Example Decision Tree:  
Should we develop a new  
product or consolidate?



Once you have done this, review your tree diagram. Challenge each square and circle to see if there are any solutions or outcomes you have not considered. If there are, draw them in. If necessary, redraft your tree if parts of it are too congested or untidy. You should now have a good understanding of the range of possible outcomes of your decisions.

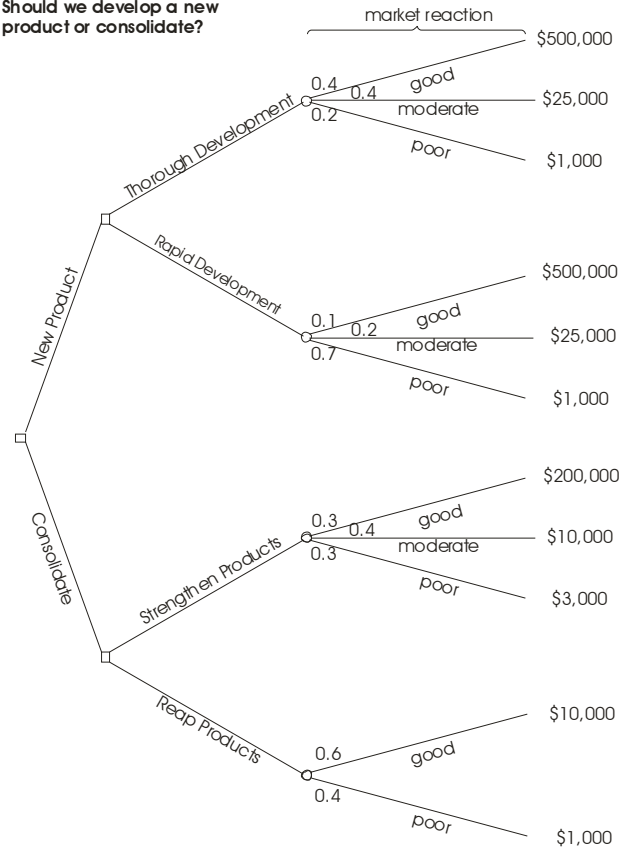
**Evaluating Your Decision Tree**

Now you are ready to evaluate the decision tree. This is where you can work out which option has the greatest worth to you. Start by assigning a cash value or score to each possible outcome, considering how much you think it would be worth to you.

Next, look at each circle (representing an uncertainty point) and estimate the probability of each outcome. If you use percentages, the total must come to 100% at each circle. If you use fractions, these must add up to 1. If you have data on past events you may be able to make rigorous estimates of the probabilities. Otherwise write down your best guess. This will give you a tree like the one shown in figure 2:



**Figure 2**  
**Example Decision Tree:**  
**Should we develop a new product or consolidate?**



**Calculating Tree Values**

Once you have worked out the value of the outcomes, and have assessed the probability of the outcomes of uncertainty, it is time to start calculating the values that will help you make your decision.

Start on the right hand side of the decision tree, and work back towards the left. As you complete a set of calculations on a node (decision square or uncertainty circle), all you need to do is to record the result. You can ignore all the calculations that lead to that result from then on.

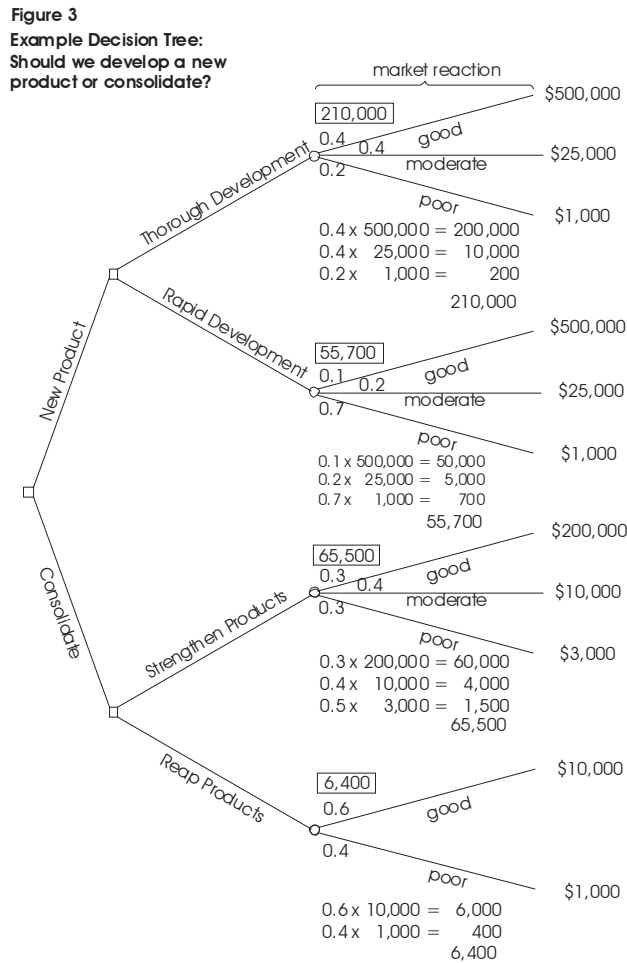
**Calculating The Value of Uncertain Outcome Nodes**

Where you are calculating the value of uncertain outcomes (circles on the diagram), do this by multiplying the value of the outcomes by their probability. The total for that node of the tree is the total of these values.

In the example above, the value for “new product, thorough development” is:

$$\begin{aligned}
 &0.4 \text{ (probability good outcome)} \times \$500,000 \text{ (value)} = \$200,000 \\
 &0.4 \text{ (probability moderate outcome)} \times \$25,000 \text{ (value)} = \$10,000 \\
 &0.2 \text{ (probability poor outcome)} \times \$1,000 \text{ (value)} = \$200 \\
 &\text{-----} \\
 &\qquad\qquad\qquad \$210,200
 \end{aligned}$$

Figure 3 shows this:



Note that the values calculated for each node are shown in the boxes.

**Calculating The Value of Decision Nodes**

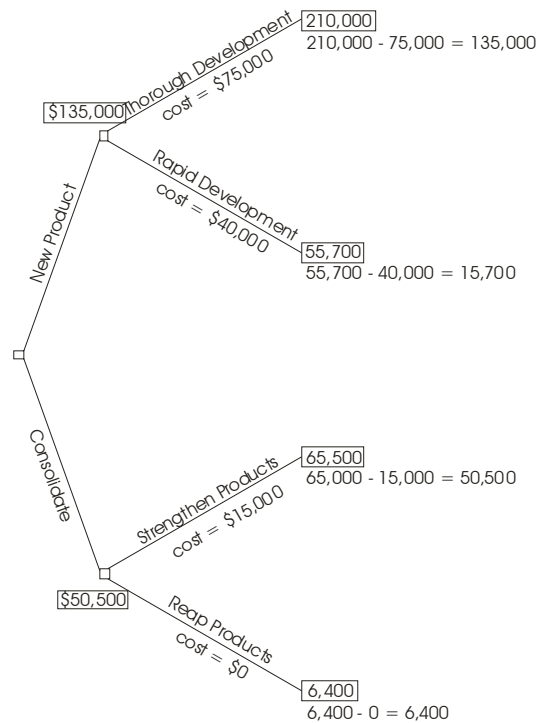
When you are evaluating a decision node, write down the cost of each option along each decision line. Then subtract the cost from the outcome value that you have already calculated. This will give you a value that represents the benefit of that decision.

Amounts already spent do not count for this analysis.

When you have calculated these decision benefits, choose the option that has the largest benefit, and take that as the decision made. This is the value of that decision node.

Figure 4 shows this calculation of decision nodes in our example:

Figure 4:  
Example Decision Tree:  
Should we develop a new product or consolidate?



In this example, the benefit we previously calculated for “new product, thorough development” was \$210,000. We estimate the cost of this approach as \$75,000. This gives a net benefit of \$135,000.

The net benefit of “new product, rapid development” was \$15,700. On this branch we therefore choose the most valuable option, “new product, thorough development”, and allocate this value to the decision node.

**Result**

By applying this technique we can see that the best option is to develop a new product. It is worth much more to us to take our time and get the product right, than to rush the product to market. It is better just to improve our existing products than to botch a new product, even though it costs us less.

- 
- Key points: Decision trees provide an effective method of decision-making because they:
- Clearly lay out the problem so that all options can be challenged.
  - Allow us to analyse fully the possible consequences of a decision.
  - Provide a framework to quantify the values of outcomes and the probabilities of achieving them.
  - Help us to make the best decisions on the basis of existing information and best guesses.

As with all decision-making methods, decision tree analysis should be used in conjunction with common sense. Decision trees are just one important part of your decision-making tool kit.

## PMI (3.5)

Function: Weighing the Pros and Cons of a decision

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How to use tool: PMI stands for “Plus/Minus/Implications”. It is a valuable improvement to the “weighing pros and cons” technique used for centuries.

PMI is an important decision-making tool. Once you have chosen a course of action, it is important to check that it is going to improve the situation. It may actually be best to do nothing!

To use PMI, draw up a table headed up with: “Plus”, “Minus”, and “Implications”. In the column underneath the “Plus” heading, write down all the positive results of taking the action. Underneath the “Minus” heading, write down all the negative effects. In the “Implications” column write down the implications and possible outcomes of taking the action, whether positive or negative.

By this stage it may already be obvious whether or not you should implement the decision. If it is not, consider each of the points you have written down and assign a positive or negative score to it appropriately. The scores you assign may be quite subjective.

Once you have done this, add up the score. A strongly positive score shows that an action should be taken, a strongly negative score that it should be avoided.

*PMI was devised by Edward de Bono in his book [‘Teach Your Children How to Think’](#). We think it has broader application!*

Example: A young professional is deciding where to live. Her question is: "Should she move to the big city?"

She draws up the PMI table below:

Plus	Minus	Implications
More going on (+5)	Have to sell house (-6)	Easier to find new job? (+1)
Easier to see friends (+5)	More pollution (-3)	Meet more people? (+2)
Easier to get places (+3)	Less space (-3)	More difficult to get own work done? (-4)
	No countryside (-2)	More difficult to get to work? (-4)

She scores the table as 13 (Plus) - 14 (Minus) - 5 (Interesting) = - 6

It would be much better for her to live outside, but close enough to travel in.

---

Key points: PMI is a good way of weighing the pros, cons and implications of a decision. When you have selected a course of action, PMI is a good technique to use to check that it is worth taking.

To use the technique, draw up a table with three columns headed "Plus", "Minus" and "Implications". Within the table, write down all the positive points of following the course of action, all the negatives, and all the interesting implications and possible outcomes.

If the decision is still not obvious, you can then score the table to show the importance of individual items. The total score should show whether it is worth implementing the decision.

## Force Field Analysis (3.6)

Function: Analyzing the pressures for and against change

---

How to use tool: Force Field Analysis is a useful technique for looking at all the forces for and against a decision. In effect, it is a specialized method of weighing pros and cons.

By carrying out the analysis you can plan to strengthen the forces supporting a decision, and reduce the impact of opposition to it.

To carry out a force field analysis, follow these steps:

- List all forces for change in one column, and all forces against change in another column.
- Assign a score to each force, from 1 (weak) to 5 (strong).
- Draw a diagram showing the forces for and against change. Show the size of each force as a number next to it.

For example, imagine that you are a manager deciding whether to install new manufacturing equipment in your factory. You might draw up a force field analysis like the one in Figure 1.

Once you have carried out an analysis, you can decide whether your project is viable. In the example above, you might initially question whether it is worth going ahead with the plan.

Where you have already decided to carry out a project, Force Field Analysis can help you to work out how to improve its probability of success. Here you have two choices:

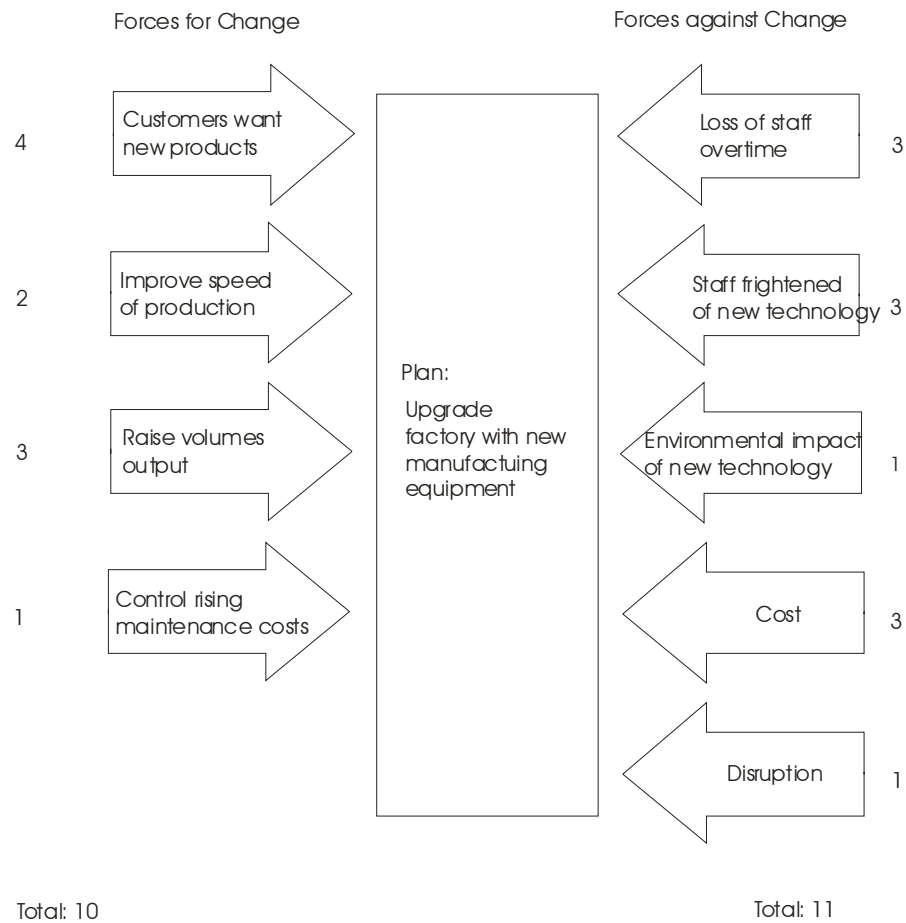
- To reduce the strength of the forces opposing a project, or
- To increase the forces pushing a project

Often the most elegant solution is the first: just trying to force change through may cause its own problems. People can be uncooperative if change is forced on them.

If you had to implement the project in the example above, the analysis might suggest a number of changes to the initial plan:

- By training staff (increase cost by 1) you could eliminate fear of technology (reduce fear by 2).
- It would be useful to show staff that change is necessary for business survival (new force in favor, +2).
- Staff could be shown that new machines would introduce variety and interest to their jobs (new force, +1).
- You could raise wages to reflect new productivity (cost +1, loss of overtime -2)
- Slightly different machines with filters to eliminate pollution could be installed (environmental impact -1).

**Figure 1**  
**Force Field Analysis Example**



These changes would swing the balance from 11:10 (against the plan), to 8:13 (in favor of the plan).

**Key points:**

Force Field Analysis is an effective method for looking at all the forces for and against a plan. It helps you to weigh the importance of these factors and decide whether a plan is worth implementing.

Where you have decided to carry out a plan, Force Field Analysis helps you identify changes that you could make to improve it.

## Six Thinking Hats (3.7)

Function: Looking at a decision from all points of view

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How to use tool: Six Thinking Hats is an important and powerful technique used to look at decisions from a number of important perspectives. This forces you to move outside your habitual thinking style, and helps you to get a more rounded view of a situation. This tool was created by [Edward de Bono](#).

Many successful people think from a very rational, positive viewpoint. This is part of the reason that they are successful. Often, though, they may fail to look at a problem from an emotional, intuitive, creative or negative viewpoint. This can mean that they underestimate public resistance to plans, fail to make creative leaps, and do not make essential contingency plans.

Similarly, pessimists may be excessively defensive. Emotional people may fail to look at decisions calmly and rationally.

If you look at a problem with the Six Thinking Hats technique, then you will solve it using all approaches. Your decisions and plans will mix ambition, skill in execution, public sensitivity, creativity and good contingency planning.

You can use Six Thinking Hats in meetings or on your own. In meetings, it has the benefit of blocking the confrontations that happen when people with different thinking styles discuss the same problem.

Each "Thinking Hat" is a different style of thinking. These are explained below:

- **White Hat:**  
With this thinking hat you focus on the data available. Look at the information you have, and see what you can learn from it. Look for gaps in your knowledge, and either try to fill them or take account of them.

This is where you analyse past trends, and try to extrapolate from historical data.

- **Red Hat:**  
"Wearing" the red hat, you look at problems using intuition, gut reaction, and emotion. Also try to think how other people will react emotionally. Try to understand the responses of people who do not fully know your reasoning.
- **Black Hat:**  
Using black hat thinking, look at all the bad points of the decision. Look at it cautiously and defensively. Try to see why it might not work. This is important because it highlights the weak points in a plan. It allows you to eliminate them, alter them, or prepare contingency plans to counter them. Black Hat thinking helps to make your plans tougher and more resilient. It can also help you to spot fatal flaws and risks before you embark on a course of action. Black Hat thinking is one of the



real benefits of this technique, as successful people get so used to thinking positively that often they cannot see problems in advance. This leaves them under-prepared for difficulties.

- **Yellow Hat:**  
The yellow hat helps you to think positively. It is the optimistic viewpoint that helps you to see all the benefits of the decision and the value in it. Yellow Hat thinking helps you to keep going when everything looks gloomy and difficult.
- **Green Hat:**  
The Green Hat stands for creativity. This is where you can develop creative solutions to a problem. It is a freewheeling way of thinking, in which there is little criticism of ideas. A whole range of creativity tools (see Module 1) can help you here.
- **Blue Hat:**  
The Blue Hat stands for process control. This is the hat worn by people chairing meetings. When running into difficulties because ideas are running dry, they may direct activity into Green Hat thinking. When contingency plans are needed, they will ask for Black Hat thinking, etc.

A variant of this technique is to look at problems from the point of view of different professionals (e.g. doctors, architects, sales directors, etc.) or different customers.

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Example: The directors of a property company are looking at whether they should construct a new office building. The economy is doing well, and the amount of vacant office space is reducing sharply. As part of their decision, they decide to use the 6 Thinking Hats technique during a planning meeting.

Looking at the problem with the White Hat, they analyse the data they have. They examine the trend in vacant office space, which shows a sharp reduction. They anticipate that by the time the office block would be completed, there will be a severe shortage of office space. Current government projections show steady economic growth for at least the construction period.

With Red Hat thinking, some of the directors think the proposed building looks quite ugly. While it would be highly cost-effective, they worry that people would not like to work in it.

When they think with the Black Hat, they worry that government projections may be wrong. The economy may be about to enter a “cyclical down-turn”, in which case the office building may be empty for a long time. If the building is not attractive, then companies will choose to work in another better-looking building at the same rent.

With the Yellow Hat, however, if the economy holds up and their projections are correct, the company stands to make a great deal of money. If they are lucky, maybe they could

sell the building before the next downturn, or rent to tenants on long-term leases that will last through any recession.

With Green Hat thinking, they consider whether they should change the design to make the building more pleasant. Perhaps they could build prestige offices that people would want to rent in any economic climate. Alternatively, maybe they should invest the money in the short term to buy up property at a low cost when a recession comes.

The Blue Hat has been used by the meeting's Chair to move between the different thinking styles. He or she may have needed to keep other members of the team from switching styles, or from criticizing other peoples' points.

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Key points: Six Thinking Hats is a good technique for looking at the effects of a decision from a number of different points of view.

It allows necessary emotion and skepticism to be brought into what would otherwise be purely rational decisions. It opens up the opportunity for creativity within decision-making. The technique also helps, for example, persistently pessimistic people to be positive and creative.

Plans developed using the 6 Thinking Hats technique will be sounder and more resilient than would otherwise be the case. It may also help you to avoid public relations mistakes, and spot good reasons not to follow a course of action before you have committed to it.

## Cost/Benefit Analysis (3.8)

Function: Seeing whether a change is worth making

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How to use tool: You may have been intensely creative in generating solutions to a problem, and rigorous in your selection of the best one available. This solution may still not be worth implementing, as you may invest a lot of time and money in solving a problem that is not worthy of this effort.

Cost/Benefit Analysis is a relatively simple<sup>3</sup> and widely used technique for deciding whether to make a change. As its name suggests, to use the technique simply add up the value of the benefits of a course of action, and subtract the costs associated with it.

Costs are either one-off, or may be ongoing. Benefits are most often received over time. We build this effect of time into our analysis by calculating a payback period. This is the

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<sup>3</sup> Larger projects are evaluated using formal finance/capital budgeting, which takes into account many of the complexities involved with financial decision-making. This is a complex area and is beyond the scope of this module, however books on capital budgeting are shown on the Mind Tools site.

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time it takes for the benefits of a change to repay its costs. Many companies look for payback over a specified period of time - e.g. three years.

In its simple form, cost/benefit analysis is carried out using only financial costs and financial benefits. For example, a simple cost/benefit analysis of a road scheme would measure the cost of building the road, and subtract this from the economic benefit of improving transport links. It would not measure either the cost of environmental damage or the benefit of quicker and easier travel to work.

A more sophisticated approach to cost/benefit analysis is to try to put a financial value on these intangible costs and benefits. This can be highly subjective - is, for example, a historic water meadow worth \$25,000, or is it worth \$500,000 because of its environmental importance? What is the value of stress-free travel to work in the morning?

These are all questions that people have to answer, and answers that people have to defend.

The version of cost/benefit analysis we explain here is necessarily simple. Where large sums of money are involved (for example, in financial market transactions), project evaluation can become an extremely complex and sophisticated art. The fundamentals of this are explained in Principles of Corporate Finance by Richard Brealey and Stewart Myers - this is something of a 'bible' on the subject. The book is reviewed at the top of our right hand side bar.

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Example:

A sales director is deciding whether to implement a new computer-based contact management and sales processing system. His department has only a few computers, and his salespeople are not computer literate. He is aware that computerized sales forces are able to contact more customers and give a higher quality of reliability and service to those customers. They are more able to meet commitments, and can work more efficiently with fulfillment and delivery staff.

His financial cost/benefit analysis is shown below:

**Costs:**

New computer equipment:

- 10 network-ready PCs with supporting software @ \$1,225 each
- 1 server @ \$1,750
- 3 printers @ \$600 each
- Cabling & Installation @ \$2300
- Sales Support Software @ \$7500

Training costs:

- Computer introduction - 8 people @ \$ 200 each
- Keyboard skills - 8 people @ \$ 200 each
- Sales Support System - 12 people @ \$350 each

**Other costs:**

- Lost time: 40 man days @ \$ 100 / day
- Lost sales through disruption: estimate: \$10,000
- Lost sales through inefficiency during first months: estimate: \$10,000

Total cost: \$55,800

**Benefits:**

- Tripling of mail shot capacity: estimate: \$20,000 / year
- Ability to sustain telesales campaigns: estimate: \$10,000 / year
- Improved efficiency and reliability of follow-up: estimate: \$25,000 / year
- Improved customer service and retention: estimate: \$15,000 / year
- Improved accuracy of customer information: estimate: \$5,000 / year
- More ability to manage sales effort: \$15,000 / year

Total Benefit: \$90,000/year

Payback time:  $\$55,800 / \$90,000 = 0.62$  of a year = approx. 8 months

Inevitably the estimates of the benefit given by the new system are quite subjective. Despite this, the Sales Director is very likely to introduce it, given the short payback time.

---

**Key points:**

Cost/Benefit Analysis is a powerful, widely used and relatively easy tool for deciding whether to make a change.

To use the tool, first work out how much the change will cost to make. Then calculate the benefit you will get from it. Where costs or benefits are paid or received over time, work out the time it will take for the benefits to repay the costs.

Cost/Benefit Analysis can be carried out using only financial costs and financial benefits. You may, however, decide to include intangible items within the analysis. As you must estimate a value for these, this inevitably brings an element of subjectivity into the process.

## Module 4

# Project Planning Skills

- Estimating time accurately
- Managing simple projects
- Project planning and scheduling - *Gantt Charts*
- Planning for large or complex projects - *Critical Path Analysis & PERT*
- Effective planning for important projects - *The Planning Cycle*
- Planning Large Projects and Programs
- Stakeholder Management

## 4. Project Planning & Management Techniques

This module discusses some of the key skills that you will need to manage projects successfully. It starts by introducing important project planning techniques, and then goes on to show you how to manage the political side of major projects – managing this well is often fundamental to the project's success.

This section will discuss the following tools:

- Estimating time accurately
- Managing simple projects
- Project planning and scheduling - *Gantt Charts*
- Planning for large or complex projects - *Critical Path Analysis & PERT*
- Effective planning for important projects - *The Planning Cycle*
- Planning Large Projects and Programs
- Stakeholder Management

By the end of the module you should have a good grasp of some important project planning techniques. You will know how to plan projects so that they can be completed on time and on budget. When projects run into difficulties (which they very often do), you will be able to prioritize the jobs that must be completed so that you meet the most important deadlines. You will also be able to decide when and how to take remedial action to bring a project back on course.

By the end of this module, you will also know how to manage communication with key project stakeholders so that you can win their support and improve the project's chances of success.

These skills are perfectly sufficient for running many of the projects you will encounter.

As projects become larger, however, a pragmatic general management approach can often be overwhelmed by the sheer complexity of the projects being run. Larger projects benefit from formal, methodology-based project and program management. This is a specialist skill in its own right - appropriate pointers to this are given towards the end of this section.

## Estimating Time Accurately (4.1)

---

**How to use tool:** Accurate time estimation is a skill essential to good project management. It is important to get time estimates right for two main reasons:

1. Time estimates drive the setting of deadlines for delivery of projects, and hence peoples' assessments of your reliability.
2. They determine the pricing of contracts and hence their profitability.

Usually, people vastly underestimate the amount of time needed to implement projects. This is true particularly when they are not familiar with the task to be carried out. They forget to take into account unexpected events or unscheduled high priority work. People also often simply fail to allow for the full complexity involved with a job.

This section discusses how to estimate time on small projects. There are two other techniques used to organize and structure medium and large sized projects: the drawing of Gantt charts (see [4.3](#)) and use of Critical Path Analysis (see [4.4](#)). Both of these techniques reduce large projects down into a set of small projects. This section also explains how to estimate time for each of these project stages.

### **Fully understanding the problem to solve**

The first stage in estimating time accurately is to fully understand what you need to achieve. This involves reviewing the task in detail so that there are no unknowns. Inevitably it is the difficult, tricky problems that take the greatest amount of time to solve.

The best way to review the job is to list all tasks in full detail. A technique such as Drill-Down (see [2.2](#)) is useful for this. Module 2 of this e-book gives you a range of techniques for fully understanding the problem you need to solve.

### **Estimating time**

You can only start to estimate time accurately when you have a detailed list of all the tasks that you must achieve. When you have this, you can make your best guess at how long each task will take to complete.

Ensure that within your estimate you also allow time for project management, detailed project planning, liaison with outside bodies, meetings, quality assurance and any supporting documentation necessary.

Also make sure that you have allowed time for:

- Other high urgency tasks to be carried out which will have priority over this one
- Accidents and emergencies
- Internal meetings
- Holidays and sickness in essential staff
- Contact with other customers, perhaps to arrange the next job
- Break-downs in equipment
- Missed deliveries by suppliers
- Interruptions

- Quality control rejections
- Etc.

These factors may double (or more than double) the length of time needed to complete a project.

If the accuracy of time estimates is critical, you may find it effective to develop a systematic approach to including these factors. If possible, base this on past experience.

---

Key points:

You can lose a great deal of credibility by underestimating the length of time needed to implement a project. If you underestimate time, not only do you miss deadlines, you also put other project workers under unnecessary stress. Projects will become seriously unprofitable, and other tasks cannot be started.

The first step towards making good time estimates is to fully understand the problem to be solved.

You can then prepare a detailed list of tasks that must be achieved. This list should include all the administrative tasks and meetings you need to carry out as well as the work itself.

Finally, allow time for all the expected and unexpected disruptions and delays to work that will inevitably happen.

## Scheduling Simple Projects (4.2)

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How to use tool:

Simple projects involve only one or a few people over a short time. Typically, these projects will have few tasks dependent on other tasks, and will be relatively simple and easy to coordinate. Examples might be coordinating delivery of resources for a workshop session, implementing a small marketing plan, or delivering a simple software enhancement.

With simple projects, tools like Gantt Charts and Critical Path Diagrams may overcomplicate project scheduling and communication. Unless project team members are trained in their use, they can often 'blind people with science', leading to poor communication and muddled projects.

Appropriate Timetables and [Action Plans](#) are often sufficient to coordinate and implement simple projects. These should be explained and negotiated with project staff to improve the plans and get staff understanding, input and buy-in.



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**Key points:** Simple projects are often best run using simple Timetables and Action Plans. These should be prepared and negotiated with project staff to improve plans and get buy-in.

During the project these will contain sufficient control points and deliveries to monitor project progress and take any appropriate remedial action.

## Gantt Charts (4.3)

**Function:** Project Planning and Scheduling

---

**How to use the tool:** Gantt Charts are useful tools for analyzing and planning small or medium sized projects. They:

- Help you to plan out the tasks that need to be completed.
- Give you a basis for scheduling when these tasks will be carried out.
- Allow you to plan the allocation of resources needed to complete the project.
- Help you to work out the critical path for a project where you must complete it by a particular date.

When a project is under way, Gantt charts help you to monitor whether the project is on schedule. If it is not, it allows you to pinpoint the remedial action necessary to put it back on schedule.

Gantt charts are excellent scheduling and planning tools to use up to a particular complexity of project. After this, they begin to become unwieldy. If you find that this is the case, use Critical Path Analysis (see [4.4](#)) in place of Gantt Charts.

### **Sequential and parallel activities:**

An essential concept behind project planning (and Critical Path Analysis) is that some activities are dependent on other activities being completed first. For example, it is not a good idea to start building a bridge before you have designed it!

These dependent activities need to be completed in a sequence, with each stage being more-or-less completed before the next activity can begin. We can call dependent activities "sequential".

Other activities are not dependent on completion of any other tasks. These may be done at any time before or after a particular stage is reached. These are non-dependent or "parallel" tasks.

To draw up a Gantt chart, follow these steps:

### 1. List all activities in the plan

For each task, show the earliest start date, estimated length of time it will take (see [4.1](#)), and whether it is parallel or sequential. If tasks are sequential, show which stages they depend on.

You will end up with a task list like the one below. This example shows the task list for a custom-written computer project. We will use this same example for both this section and the section on Critical Path Analysis and PERT (see [4.4](#)). This will allow you to compare the results of the two approaches.

#### **Figure 4.3.1. Gantt Chart Example: Planning a custom-written computer project**

NB: The start week shows when resources become available. Whether a task is parallel or sequential depends largely on context.

##### **List of all activities in plan:**

1. High level analysis  
Possible start week 1, 5 days, sequential
2. Selection of hardware platform  
Possible start week 1, 1 day, sequential, dependent on (1)
3. Installation and commissioning of hardware  
Possible start week 3, 2 weeks, parallel, dependent on (2), any time after
4. Detailed analysis of core modules  
Possible start week 1, 2 weeks, sequential, dependent on (1)
5. Detailed analysis of supporting utilities  
Possible start week 1, 2 weeks, sequential, dependent on (4)
6. Programming of core modules  
Possible start week 4, 3 weeks, sequential, dependent on (4)
7. Programming of supporting modules  
Possible start week 4, 3 weeks, sequential, dependent on (5)
8. Quality assurance of core modules  
Possible start week 5, 1 week, sequential, dependent on (6)
9. Quality assurance of supporting modules  
Possible start week 5, 1 week, sequential, dependent on (7)
10. Core module training  
Possible start week 7, 1 day, parallel, dependent on (6), any time after
11. Development of accounting reporting  
Possible start week 6, 1 week, parallel, dependent on (5), any time after
12. Development of management reporting  
Possible start week 6, 1 week, parallel, dependent on (5), any time after
13. Development of management analysis  
Possible start week 6, 2 weeks, dependent on (5), any time after
14. Detailed training  
Possible start week 7, 1 week, sequential, dependent on (1-13)
15. Documentation  
Possible start week 4, 2 weeks, parallel

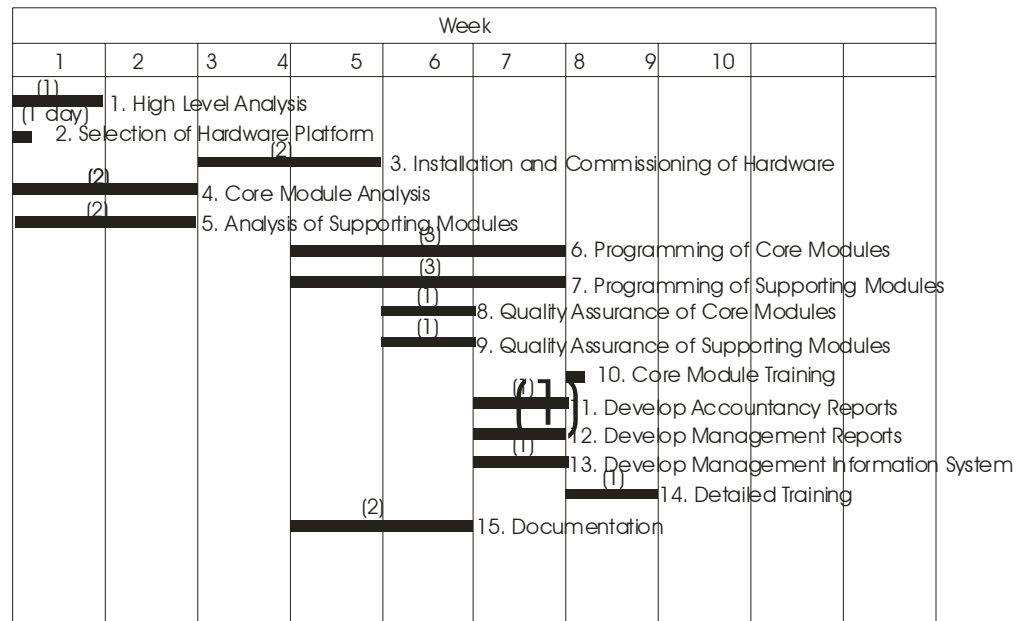
**2. Head up graph paper with the days or weeks through to task completion**

**3. Plot the tasks onto the graph paper**

Next draw up a rough draft of the Gantt chart. Plot each task on the graph paper, showing it starting on the earliest possible date. Draw it as a bar, with the length of the bar being the length of the task. Above the task bars, mark the time taken to complete them. Do not worry about task scheduling yet. All you are doing is setting up the first draft of the analysis.

This will produce an untidy diagram like the one below:

**Figure 2: Draft Gantt Chart: Example Computer Project**



**4. Schedule Activities**

Now take the draft Gantt chart, and use it to schedule actions. Schedule them in such a way that sequential actions are carried out in the required sequence. Ensure that dependent activities do not start until the activities they depend on have been completed.

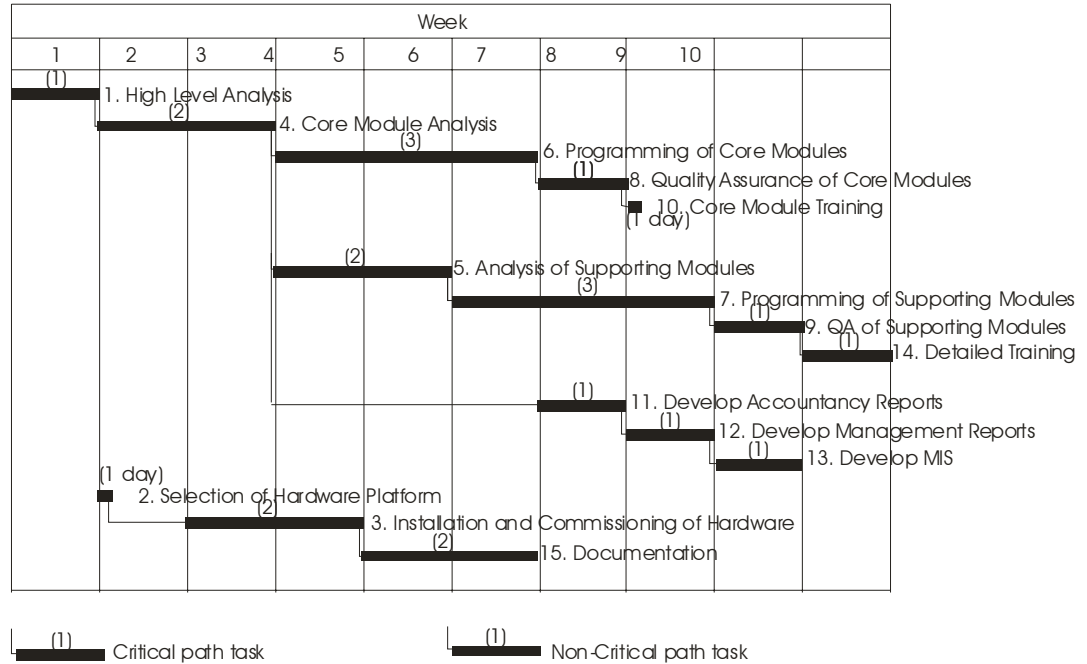
Where possible, schedule parallel tasks so that they do not interfere with sequential actions on the critical path. While scheduling, ensure that you make full use of the resources you have available. Also allow some slack time in the schedule for hold-ups, over-runs, quality rejections, failures in delivery, etc.

**5. Presenting the Analysis**

The final stage in this process is to prepare a clean final version of the Gantt chart. This should combine the draft analysis (see above) with your scheduling and analysis of resources. This chart will show when you anticipate that jobs should start and finish.

A redrawn and scheduled version of the example project is shown below:

**Critical Path Analysis: Activities Scheduled on a Gantt Chart**



By drawing this example Gantt chart, you can see that:

- If all goes well, the project can be completed in 10 weeks
- If you want to complete the task as rapidly as possible, you need:
  - 1 analyst for the first 5 weeks
  - 1 programmer for 6 weeks starting week 4
  - 1 programmer for 3 weeks starting week 6
  - Quality assurance for weeks 7 and 9
  - Hardware to be installed by the end of week 7
- Analysis, and development and installation of supporting modules are essential activities that must be completed on time.
- Hardware installation is a low priority task as long as it is completed by the end of week 7

**Key points:** Gantt charts are very useful tools for planning and scheduling small and medium sized projects. They allow you to assess how long a project should take, determine the resources needed, and lay out the order in which tasks need to be carried out.

When a project is under way, Gantt charts are useful for monitoring its progress. You can immediately see what should have been achieved at a point in time, and can therefore take remedial action to bring the project back on course. This can be essential for the successful and profitable implementation of the project.

## Critical Path Analysis & PERT Charts (4.4)

Function: **Planning for large or complex projects**

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Why use the tool? Critical Path Analysis and PERT are powerful tools that help you to schedule and manage complex projects. They were developed in the 1950s to control large defense projects, and have been used routinely since then.

As with Gantt Charts, Critical Path Analysis (CPA) helps you to plan all tasks that must be completed as part of a project. They both act as a useful basis for the preparation of a schedule and for resource planning. During management of a project, they both allow you to monitor achievement of project goals and help you to see where remedial action needs to be taken to get a project back on course.

The benefit of using CPA over Gantt Charts is that Critical Path Analysis formally identifies the tasks that must be completed on time for the whole project to be delivered to schedule. It also identifies the tasks that can be delayed if resource is to be reallocated to catch up on missed tasks.

A further benefit of Critical Path Analysis is that it helps you to identify the minimum length of time needed to complete a project. Where you need to run an accelerated project, it helps you to identify which project steps you should accelerate to complete the project within the available time. This helps you to minimize cost while still achieving your objective.

The disadvantage of CPA is that the relation of tasks to time is not as immediately obvious as with Gantt Charts. This can make them more difficult to understand for someone who is not familiar with the technique.

How to use the tool: **Sequential and parallel activities:**

As with Gantt charts, the essential concept behind Critical Path Analysis is that you cannot start some activities until others are finished. These activities need to be completed in a sequence, with each stage being more-or-less completed before the next stage can begin. These are "sequential" activities.

Other activities are not dependent on completion of any other tasks. You can do these at any time before or after a particular stage is reached. These are non-dependent or "parallel" tasks.

### 1. List all activities in the plan

For each activity, show the earliest start date, estimated length of time it will take, and whether it is parallel or sequential. If tasks are sequential, show which stage they depend on.

You will end up with a task list like the one for Gantt charts shown in figure [4.3.1](#). We will use the same example as with Gantt charts to compare the two techniques.

### 2. Plot the activities as a circle and arrow diagram

Critical Path Analyses are presented using circle and arrow diagrams.

In these, circles show events within the project, such as the start and finish of tasks. Circles are normally numbered to allow you to identify them.

An arrow running between two event circles shows the activity needed to complete that task. A description of the task is written underneath the arrow. The length of the task is shown above it. By convention, all arrows run left to right.

An example of a very simple diagram is shown below:

Figure 2: Simple Circle and Arrow Diagram



This shows the start event (circle 1), and the completion of the “High Level Analysis” task (circle 2). The arrow between them shows the activity of carrying out the High Level Analysis. This activity should take 1 week.

Where one activity cannot start until another has been completed, we start the arrow for the dependent activity at the completion event circle of the previous activity. An example of this is shown below:

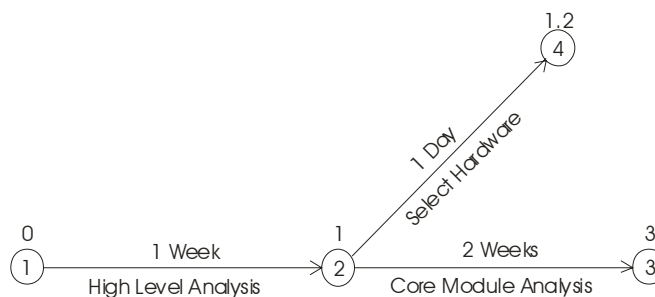


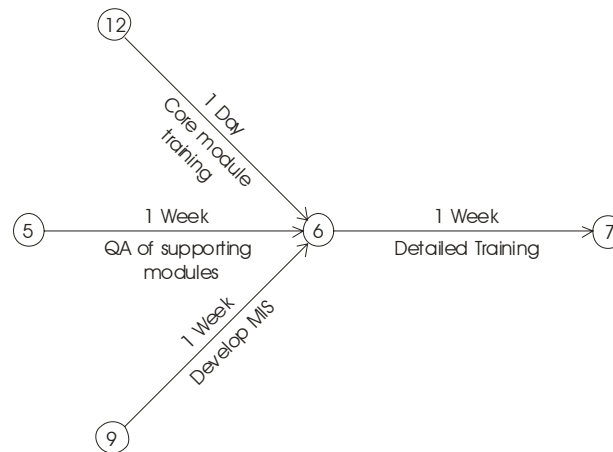
Figure 3: Circle and Arrow Diagram showing two activities that cannot be started until the first activity has been completed.

Here, the activities of “Selecting Hardware” and “Core Module Analysis” cannot be started until “High Level Analysis” has been completed. This diagram also brings out a number of other important points:

- Within Critical Path Analysis, we refer to activities by the numbers in the circles at each end. For example, the task “Core Module Analysis” would be called “activity 2 to 3”. “Select Hardware” would be “activity 2 to 4”.
- Activities are not drawn to scale. In the diagram above, activities are 1 week long, 2 weeks long, and 1 day long. Arrows in this case are all the same length.
- In the example above, you can see numbers above the circles. These show the earliest possible time that this stage in the project will be reached. Here, units are whole weeks.

A different case is shown below:

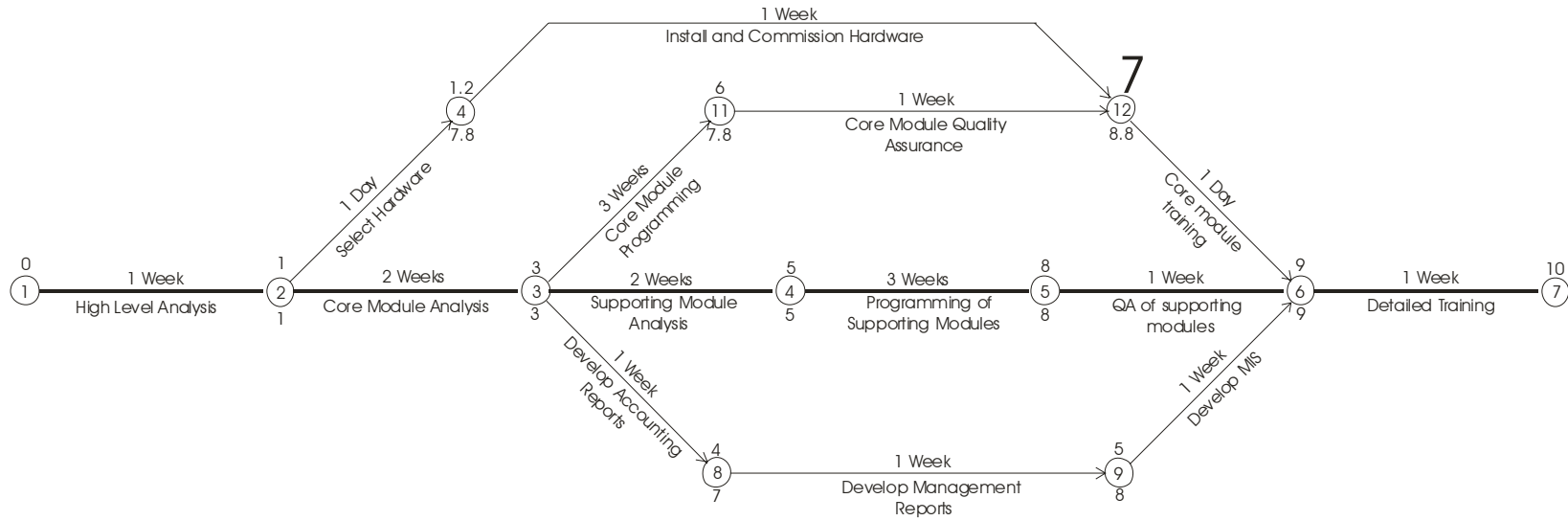
Figure 4: Circle and Arrow Diagram showing an activity (6 to 7) that cannot start until other activities (12 to 6, 5 to 6, and 9 to 6) have been completed.



Here, activity 6 to 7 cannot start until the other three activities (12 to 6, 5 to 6 and 9 to 6) have been completed.

See figure 4.4.4 for the full circle and arrow diagram for the computer project used as an example.

Figure 4; Critical Path Analysis for Example Computer Project





This shows all the activities that will take place as part of the project. Notice that each event circle has a figure below it as well as a figure above. This shows the latest time that it can be reached with the project still being completed in the minimum time possible. You can calculate this by starting at the last event (in this case number 7), and working backwards.

You can see that event 4 can be completed any time between 1.2<sup>4</sup> weeks in and 7.8 weeks in. The timing of this event is not critical. Events 1 to 2, 2 to 3, 3 to 4, 4 to 5, 5 to 6 and 6 to 7 must be started and completed on time if the project is to be completed in 10 weeks. This is the “critical path” as these activities must be very closely managed to ensure that activities are completed on time. If jobs on the critical path slip, immediate action should be taken to get the project back on schedule. Otherwise, completion of the whole project will slip.

#### “Crash Action”

You may find that you need to complete a project earlier than your Critical Path Analysis says is possible. In this case you need to take action to reduce the length of time spent on project stages.

You could pile resources into every project activity to bring down time spent on each. This would probably consume huge additional resources.

A more efficient way of doing this would be to look only at activities on the critical path. As an example, it may be necessary to complete the computer project in figure 4.3.4 in 8 weeks rather than 10 weeks. In this case you could look at using two analysts in steps “2 to 3” and “3 to 4”, and two programmers instead of one in step “4 to 5”. This would shorten the project by two weeks, but would raise the project costs, and doubling resources at any stage usually only improves productivity by 50%. This occurs as time spent on coordinating the project consumes time gained by increasing resource.

Note in this example, that shortening the project by two weeks bring activities ‘3 to 11’, ‘11 to 12’ and ‘12 to 6’ onto the critical path as well.

#### PERT

PERT (Program Evaluation and Review Technique)

PERT is a variation on Critical Path Analysis that takes a slightly more skeptical view of time estimates made for each project stage. To use it, estimate the shortest possible time each activity will take, the most likely length of time, and the longest time that might be taken if the activity takes longer than expected.

Use the formula below to calculate the time to use for each project stage:

$$\frac{\text{Shortest time} + 4 \times \text{likely time} + \text{longest time}}{6}$$

---

<sup>4</sup> Using decimals here helps to keep the diagram uncluttered. 1.2 weeks = 1 week and 1 working day.

This helps to bias time estimates away from the unrealistically short time-scales normally assumed.

---

Key points: Critical Path Analysis is an effective and powerful method of assessing:

- What tasks must be carried out
- Where parallel activity can be performed
- The shortest time in which you can complete a project
- Resources needed to execute a project
- The sequence of activities, scheduling and timings involved
- Task priorities
- The most efficient way of shortening time on urgent projects.

An effective Critical Path Analysis can make the difference between success and failure on complex projects. It can be very useful for assessing the importance of problems faced during the implementation of the plan.

PERT is a variant of Critical Path Analysis that takes a more skeptical view of the time needed to complete each project stage.

## The Planning Cycle (4.5)

Function: **Effective Planning for Important Projects**

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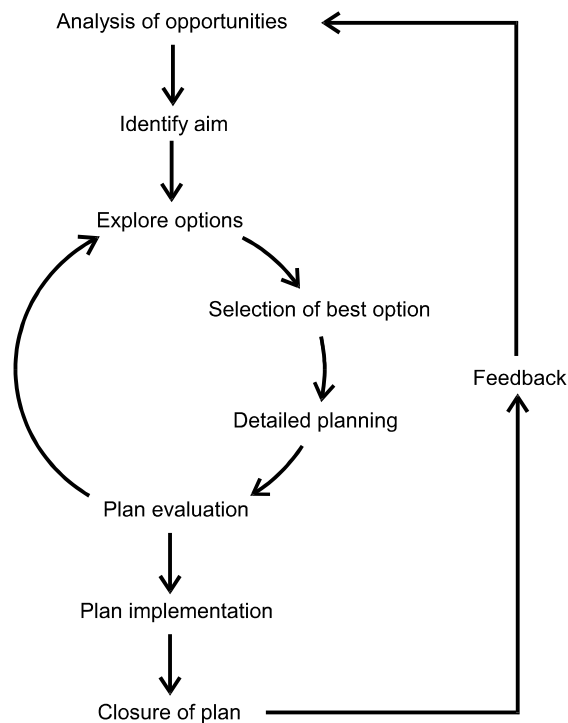
How to use tool: The Planning Cycle brings together all aspects of planning into a coherent, unified process. By planning within this structure, you will help to ensure that your plans are fully considered, well focused, resilient, practical and cost-effective. You will also ensure that you learn from any mistakes you make, and feed this back into future decision-making.

By planning within this structure, you will help to ensure that your plans are fully considered, well focused, resilient, practical and cost-effective. You will also ensure that you learn from any mistakes you make, and feed this back into future planning and decision-making.

Planning using this cycle will help you to plan and manage ongoing projects up to a certain level of complexity - this will depend on the circumstance. For projects involving many people over a long period of time, more formal methodologies and approaches are necessary (see [4.6](#)).

The Planning Cycle is shown in figure 4.5.1:

Figure 4.4.1. The Planning Cycle



The stages in this planning process are explained below:

### 1. Analysis of Opportunities:

The first thing to do is to do is to spot what needs to be done. You will crystallize this into a formal aim at the next stage in the process.

One approach to this is to examine your current position, and decide how you can improve it. There are a number of techniques that will help you to do this:

- **SWOT Analysis:** is a formal analysis of your strengths and weaknesses, and of the opportunities and threats that you face. See section [2.5](#) for more information on this.
- **Risk Analysis:** helps you to spot dangerous weaknesses in your organization or within your operation. See [2.7](#).
- **Understanding pressures for change:** other people may be pressing you to change the way you do things. Alternatively, your environment may be changing, and you may need to anticipate or respond to this. These may arise from changes in the economy, new legislation, competition, changes in people's attitudes, new technologies, or changes in government. In cases where change is forced on you, ensure that you react to the cause of the pressure, not to the symptoms of it.

A different approach is to use any of a whole range of powerful creativity tools (see section 1) to work out where you can make improvements. These creativity tools culminate in the powerful Simplex process described in 1.10.

## 2. Identifying the Aim of Your Plan

Once you have completed a realistic analysis of the opportunities for change, the next step is to decide precisely what the aim of your plan is. Deciding and defining an aim sharpens the focus of your plan, and helps you to avoid wasting effort on irrelevant side issues.

The aim is best expressed in a simple single sentence. This ensures that it is clear and sharp in your mind.

If you are having difficulty in deciding the aim of your plan, ask yourself:

- What do I want the future to be?
- What benefit do I want to give to my customers?
- What returns do I seek?
- What standards am I aiming at?
- What values do I and my organization believe in?

For large plans, you can present this aim as a “Vision Statement” or “Mission Statement”. Vision Statements express the benefit that an organization will provide to its customers. For example, the vision statement for Mind Tools is: “To enrich the quality of our customers lives by giving them the tools to help them to think in the most productive and effective way possible”. While this is wordy, it explains exactly what this e-book aims to do.

Mission statements give concrete expression to the Vision Statement, explaining how it is to be achieved. The mission statement for this e-book is: “To provide a well structured, accessible, concise survey of the best mind tools available”.

## 3. Exploring Options

By this stage, you should know where you are and what you want to do. The next thing to do is to work out how to do it. The Creativity Tools module (section 1) of this e-book explains a wide range of powerful creativity tools that will help you to generate options.

At this stage, it is best to spend a little time generating as many options as possible, even though it is tempting just to grasp the first idea that comes to mind. By taking a little time to generate as many ideas as possible, you may come up with less obvious but better solutions. Just as likely, you may improve your best ideas with parts of other ideas.

## 4. Selecting the Best Option

Once you have explored the options available to you, it is time to decide which one to use. If you have the time and resources available, then you might decide to evaluate all options, carrying out detailed planning, costing, risk assessment, etc. for each. Normally, you will not have this luxury.

Two very useful tools for selecting the best option are Grid Analysis (see [3.3](#)) and Decision Trees (see [3.4](#)). Grid Analysis helps you to decide between different options where you need to consider a number of different factors. Decision Trees help you to think through the likely outcomes of following different courses of action.

## 5. Detailed Planning

By the time you start detailed planning, you should have a good picture of where you are, what you want to achieve, and the range of options available to you. You may well have selected one of the options as the most likely to yield the best results.

Detailed planning is the process of working out the most efficient and effective way of achieving the aim that you have defined. It is the process of determining who will do what, when, where, how and why, and at what cost.

When drawing up the plan, techniques such as use of Gantt charts (see [4.3](#)) and Critical Path Analysis (see [4.4](#)) can be immensely helpful in working out priorities, deadlines and the allocation of resources.

While you are concentrating on the actions that need to be performed, ensure that you also think about the control mechanisms that you will need to monitor performance. These will include activities such as reporting, quality assurance, cost control, etc. that are needed to spot and correct any deviations from the plan.

A good plan will:

- State the current situation.
- Have a clear aim.
- Use the resources available.
- Detail the tasks to be carried out, whose responsibility they are, and their priorities and deadlines.
- Detail control mechanisms that will alert you to difficulties in achieving the plan.
- Identify risks, and plan for contingencies. This allows you to make a rapid and effective response to crises, perhaps at a time when you are at low ebb, or are confused following a setback. Risk Analysis is explained in [2.7](#).
- Consider transitional arrangements, considering how will you keep things going while you implement the plan?

## 6. Evaluation of the Plan and Its Impact

Once you have worked out the details of your plan, the next stage is to review it to decide whether it is worth implementing. Here you must be objective; however much work you have carried out to reach this stage, the plan may still not be worth implementing.

This is frustrating after the hard work of detailed planning. It is, however, much better to find this out now than when you have invested time, resources and personal standing in the success of the plan. Evaluating the plan now gives you the opportunity to either investigate other options that might be more successful, or to accept that no plan is needed or should be carried out.

Depending on the circumstances, the following techniques can be helpful in evaluating a plan:

- **PMI:**

This is a good, simple technique for “weighing the pros and cons” of a decision. It involves listing the plus points in the plan in one column, the minus points in a second

column, and the implications of the plan in a third column. Each point can be allocated a positive or negative score. PMI is explained in section [3.5](#).

- **Cost/Benefit Analysis:**  
This is useful for confirming that the plan makes financial sense. This involves adding up all the costs involved with the plan, and comparing them with the expected benefits. This is explained in more detail in section [3.8](#).
- **Force Field Analysis:**  
Similar to PMI, Force Field Analysis helps you to get a good overall view of all the forces for and against your plan. This allows you to see where you can make adjustments that will make the plan more likely to succeed. See [3.6](#) for more information.
- **Cash Flow Forecasts:**  
Where a decision has mainly financial implications, such as in business and marketing planning, preparation of a Cash Flow Forecast can be extremely useful. It allows you to assess the effect of time on costs and revenue. It also helps in assessing the size of the greatest negative and positive cash flows associated with a plan. When it is set up on a spreadsheet package, a good Cash Flow Forecast also functions as an extremely effective model of the plan. It gives you an easy basis for investigating the effect of varying your assumptions. Cash Flow Forecasting is explained in section [2.6](#).
- **6 Thinking Hats:**  
6 Thinking Hats is a very good technique to use to get a rounded view of your plan and its implications. It provides a context within which you can examine a plan rationally, emotionally, optimistically, pessimistically and creatively. By using this tool you will improve your plan and make it more robust. 6 Thinking Hats is explained in detail in section [3.7](#).

Any analysis of your plan must be tempered by common sense. If your analysis shows that the plan either will not give sufficient benefit, then either return to an earlier stage in the planning cycle or abandon the process altogether.

### 7. Implementing Change

Once you have completed your plan and decided that it will work satisfactorily, it is time to implement it. Your plan will explain how! It should also detail the controls that you will use to monitor the execution of the plan.

### 8. Closing the Plan

Once you have achieved a plan, you can close the project. At this point it is often worth carrying out an evaluation of the project to see whether there are any lessons that you can learn. This should include an evaluation of your project planning to see if this could be improved.

If you are going to be carrying out many similar projects, it may be worth developing and improving an Aide Memoire (see [6.1.9](#)). This is a list of headings and points to consider during planning. Using it helps you to ensure that you do not forget lessons learned in the past.

**Key points:** The Planning Cycle is a process that helps you to make good, well-considered, robust plans.

The first step, the analysis of opportunities, helps you to base the plan firmly in reality. The second, definition of the aim, gives your plan focus.

The third stage is to generate as many different ways for achieving this aim as possible. By spending time looking for these you may find a better solution than the obvious one, or may be able to improve the obvious solution with parts of other ones.

Next, select the best approach, and make a detailed plan showing how to implement it. Evaluate this plan to make sure that it will be worth implementing. If it is not, return to an earlier stage and either improve the plan or make a different one. If no plan looks like producing enough benefit to justify the cost, make no changes at all.

Once you have selected a course of action, and have proved that it is viable, carry it out. Once it is finished, examine it and draw whatever lessons you can from it. Feed this back into future planning.

## Planning Large Projects and Programs (4.6)

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**How to use tool:** The techniques explained so far in this section on Mind Tools support a pragmatic, commonsense approach to planning and managing small and medium-sized projects.

A warning: this approach will only scale up to a certain extent - larger projects will reach a complexity where pragmatic management generates a level of inefficiency and waste which can start to threaten the project.

For larger projects, Project Management becomes a technical discipline in its own right. To run projects as efficiently as possible, Project Managers need to be trained in methodologies such as PRINCE 2 (an increasingly widespread UK government standard) or an equivalent, and need to apply an appropriate subset of these methodologies. PRINCE is powerful in that it completely clarifies people's roles in projects, ensures that lines of communication are clear, makes sure that project risk is actively managed, sets up appropriate controls, etc. In this, it embodies and codifies much of project management best practice.

## Stakeholder Management (4.7)

**Function:** Winning Support for Your Projects

*by Rachel Manktelow, who has fifteen years experience of helping organizations and business leaders to manage change and work more effectively.*

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*"Stakeholder management is critical to the success of every project in every organization I have ever worked with. By engaging the right people in the right way in your project, you can make a big difference to its success... and to your career."*

---

Introduction: As you become more successful in your career, the actions you take and the projects you run will affect more and more people. The more people you affect, the more likely it is that your actions will impact people who have power and influence over your projects. These people could be strong supporters of your work - or they could block it.

Stakeholder Management is an important discipline that successful people use to win support from others. It helps them ensure that their projects succeed where others fail.

The Stakeholder Management Tool comes in two parts: Firstly we look at "Stakeholder Analysis", the technique we use to identify the key people who must be won over. We then look at "Stakeholder Planning". This helps us build the support that helps you succeed.

The benefits of using a stakeholder-based approach are that:

- You can use the opinions of the most powerful stakeholders to shape your projects at an early stage. Not only does this make it more likely that they will support you, their input can also improve the quality of your project
- Gaining support from powerful stakeholders can help you to win more resources - this makes it more likely that your projects will be successful
- By communicating with stakeholders early and frequently, you can ensure that they fully understand what you are doing and understand the benefits of your project - this means they can support you actively when necessary
- You can anticipate what people's reaction to your project may be, and build into your plan the actions that will win people's support.

How to use the tool: [Stakeholder Analysis](#)

The first step in Stakeholder Analysis is to identify who your stakeholders are. The next step is to work out their power, influence and interest, so you know who you should focus on. The final step is to develop a good understanding of the most important stakeholders so that you know how they are likely to respond, and so that you can work out how to win their support - you can record this analysis on a stakeholder map.

After you have used this tool and created a stakeholder map, you can use the stakeholder planning tool to plan how you will communicate with each stakeholder.

The steps of Stakeholder Analysis are explained below:

### **1. Identifying Your Stakeholders:**

The first step in your stakeholder analysis is to brainstorm who your stakeholders are. As part of this, think of all the people who are affected by your work, who have influence or power over it, or have an interest in its successful or unsuccessful conclusion.



The table below shows some of the people who might be stakeholders in your job or in your projects:

**Possible Project Stakeholders:**

Your boss	Shareholders	Government
Senior executives	Alliance partners	Trades associations
Your coworkers	Suppliers	The press
Your team	Lenders	Interest groups
Customers	Analysts	The public
Prospective customers	Future recruits	The community
Your family		

Remember that although stakeholders may be both organizations and people, ultimately you must communicate with people. Make sure that you identify the correct individual stakeholders within a stakeholder organization.

**2. Prioritize Your Stakeholders:**

You may now have a long list of people and organizations that are affected by your work. Some of these may have the power either to block or advance. Some may be interested in what you are doing, others may not care.

Map out your stakeholders using the Power/Interest Grid shown in figure 1, and classify them by their power over your work and by their interest in your work.

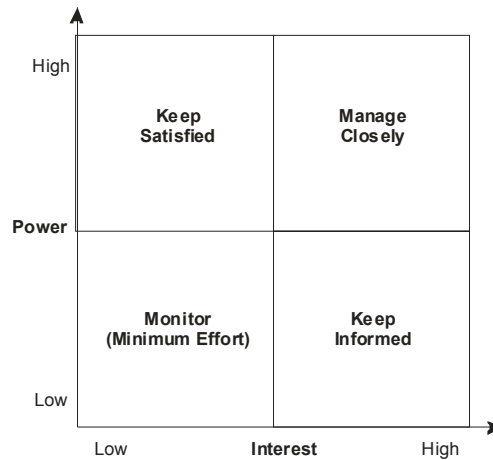


Figure 1: Basic Power/Interest Grid

For example, your boss is likely to have high power and influence over your projects and high interest. Your family may have high interest, but are unlikely to have power over it.

Someone's position on the grid shows you the actions you have to take with them:

- High power, interested people: these are the people you must fully engage and make the greatest efforts to satisfy.

- High power, less interested people: put enough work in with these people to keep them satisfied, but not so much that they become bored with your message.
- Low power, interested people: keep these people adequately informed, and talk to them to ensure that no major issues are arising. These people can often be very helpful with the detail of your project.
- Low power, less interested people: again, monitor these people, but do not bore them with excessive communication.

### 3. Understanding your key stakeholders:

You now need to know more about your key stakeholders. You need to know how they are likely to feel about and react to your project. You also need to know how best to engage them in your project and how best to communicate with them.

Key questions that can help you understand your stakeholders are:

- What financial or emotional interest do they have in the outcome of your work? Is it positive or negative?
- What motivates them most of all?
- What information do they want from you?
- How do they want to receive information from you? What is the best way of communicating your message to them?
- What is their current opinion of your work? Is it based on good information?
- Who influences their opinions generally, and who influences their opinion of you? Do some of these influencers therefore become important stakeholders in their own right?
- If they are not likely to be positive, what will win them around to support your project?
- If you don't think you will be able to win them around, how will you manage their opposition?
- Who else might be influenced by their opinions? Do these influencers then become stakeholders in their own right?

A very good way of answering these questions is to talk to your stakeholders directly. People are often quite open about their views, and asking people's opinions is often the first step in building a successful relationship with them.

You can summarize the understanding you have gained on the stakeholder map, so that you can easily see which stakeholders are expected to be blockers or critics, and which stakeholders are likely to be advocates and supporters of your project. A good way of doing this is by color coding: showing advocates and supporters in green, blockers and critics in red, and others who are neutral in orange.

Figure 2 shows an example of this - in this example, you can see that a lot of effort needs to be put into persuading Piers and Michael of the benefits of the project - Janet and Amanda also need to be managed well as powerful supporters.

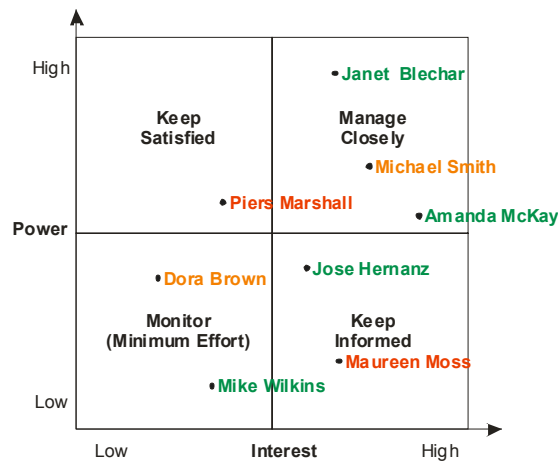


Figure 2: Example Power/Interest Grid With Stakeholders Marked

The next article in this series will explain Stakeholder Planning - this will show you how to plan to win your stakeholders around.

How to use the tool: [Stakeholder Planning](#)

Having conducted a Stakeholder Analysis exercise, you will have most of the information you need to plan how to manage communication with your stakeholders. You will have identified the stakeholders in your job and in your projects, and will have marked out their positions on a stakeholder map.

The next stage is to plan your communication so that you can win them around to support your projects. Stakeholder Planning is the process by which you do this.

To carry out a Stakeholder Planning exercise, start with a Stakeholder Planning Sheet. This is a table with the following column headings:

- Power
- Interest
- Stakeholder Name
- Key Interests and Issues
- Current Status - Advocate, supporter, neutral, critic, blocker
- Desired Support - High, medium or low
- Desired Project Role (if any)
- Actions Desired (if any)
- Messages Needed
- Actions and Communications

Using this table, work through the planning exercise using the steps below:

**1. Update the Planning Sheet With Power/Interest Grid Information:**

Based on the Power/Interest Grid you created in your stakeholder analysis, enter the stakeholders' names, their influence and interest in your job or project, and your current assessment of where they stand with respect to it.

**2. Plan Your Approach to Stakeholder Management:**

The amount of time you should allocate to Stakeholder Management depends on the size and difficulty of your projects and goals, the time you have available for communication, and the amount of help you need to achieve the results you want.

Think through the help you need, the amount of time that will be taken to manage this and the time you will need for communication. Help with the project could include sponsorship of the project, advice and expert input, reviews of material to increase quality, etc.

**3. Think Through What You Want From Each Stakeholder:**

Next, work through your list of stakeholders thinking through the levels of support you want from them and the roles you would like them to play (if any). Think through the actions you would like them to perform. Write this information down in the 'Desired Support', 'Desired Project Role' and 'Actions Desired' columns.

**4. Identify the Messages You need to Convey:**

Next, identify the messages that you need to convey to your stakeholders to persuade them to support you and engage with your projects or goals. Typical messages will show the benefits to the person or organization of what you are doing, and will focus on key performance drivers like increasing profitability or delivering real improvements.

**5. Identify Actions and Communications:**

Finally, work out what you need to do to win and manage the support of these stakeholders. With the time and resource you have available, identify how you will manage the communication to and the input from your stakeholders.

Focusing on the high-power/high-interest stakeholders first and the low-interest/low-power stakeholders last, devise a practical plan that communicates with people as effectively as possible and that communicates the right amount of information in a way that neither under nor over-communicates.

Think through what you need to do to keep your best supporters engaged and on-board. Work out how to win over or neutralize the opposition of skeptics. Where you need the active support of people who are not currently interested in what you are doing, think about how you can engage them and raise their level of interest.

Also, consider how what you are doing will affect your stakeholders. Where appropriate, let people know as early as possible of any difficult issues that may arise, and discuss with them how you can minimize or manage any impact.

**Tip:**

It is usually a good idea to manage people's expectations about likely problems as early as possible. This gives them time to think through how to manage issues, and preserves your reputation for reliability.

Once you have prepared your Stakeholder Plan, all you need to do is to implement it. As with all plans, it will be easier to implement if you break it down into a series of small, achievable steps and action these one-by-one.

---

**Example:** You can create your own example of stakeholder analysis at work - whether for your current role, a job you want to do or a new project.

Conduct a full stakeholder analysis. Ask yourself whether you are communicating as effectively as you should be with your stakeholders. What actions can you take to get more from your supporters or win over your critics?

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**Key Points:** As the work you do and the projects you run become more important, you will affect more and more people. Some of these people have the power to undermine your projects and your position. Others may be strong supporters of your work.

Stakeholder Management is the process by which you identify your key stakeholders and win their support. Stakeholder Analysis is the first stage of this, where you identify and start to understand your most important stakeholders.

The first stage of this is brainstorm who your stakeholders are. The next step is to prioritize them by power and interest, and to plot this on a Power/Interest grid. The final stage is to get an understanding of what motivates your stakeholders and how you need to win them around.

Once you have completed your Stakeholder Analysis, the next stage is Stakeholder Planning. This is the process you use to plan how to manage your stakeholders and gain their support for your projects.

Stakeholder Planning can usefully be conducted using a planning sheet like the one described. To prepare your plan, go through the following steps:

1. Update the planning sheet with information from the power/interest grid
2. Think through your approach to stakeholder management
3. Work out what you want from each stakeholder
4. Identify the messages you need to convey
5. Identify actions and communications

Good Stakeholder Management helps you to manage the politics that can often come with major projects. It helps you win support for your projects and eliminates a major source of project and work stress.

## Module 5

### Information & Study Skills

- How to take notes effectively - *Concept Maps*
- Fully absorbing written information - *SQ3R*
- *Speed Reading*
- Reading faster by thinking what to read - *Reading Strategies*
- Keeping information fresh in your mind - *Review Techniques*

## 5. Information & Study Skills

The techniques in this module will help you to master information. By using them, you will be able to improve:

- Your reading skills, so that you can find the information you need quickly and easily.
- The way you make notes, so that they become clear and easy to understand, and quick to review.
- Your review techniques, so that you can keep information fresh in your mind.

These techniques will help you to assimilate information quickly. This may involve keeping yourself up-to-date on events within your field, absorbing information within reports, or learning specialist information needed to complete a project.

These are also very useful tools for mastering course material where you are studying for exams. They work particularly well in conjunction with the memory techniques described in module 5. Used together, these two sets of tools will give you a formidable advantage in organizing and remembering information. This is often what exams are about.

Techniques discussed are:

- How to take notes effectively - *Concept Maps*
- Fully absorbing written information - *SQ3R*
- *Speed Reading*
- Reading faster by thinking what to read - *Reading Strategies*
- Keeping information fresh in your mind - *Review Techniques*

Concept Maps are powerful tools for recording and organizing information. They do this in a format that is easy to review. Once you understand and start using Concept Maps, you will never again want to take notes using conventional techniques.

The next three techniques (SQ3R, Speed Reading and use of Reading Strategies) help you to assimilate and understand written information quickly and efficiently.

The section on Review Techniques will help you to keep information that you have already learned alive in your mind.

## Concept Maps (5.1)

Function: **How to Take Notes Effectively**

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How to use tool: Concept Maps are very important techniques for improving the way you take notes. By using Concept Maps, you show the structure of the subject and linkages between points, as well as the raw facts contained in normal notes. Concept Maps hold information in a format that your mind will find easy to remember and quick to review.

Concept Maps completely abandon the list format of conventional note taking. They do this in favor of a two-dimensional structure. A good Concept Map shows the “shape” of the subject, the relative importance of individual points, and the way in which one fact relates to other. Concept Maps are more compact than conventional notes, often taking up one side of paper. This helps you to make associations easily. If you find out more information after you have drawn the main Concept Map, then you can easily integrate it with little disruption.

Concept Maps are also useful for:

- Summarizing information
- Consolidating information from different research sources
- Thinking through complex problems, and
- Presenting information that shows the overall structure of your subject

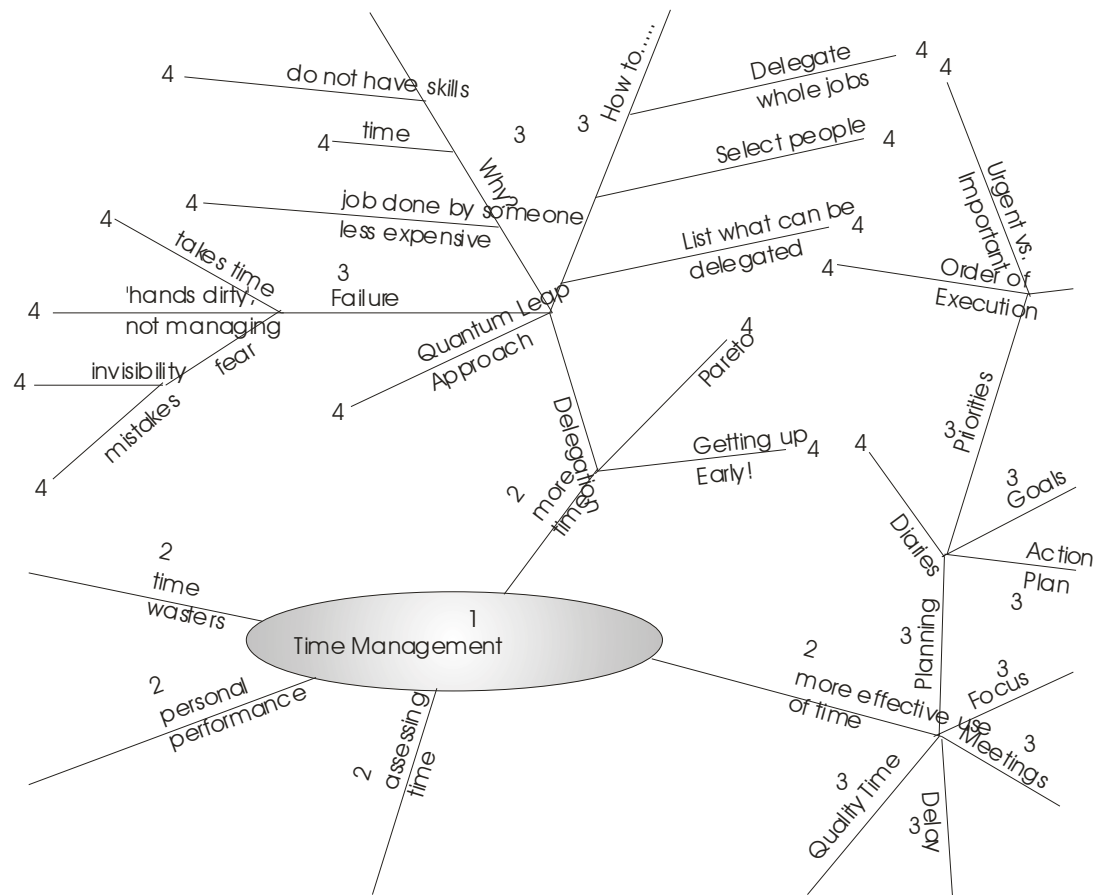
Concept Maps are also very quick to review, as it is easy to refresh information in your mind just by glancing at one.

For people who have good spatial memories, Concept Maps can be effective mnemonics. Remembering the shape and structure of a Concept Map can provide the cues necessary to remember the information within it. They engage much more of the brain in the process of assimilating and connecting facts than conventional notes.

### **Drawing Basic Concept Maps**

This e-book was researched and planned using Concept Maps. They are too large to publish here, however part of one is shown below. This shows research into time management skills:





**Figure 1 Part of an example Concept Map**

To make notes on a subject using a Concept Map, draw it in the following way:

1. Write the title of the subject in the centre of the page, and draw a circle around it. This is shown by the circle marked **1** in the figure 5.1.1.
2. For the major subject sub-headings, draw lines out from this circle. Label these lines with the sub-headings. These are shown by the lines marked **2** in figure 5.1.1.
3. If you have another level of information belonging to the sub-headings above, draw these and link them to the sub-heading lines. These are shown by the lines marked **3** in figure 5.1.1.
4. Finally, for individual facts or ideas, draw lines out from the appropriate heading line and label them. These are shown by the lines marked **4** in figure 5.1.1.

As you come across new information, link it in to the Concept Map appropriately.

A complete Concept Map may have main topic lines radiating in all directions from the centre. Sub-topics and facts will branch off these, like branches and twigs from the trunk of a tree. You do not need to worry about the structure produced, as this will evolve of its own accord.

Note that the idea of “levels” in 5.1.1. is only used to help show how the Concept Map was created. All we are showing is that major headings radiate from the center, with lower level headings and facts branching off from the higher-level headings.

### Improving your Concept Maps

Your Concept Maps are your own property. Once you understand how to make notes in the Concept Map format, you can develop your own conventions to take them further. The following suggestions may help to increase the effectiveness of your Concept Maps:

- **Use single words or simple phrases for information:**  
Most words in normal writing are padding, as they ensure that facts are conveyed in the correct context, and in a format that is pleasant to read. In your own Concept Maps, single strong words and meaningful phrases can convey the same meaning more potently. Excess words just clutter the Concept Map.
- **Print words:**  
Joined up or indistinct writing can be more difficult to read.
- **Use color to separate different ideas:**  
This will help you to separate ideas where necessary. It also helps you to visualize of the Concept Map for recall. Color also helps to show the organization of the subject.
- **Use symbols and images:**  
When a symbol or picture means something to you, use it. Pictures can help you to remember information more effectively than words.
- **Using cross-linkages:**  
Information in one part of the Concept Map may relate to another part. Here you can draw in lines to show the cross-linkages. This helps you to see how one part of the subject affects another.

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Key points: Concept Maps provide an extremely effective method of taking notes. They show not only facts, but also the overall structure of a subject and the relative importance of individual parts of it. Concept Maps help you to associate ideas and make connections that might not otherwise make.

If you do any form of research or note taking, try experimenting with Concept Maps. You will find them surprisingly effective.

## SQ3R (5.2)

Function: Fully absorbing written information

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How to use tool: SQ3R is a useful technique for fully absorbing written information. SQ3R helps you to create a good mental framework of a subject, into which you can fit facts correctly. It helps you to set study goals. It also prompts you to use the review techniques that will help to fix information in your mind.

---

By using SQ3R to actively read a document, you can get the maximum benefit from your reading time.

The acronym SQ3R stands for the five sequential techniques you should use to read a book:

- **Survey**

Survey the document: scan the contents, introduction, module introductions and module summaries to pick up a shallow overview of the text. Form an opinion of whether it will be of any help. If it does not give you the information you want, discard it.

- **Question**

Make a note of any questions on the subject that come to mind, or particularly interest you following your survey. Perhaps scan the document again to see if any stand out. These questions can be considered almost as study goals. Understanding the answers can help you to structure the information in your own mind.

- **Read**

Now read the document. Read through useful sections in detail, taking care to understand all the points that are relevant. In the case of some texts this reading may be very slow. This will particularly be the case if there is a lot of dense and complicated information. While you are reading, it can help to take notes in Concept Map format (see [5.1](#)).

- **Recall**

Once you have read appropriate sections of the document, run through it in your mind several times. Isolate the core facts or the essential processes behind the subject, and then see how other information fits around them.

- **Review**

Once you have run through the exercise of recalling the information, you can move on to the stage of reviewing it. This review can be by re-reading the document, by expanding your notes, or by discussing the material with colleagues. A particularly effective method of reviewing information is to have to teach it to someone else!

For more information on reviewing information, see section [5.5](#).

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Key points: SQ3R is a useful technique for extracting the maximum amount of benefit from your reading time. It helps you to organize the structure of a subject in your mind. It also helps you to set study goals and to separate important information from irrelevant data.

SQ3R is a 5 stage active reading technique. The stages are:

- Survey
- Question
- Read
- Recall
- Review

If you use SQ3R, you will significantly improve the quality of your study time.

## Speed Reading (5.3)

Function: **Increasing your reading speed**

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**How to use tool:** Speed Reading helps you to read and understand text more quickly. It is an essential skill in any environment where you have to master large volumes of information quickly, as is the norm in fast-moving professional environments.

### **The Key Insight**

The most important trick about speed reading is to know what information you want from a document before you start reading it: if you only want an outline of the issue that the document discusses, then you can skim the document very quickly and extract only the essential facts. If you need to understand the real detail of the document, then you need to read it slowly enough to fully understand it.

You will get the greatest time savings from speed reading by learning to skim excessively detailed documents.

### **Technical Issues**

Even when you know how to ignore irrelevant detail, there are other technical improvements you can make to your reading style which will increase your reading speed.

Most people learn to read the way young children read - either letter-by-letter, or word-by-word. For most adults, this is probably not the case - think about how your eye muscles are moving now. You will probably find that you are fixing your eyes on one block of words, then moving your eyes to the next block of words, and so on. You are reading blocks of words at a time, not individual words one-by-one. You may also notice that you do not always go from one block to the next: sometimes you may move back to a previous block if you are unsure about something.

A skilled reader will read many words in each block. He or she will only dwell on each block for an instant, and will then move on. Only rarely will the reader's eyes skip back to a previous block of words. This reduces the amount of work that the reader's eyes have to do. It also increases the volume of information that can be examined in a period of time.

A poor reader will become bogged down, spending a lot of time reading small blocks of words. He or she will skip back often, losing the flow and structure of the text and overall understanding of the subject. This irregular eye movement will make reading tiring. Poor readers tend to dislike reading, and may find it harder to concentrate and understand written information.

Speed reading aims to improve reading skills by:

- Increasing the number of words read in each block
- Reducing the length of time spent reading each block, and
- Reducing the number of times your eyes skip back to a previous sentence.

These are explained below:

**Increasing the number of words in each block:**

This needs a conscious effort. Try to expand the number of words that you read at a time. Practice will help you to read faster. You may also find that you can increase the number of words read by holding the text a little further from your eyes. The more words you can read in each block, the faster you will read!

**Reducing Fixation Time:**

The minimum length of time needed to read each block is probably only a quarter of a second. By pushing yourself to reduce the time you take, you will get better at picking up information quickly. Again, this is a matter of practice and confidence.

**Reducing Skip-Back:**

To reduce the number of times that your eyes skip back to a previous sentence, run a pointer along the line as you read. This could be a finger, or a pen or pencil. Your eyes will follow the tip of your pointer, smoothing the flow of your reading. The speed at which you read using this method will largely depend on the speed at which you move the pointer.

You will be able to increase your reading speed a certain amount on your own by applying speed reading techniques. What you don't get out of self-study is the use of specialist reading machines and the confidence gained from successful speed-reading - this is where a good one-day course can revolutionize your reading skills.

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Key points: By speed reading you can read information more quickly. You may also get a better understanding of it as you will hold more of it in short term memory.

To improve the speed of your reading, read more words in each block and reduce the length of time spent reading each block. Use a pointer to smooth the way your eyes move and reduce skip-back.

## Reading Strategies (5.4)

Function: Reading more efficiently by reading intelligently

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How to use tool: Good reading strategies help you to read in a very efficient way. Using them, you aim to get the maximum benefit from your reading with the minimum effort. This section will show you how to use 6 different strategies to read intelligently.

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**Strategy 1: Knowing what you want to know**

The first thing to ask yourself is: Why you are reading the text? And, are you reading with a purpose or just for pleasure? What do you want to know after reading it?

Once you know this, you can examine the text to see whether it is going to move you towards this goal. An easy way of doing this is to look at the introduction and the module headings. The introduction should let you know whom the book is targeted at, and what it seeks to achieve. Module headings will give you an overall view of the structure of the subject.

While you are looking at the text, ask yourself if it assumes too much or too little knowledge. Would other material meet your needs more closely?

**Strategy 2: Knowing how deeply to study the material**

Where you only need the shallowest knowledge of the subject, you can skim material. Here you read only module headings, introductions and summaries.

If you need a moderate level of information on a subject, then you can scan the text. Here you read the module introductions and summaries in detail. You may then speed-read the contents of the modules, picking out and understanding key words and concepts. At this level of looking at the document it is worth paying attention to diagrams and graphs.

Only when you need detailed knowledge of a subject is it worth studying the text. Here, it is best to skim the material first to get an overview of the subject. This gives you an understanding of its structure, into which you can fit the detail gained from a full reading of the material. SQ3R (see [5.2](#)) is a good technique for getting a deep understanding of a text.

**Strategy 3: Active Reading**

When you are reading a document in detail, it often helps if you highlight, underline and annotate it as you go on. This emphasizes information in your mind, and helps you to review important points later.

Doing this also helps to keep your mind focused on the material and stops it wandering.

This is obviously only something to do if you own the document! If you find that active reading helps, then it may be worth photocopying information in more expensive texts. You can then read and mark the photocopies.

If you are worried about destroying the material, ask yourself how much your investment of time is worth (see [7.1](#)). If the benefit you get by active reading exceeds the value of the e-book, then the e-book is disposable.

**Strategy 4: How to study different sorts of material**

Different sorts of documents hold information in different places and in different ways. They have different depths and breadths of coverage. By understanding the layout of the material you are reading, you can extract useful information much more efficiently.

### **Reading Magazines and Newspapers**

These tend to give a very fragmented coverage of an area. They will typically concentrate on the most interesting and glamorous parts of a topic. This helps them to sell copies. They will often ignore less interesting information that may be essential to a full understanding of a subject. Typically, areas of useful information are padded out with large amounts of irrelevant waffle or with advertising.

The most effective way of getting information from magazines is to scan their contents or indexes and turn directly to interesting articles. If you find an article useful, then cut it out and file it in a folder specifically covering that sort of information. In this way you will build up sets of related articles that may begin to explain the subject.

Newspapers tend to be arranged in sections. If you read a paper often, you can learn quickly which sections are useful and which ones you can skip altogether.

### **Reading Individual Articles**

Articles within newspapers and magazines tend to be in three main types:

- **News Articles:**  
Here the most important information is presented first, with information being less and less useful as the article progresses. News articles are designed to explain the key points first, and then flesh them out with detail.
- **Opinion Articles:**  
Opinion articles present a point of view. Here the most important information is contained in the introduction and the summary, with the middle of the article containing supporting arguments.
- **Feature Articles:**  
These are written to provide entertainment or background on a subject. Typically the most important information is in the body of the text.

If you know what you want from an article, and recognize its type, you can extract information from it quickly and efficiently.

### **Strategy 5: Reading “whole subject” documents**

When you are reading a document critically, it is easy to accept the writer's structure of thought. This can mean that you do not notice that important information has been omitted or that irrelevant detail has been included. A good way of recognizing this is to compile your own table of contents before you open the document. You can then use this table of contents to read the document in the order that you want. You will be able to spot omissions quickly.

### **Strategy 6: Using glossaries with technical documents**

If you are reading large amounts of difficult technical material, it may be useful to photocopy or compile a glossary. Keep this beside you as you read. It will probably also

be useful to note down the key concepts in your own words, and refer to them when necessary.

Usually it is best to make notes as you go. The most effective way of doing this is to use Concept Maps (see [5.1](#)).

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Key points: This section shows 5 different strategies and techniques that you can use to read more effectively.

These are:

- Knowing what you need to know, and reading appropriately.
- Knowing how deeply to read the document: skimming, scanning or studying.
- Using active reading techniques to pick out key points and keep your mind focused on the material.
- Using the table of contents for reading magazines and newspapers, and clipping useful articles.
- Understanding how to extract information from different article types.
- Creating your own table of contents for reviewing material.
- Using indexes, tables of contents, and glossaries to help you assimilate technical information.

## Reviewing Learned Information (5.5)

Function: Keeping information fresh in your mind

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How to use tool: Normally, peoples' memories of things they have learned are clearest immediately after they have learned them. They will then forget more and more information as time goes on. After a few months, they may only be able to recall only a tiny percentage of what was initially learned. This makes relearning information difficult when it needs to be done.

If you review information frequently, however, then you will be able to keep it fresh and alive in your mind. This makes it easy to recall when you need it with a minimum of effort.

This section explains how to review material in a structured and effective way.

The first step is to spend a few minutes reviewing material immediately after the learning session. This helps you to:

- Confirm that you understand the material;
- Reduce the time needed to relearn information when you need it; and
- Improve the quality of future learning, by building on a well-remembered foundation. This helps your mind to make connections and linkages that it would not otherwise make.

A good way of carrying out this review is to rewrite or tidy up notes. You can do this effectively by putting the information learned into a Concept Map (see [5.1](#)).

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After this, reviewing information should be relatively easy and need not take long. Carry out reviews at the following times:

- After one day
- After one week
- After one month
- After four months

Review the topic by taking a few minutes to jot down everything you can remember about the subject, and compare this with your notes.

If you review information often, it should stay fresh in your mind, and will be easily accessible when you need it.

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Key points: By reviewing information, you avoid forgetting information that will be difficult and time-consuming to relearn. You also ensure that you keep information fresh in your mind so that it acts as a foundation for future learning.

The first stage in reviewing information is to rewrite and tidy up notes immediately after learning has taken place. This confirms the structure and detail of information in your mind.

After this, periodically jot down what you can remember on a subject and compare it with your notes. This will show you what you have forgotten and refresh your memory.

## Module 6

# Memory Techniques

### Remembering:

- Numbers - *Number/Rhyme* and *Number/Shape Mnemonics*
- Letters - *the Alphabet System*
- Lists and Groups - *The Roman Room Method*
- Ordered Lists - *The Journey Method*
- The Structure of Information - *Concept Maps*
- Long Sequences of Information - *The Major System*
- All Aspects of a Type of Problem - *Aide Memoires*
- People's names
- Languages
- Information for exams
- Long Numbers

## 6. Tools for Improving Your Memory

The tools in this module help you to improve your memory. They will help you both to remember facts accurately and to remember the structure of a topic or subject.

The module is split into three sections. Firstly we will discuss the powerful tools that you can use to remember:

- Numbers - *Number/Rhyme* and *Number/Shape Mnemonics*
- Letters - *the Alphabet System*
- Lists and Groups - *The Roman Room Method*
- Ordered Lists - *The Journey Method*
- The Structure of Information - *Concept Maps*
- Long Sequences of Information - *The Major System*
- All Aspects of a Type of Problem - *Aide Memories*

Next we will look at how you can extend these tools to code more information.

Finally we will look at more advanced uses of the tools for remembering:

- People's names
- Languages
- Information for exams
- Long Numbers
- Lists

As with other mind tools, the more practice you give yourself with these techniques, the more effective your use of them will be. This section contains many of the memory techniques used by stage memory performers. With enough practice and effort, you may be able to have a memory as good. Even if you do not have the time needed to develop this quality of memory, many of the techniques here are useful in every-day life.

### Mnemonics

"Mnemonic" is another word for memory tool. Mnemonics are methods for remembering information that is otherwise quite difficult to recall. A very simple example is the "30 days hath September" rhyme. The basic principle of mnemonics is to use as many of the best functions of your brain as possible to store information.

Our brains evolved to code and interpret complex stimuli such as images, colors, structures, sounds, smells, tastes, touch, positions, emotions and language. We use these to make sophisticated models of the world we live in. Our memories store all of these very effectively. Unfortunately, information we have to remember is almost always presented in only one way: as words printed on a page. While language is one of the most important aspects of human evolution, it is only one of the many skills and resources available to our minds.

This module of Mind Tools will show you how to use all these resources.

### Using Your Whole Mind To Remember

By coding language and numbers in striking images, you can reliably code both information and the structure of information. You can then easily recall these later.

You can do the following things to make your mnemonics more memorable:

- Use positive, pleasant images. The brain often blocks out unpleasant ones.
- Vivid, colorful, sense-laden images are easier to remember than drab ones.
- Use all your senses to code information or dress up an image. Remember that your mnemonic can contain sounds, smells, tastes, touch, movements and feelings as well as pictures.
- Give your image three dimensions, movement and space to make it more vivid. You can use movement either to maintain the flow of association, or to help you to remember actions.
- Exaggerate the size of important parts of the image.
- Use humor! Funny or peculiar things are easier to remember than normal ones.
- Similarly rude rhymes are very difficult to forget!
- Symbols (red traffic lights, pointing fingers, road signs, etc.) can code quite complex messages quickly and effectively.

### Designing Mnemonics: Imagination, Association and Location

The three fundamental principles underlying the use of mnemonics are imagination, association and location. Working together, you can use these principles to generate powerful mnemonic systems.

**Imagination:** is what you use to create and strengthen the associations needed to create effective mnemonics. Your imagination is what you use to create mnemonics that are potent for you. The more strongly you imagine and visualize a situation, the more effectively it will stick in your mind for later recall. The imagery you use in your mnemonics can be as violent, vivid, or sensual as you like, as long as it helps you to remember.

**Association:** this is the method by which you link a thing to be remembered to a way of remembering it. You can create associations by:

- Placing things on top of each other
- Crashing things together
- Merging images together
- Wrapping them around each other
- Rotating them around each other or having them dancing together
- Linking them using the same color, smell, shape, or feeling

As an example, you might link the number 1 with a goldfish by visualizing a 1-shaped spear being used to spear it.

**Location** gives you two things: a coherent context into which you can place information so that it hangs together, and a way of separating one mnemonic from another. By setting one mnemonic in a particular town, I can separate it from a similar mnemonic set in a city. For example, by setting one in the town of Horsham and another similar mnemonic with images of Manhattan, we can separate them with no danger of confusion. You can build the flavors and atmosphere of these places into your mnemonics to strengthen the feeling of location.

## The Link Method & Story Method (6.1.1)

Function: **Remembering a simple list**

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**How to use tool:** The Link Method is one of the easiest mnemonic techniques available. It is not quite as reliable as a peg technique (see [6.1.2](#)), as images are not tied to specific, unchanging sequences.

It works quite simply by making associations between items in a list, linking them either with a flowing image containing the items, or with a story featuring them. The flow of the story and the strength of the images give you the cues for retrieval.

Taking the first image, create a connection between it and the next item. Then move on through the list linking each item with the next. It is quite possible to remember lists of words using association only. However, it is often best to fit the associations into a story otherwise, by forgetting just one association, you can lose the whole of the rest of the list.

Given the fluid structure of this mnemonic, it is important that the images stored in your mind are as vivid as possible. Significant, coding images should be much stronger than ones that merely support the flow of the story. See the introduction to this module for further information on making images as strong as possible.

The Story Method is similar, except that the images are linked together as part of a story. This makes it easier to remember the order of events and create a memorable mnemonic.

When a word you want to remember does not trigger strong images, use a similar word that will remind you of that word.

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**Example:** You may want to remember a list of counties in the South of England: Avon, Dorset, Somerset, Cornwall, Wiltshire, Devon, Gloucestershire, Hampshire, and Surrey.

You could do this with two approaches, the link method and the story method:

### **Remembering with the Link Method**

This would rely on a series of images coding information:

- An AVON (Avon) lady knocking on a heavy oak DOoR (Dorset).
- The DOoR opening to show a beautiful SuMmER landscape with a SETting sun (Somerset).
- The setting sun shines down onto a field of CORN (Cornwall).
- The CORN is so dry it is beginning to WILT (Wiltshire).
- The WILTing stalks slowly droop onto the tail of the sleeping DEVil (Devon).
- On the DEVil's horn a woman has impaled a GLOSsy (Gloucestershire) HAM (Hampshire) when she hit him over the head with it.
- Now the Devil feels SoRRY (Surrey) he bothered her.

Note that there need not be any reason or underlying plot to the sequence of images. Instead, only images and the links between images are important.

Alternatively, you could code this information by imaging the following story vividly:

An AVON lady is walking up a path towards a strange house. She is hot and sweating slightly in the heat of high SUMMER (Somerset). Beside the path someone has planted giant CORN in a WALL (Cornwall), but it's beginning to WILT (Wiltshire) in the heat. She knocks on the DOoR (Dorset), which is opened by the DEVil (Devon). In the background she can see a kitchen in which a servant is smearing honey on a HAM (Hampshire), making it GLOSSy (Gloucestershire) and gleam in bright sunlight streaming in through a window. Panicked by seeing the Devil, the Avon lady screams SoRRY (Surrey), and dashes back down the path.

---

**Key points:** The Link Method is probably the most basic memory technique, and is very easy to understand and use. It works by coding information to be remembered into images and then linking these images together.

The story technique is very similar. It links these images together into a story. This helps to keep events in a logical order and can improve your ability to remember information if you forget the sequence of images.

Both techniques are very simple to learn. Unfortunately they are both slightly unreliable as it is easy to confuse the order of images or forget images from a sequence.

## The Number/Rhyme Mnemonic (6.1.2)

**Function:** Remembering short lists of items accurately and in order

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**How to use tool:** The Number/Rhyme technique is a very simple way of remembering lists in order.

It is an example of a peg system, a system where information is “pegged” to a known sequence (here the numbers one to ten). By doing this you ensure that you do not forget any facts, as gaps in information are immediately obvious. It also makes remembering images easier as you always know part of the mnemonic images.

At a simple level, you can use it to remember things such as a list of English Kings or American Presidents in their precise order. At a more advanced level it can be used, for example, to code lists of experiments to be recalled in a science exam.

The technique works by helping you to build up pictures in your mind, in which you represent numbers by things that rhyme with the number. You can then link these pictures to images of the things to be remembered.

The usual rhyming scheme is shown below:

- 1 - Bun
- 2 - Shoe
- 3 - Tree
- 4 - Paw
- 5 - Hive
- 6 - Bricks
- 7 - Heaven
- 8 - Gate
- 9 - Line
- 10 - Hen

If you find that these images do not attract you or stick in your mind, then change them for something more meaningful. Link these images to ones representing the things to be remembered. Often, the sillier the compound image, the more effectively you will remember it - see the introduction to this module to see how you can improve the image to help it stay clearly in your mind.

---

Example:

For example, you could remember a chronological list of ten Greek philosophers as:

- Parmenides - A BUN topped with grated yellow PARMESan cheese
- Heraclitus - a SHOE worn by HERACLES (Greek Hercules) glowing with a bright LighT
- Empedocles - A TREE from which the M-shaped McDonalds arches hang hooking up a bicycle PEDal
- Democritus - think of a PAW print on the voting form of a DEMOCRATic election.
- Protagoras - A bee HIVE being positively punched through (GORed?) by an atomic PROTON
- Socrates - BRICKS falling onto a SOCK (with a foot inside!) from a CRATe.
- Plato - A plate with angel's wings flapping around a white cloud
- Aristotle - A friend called HARRY clutching a BOTtLE of wine vaulting over a gate
- Zeno - A LINE of ZEN Buddhists meditating
- Epicurus - A HEN's egg being mixed into an EPIleptics's CURE.

Try either visualizing these images as suggested, or if you do not like them, come up with images of your own. Once you have done this, try writing down the names of the philosophers on a piece of paper. You should be able to do this by thinking of the number, then the part of the image associated with the number, and then the whole image. Finally you can decode the image to give you the name of the philosopher. If the mnemonic has worked, you should not only recall the names of all the philosophers in the correct order, but should also be able to spot where you have left them out of the sequence. Try it, It's easier than it sounds.

You can use a peg system like this as a basis for knowledge in an entire area. The example above could form the basis for knowledge of ancient philosophy. You could now

associate images representing the projects, systems and theories of each philosopher with the images coding the philosophers' names.

---

**Key points:** The Number/Rhyme technique is a very effective method of remembering lists. It works by “pegging” the things to be remembered to images rhyming with the numbers 0-9. By driving the associations with numbers you have a good starting point in reconstructing the images, you are aware if information is missing, and you can pick up and continue the sequence from anywhere within the list.

### The Number/Shape Mnemonic (6.1.3)

**Function:** Remembering ordered lists with visual images

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**How to use tool:** The Number/Shape system is very similar to the Number/Rhyme system. It is a very simple and effective way of remembering a list in a specific order. It is another example of a peg system.

The technique works by helping you to build up pictures in your mind, in which the numbers are represented by images shaped like the number. You can then associate these with the things you want to remember using striking images.

One image scheme is shown below:

- 1 - Candle, spear, stick
- 2 - Swan (beak, curved neck, body)
- 3 - (rotate shape though 90 degrees!)
- 4 - Sail of a yacht
- 5 - A meat hook, a sea-horse facing right
- 6 - A golf club
- 7 - A cliff edge
- 8 - An egg timer
- 9 - A balloon with a string attached, flying freely
- 0 - A hole

If you find that these images do not attract you or stick in your mind, then change them for something more meaningful to you. As with the Number/Rhyme scheme, link these images to ones representing the things to be remembered.

In some cases, these images may be more vivid than those in the number/rhyme scheme, and in other cases you may find the number/rhyme scheme more memorable. There is no reason why you cannot mix the most vivid images of each scheme together into your own compound scheme.



Once you have mastered this technique, you can multiply it using the images described in the article on Expanding Memory Systems (see 6.2).

---

Example: We will use a list of more modern thinkers to illustrate the number/shape system:

- 1 - Spinoza - A large CANDLE wrapped around with someone's SPINe.
  - 2 - Locke - A SWAN trying to pick a LOCK with its wing.
  - 3 - Hume - A HUMAn child BREAST feeding.
  - 4 - Berkeley - A SAIL on top of a large hooked and spiked BURR in the LEE of a cliff.
  - 5 - Kant - A CAN of spam hanging from a meat HOOK.
  - 6 - Rousseau - A kangaROO SEWing with a GOLF CLUB.
  - 7 - Hegel - A crooked trader about to be pushed over a CLIFF, HaGgLING to try to avoid being hurt.
  - 8 - Kierkegaard - A large EGG TIMER containing captain KIRK and a GuARD from the starship enterprise, as time runs out.
  - 9 - Darwin - A BALLOON floating upwards, being blown fAR by the WIND.
  - 10 - Marx - A HOLE with white chalk MARKs around it's edge.
- 

Key points: The Number/Shape technique is a very effective method of remembering lists. It works by linking things to be remembered with the images representing the numbers 0-9. By using it in conjunction with the Number/Rhyme system, you can build potent images that can make very effective mnemonics.

## The Alphabet Technique (6.1.4)

Function: Remembering longer ordered lists accurately

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How to use tool: The Alphabet system is a peg memory technique similar to, but more sophisticated than the Number/Rhyme system. It is a good method for remembering longer lists of items in a specific order, in such a way that you can tell if items are missing.

It works by associating images representing letters of the alphabet with images you create for the things to be remembered.

When you are creating images for the letters of the alphabet, create images phonetically, so that the sound of the first syllable of the word is the name of the letter. For example, you might represent the letter "k" with the word "cake".

Tony Buzan in his book "Using Your Memory" suggests using a system for creating vivid images that you can reconstruct if you forget them. He suggests taking the phonetic letter sound as the first consonant, and then, for the rest of the consonants in the word, using the first letters in alphabetical order that make a memorable word. For example for the

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letter "S" (root 'Es') we would first see if any strong images presented themselves when we tried to create a word starting with "EsA", "EsB", "EsC", "EsD", "EsE", etc.). This approach has the advantage of producing an image that you can reconstruct if you forget it. You might, however, judge that this is an unnecessary complication of a relatively simple system. In any case it is best to select the strongest image that comes to mind and stick with it.

One image scheme is shown below:

A - Ace of spades  
B - Bee  
C - Sea  
D - Diesel engine  
E - Eel  
F - Effluent  
G - Jeans  
H - H-Bomb, itch  
I - Eye  
J - Jade  
K - Cake  
L - Elephant  
M - Empty  
N - Entrance  
O - Oboe  
P - Pea  
Q - Queue  
R - Ark  
S - Eskimo  
T - Teapot  
U - Unicycle  
V - Vehicle  
W - WC  
X - X-Ray  
Y - Wire  
Z - Zulu

If you find that these images do not attract you or stick in your mind, then change them for something more meaningful to you.

Once you have firmly visualized these images and have linked them to their root letters, you can associate them with information to be remembered.

See the introduction to this module to see how you can improve these pictures to help them stay clearly in your mind.

---

Example: Continuing our mnemonic example of the names of philosophers, we will use the example of remembering a list of modern thinkers:

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A - Ace - Freud - A crisp ACE being pulled out of a FRying pan (FRiED)  
 B - Bee - Chomsky - A BEE stinging a CHiMp and flying off into the SKY  
 C - Sea - Genette - A GENerator being lifted in a NET out of the SEA  
 D - Diesel - Derrida - A DaRing RIDer surfing on top of a DIESEL train  
 E - Eagle - Foucault - Bruce Lee fighting off an attacking EAGLE with kung  
 FU  
 F - Effluent- Joyce - environmentalists JOYfully finding a plant by an  
 EFFLUENT pipe  
 G - Jeans - Nietzsche - A holey pair of JEANS with a kNEe showing through  
 H - H-Bomb - Kafka - A grey civil service CAFe being blown up by an H-  
 Bomb  
 Etc.

---

Key points: The Alphabet Technique links the items to be remembered with images of the letters A-Z. This allows you to remember a medium length list in the correct order. By pegging the items to be remembered to letters of the alphabet you know if you have forgotten items, and know the cues to use to trigger their recall.

The alphabet system takes a certain amount of learning.

## The Journey System (6.1.5)

Function: Remembering long lists of information

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How to use tool: The journey method is a powerful, flexible and effective mnemonic based around the idea of remembering landmarks on a well-known journey. It combines the narrative flow of the Link Method and the structure and order of the Peg Systems into one very powerful system.

You use the Journey Method by associating information with landmarks on a journey that you know well. This could, for example, be your journey to work in the morning; the route you use to get to the front door when you get up; the route to visit your parents; or a tour around a holiday destination. Once you are familiar with the technique you may be able to create imaginary journeys that fix in your mind, and apply these.

To use this technique most effectively, it is often best to prepare the journey beforehand. In this way the landmarks are clear in your mind before you try to commit information to them. One of the ways of doing this is to write down all the landmarks you can recall in order on a piece of paper. This allows you to fix these landmarks as the significant ones to be used in your mnemonic, separating them from others that you may notice as you get to know the route even better.

To remember a list of items, whether these are people, experiments, events or objects, all you need do is associate these things with the landmarks or stops on your journey.

---

This is an extremely effective method of remembering long lists of information. With a sufficiently long journey you could, for example, remember elements on the periodic table, lists of Kings and Presidents, geographical information, or the order of cards in a shuffled pack. The system is extremely flexible: all you need do to remember many items is to remember a longer journey with more landmarks. To remember a short list, only use part of the route!

One advantage of this technique is that you can use it to work both backwards and forwards, and start anywhere within the route to retrieve information.

You can use the technique well with other mnemonics. This can be done either by building complex coding images at the stops on a journey, or by linking to other mnemonics at each stop. You could start other journeys at each landmark. Alternatively, you may use a peg system to organize lists of journeys, etc.

See the introduction to this module for information on how to enhance the images used for this technique.

---

Example: You may, as a simple example, want to remember something mundane like a shopping list:

*Coffee, salad, vegetables, bread, kitchen paper, fish, chicken breasts,  
Pork chops, soup, fruit, bath tub cleaner.*

You could associate this list with a journey to a supermarket. My mnemonic images therefore appear as:

1. Front door: spilt coffee grains on the doormat.
2. Rose bush in front garden: growing lettuce leaves and tomatoes around the roses.
3. Car: with potatoes, onions and cauliflower on the driver's seat.
4. End of the road: an arch of French bread over the road.
5. Past garage: with its sign wrapped in kitchen roll.
6. Under railway bridge: from which haddock and cod are dangling by their tails.
6. Traffic lights: chickens squawking and flapping on top of lights.
8. Past church: in front of which a pig is doing karate, breaking boards.
9. Under office block: with a soup slick underneath: my car tires send up jets of tomato soup as I drive through it.
10. Past car park: with apples and oranges tumbling from the top level.
11. Supermarket car park: a filthy bath tub is parked in the space next to my car!

---

Key points: The journey method is a powerful, effective method of remembering lists of information, by imagining images and events at stops on a journey.

As the journeys used are distinct in location and form, one list remembered using this technique is easy to distinguish from other lists. To use this technique you need to invest some time in preparing journeys clearly in your mind. This investment pays off many times over by the application of the technique.

## The Roman Room Mnemonic (6.1.6)

Function: **Remembering groups of non-ordered information**

---

How to use tool: The Roman Room technique is an ancient and effective way of remembering information where its structure is not important. As an example, it serves as the basis of one of the powerful mnemonic systems used to learn languages (see 6.3.1).

To use the technique, imagine a room that you know, such as your sitting room, bedroom, office or classroom. Within the room are objects. Associate images representing the information you want to remember with the objects in the room. To recall information, simply take a tour around the room in your mind, visualizing the known objects and their associated images.

The technique can be expanded by going into more detail, and by using information to be remembered to key into smaller objects. Alternatively, you can open doors from your room into other rooms and use the objects in them as well. When you have more experience you may find that you can build extensions to your rooms in your imagination, and fill them with objects that would logically be there.

You can use other rooms to store other categories of information. And, there is no need to restrict this information to rooms. In fact, you could use a landscape or a town you know well, and populate it with memory images.

See the introduction to this module for information on how to enhance the images used for this technique.

---

Example: For example, I can use my sitting room as a basis for the technique. In this room I have the following objects: *table, lamp, sofa, large bookcase, small bookcase, CD rack, tape racks, stereo system, telephone, television, video, chair, mirror, black & white photographs, etc.*

I may want to remember a list of World War I war poets: *Rupert Brooke, G.K. Chesterton, Walter de la Mare, Robert Graves, Rudyard Kipling, Wilfred Owen, Siegfried Sassoon, W.B. Yates*

I could visualize walking through my front door. Within this image, someone has painted a picture on it showing a scene from the Battle of the Somme. In the center of the picture is a man sitting in a trench writing in a dirty exercise book.

I walk into the sitting room, and look at the table. On the top is RUPERT the Bear sitting in a small BROOK (we do not need to worry about where the water goes in our imagination!) This codes for Rupert Brooke.

Someone seems to have done some moving: a CHEST has been left on the sofa. Some jeans (Alphabet System: G=Jeans) are hanging out of one drawer, and some cake has been left on the top (K=Cake). This codes for G K Chesterton.

The lamp has a small statuette of a brick WALL over which a female horse (MARE) is about to jumping. This codes for Walter de la Mare.

Etc.

**Key points:** The Roman Room technique is similar to the Journey method. It works by pegging images coding for information to known things, in this case to objects in a room.

The Roman Room technique is most effective for storing lists of unlinked information, while the journey method is better for storing lists of ordered items.

## The Major System (6.1.7)

**Function:** Remembering Large Volumes of Related Information

**How to use tool:** The Major Memory System is one of the most powerful memory systems available. It takes a lot of time to master, but once learned is very powerful. The technique often forms the basis of some of the extraordinary, almost magical memory feats performed by magicians and stage memory performers.

The system works by converting number sequences into nouns, nouns into images, and linking images into sequences. These sequences can be very complex and detailed.

The building blocks of the system are the association of the numbers below with the following consonant sounds:

- 0 - s, z, soft-c - remember as 'z is first letter of zero'
- 1 - d, t, th - remember as letters with 1 downstroke
- 2 - n - remember as having 2 downstrokes
- 3 - m - has three downstrokes
- 4 - r - imagine a 4 and an R glued together back-to-back
- 5 - L - imagine the 5 propped up against a book end (L)h
- 6 - j, sh, soft-ch, dg, soft-g - g is 6 rotated 180 degrees.
- 7 - k, hard-ch, hard-c, hard-g, ng - imagine K as two 7s rotated and glued together
- 8 - f, v - imagine the bottom loop of the 8 as an eFfluent pipe discharging waste (letter image of F in

alphabet system)  
9 - p, b - b as 9 rotated 180 degrees.

These associations should be learned thoroughly before going further with the technique.

### **Starting to use the Major System**

The system operates on a number of levels, depending on the amount of time you are prepared to devote to learning the system.

The first level, which involves coding single digit numbers into small words, functions almost as a poor relation of the number/rhyme system. It is at higher levels that you can unleash the real power of the system. You should, however, learn to use this first level before moving on.

The trick with converting numbers into words is to use only the consonants that code information within the word, while using vowels to pad the consonants out with meaning. If you do have to use other consonants to make up a word, use only those that do not code for numbers - i.e. h, q, w, x, and y.

At the first level, we code each number into a short noun. This is made up of the consonant coding for the number, and vowels that turn the consonant into a word. On a sheet of paper, write the numbers 0 to 9, and apply these rules to create your own memory words. Some examples are shown below:

0 - saw  
1 - toe  
2 - neigh  
3 - ma  
4 - ray  
5 - law  
6 - jaw  
7 - key  
8 - fee  
9 - pie

You can use these words in association much like the other peg technique memory words.

### **Moving to the second level**

Similar rules apply to creating a standard word from two numbers. It is best not to try to use a single number word as a root, as this can confuse the image.

Write down the numbers 01 to 99, and apply the rules to create memory words for yourself. A few examples are shown below:

09 - z, p - zap  
17 - t, ch - tech  
23 - n, m - name  
36 - m, sh - mesh

41 - r,s - rose  
 52 - l, n - line  
 64 - ch, r - chair  
 75 - k, l - keel  
 89 - f, p - fop  
 98 - b, f - beef

### Taking the Major System Further

Just using double number words may be enough to make this a sufficiently powerful mnemonic for you. Alternatively you may decide to use triple number words, using the same construction rules as double number words.

Examples are:

182 - d, v, n - Devon  
 304 - m, s, r - miser  
 400 - r, c, s - races  
 651 - j, l, d - jellied  
 801 - f, z, d - fazed

Even though you can construct words from first principles each time, at this level of complexity it may be worth writing them down to make them easier to remember. You can then run through them many times to strengthen the link in your mind between the numbers and the associated words. This will help you to remember the appropriate word faster.

### Using Words to Remember Long Numbers

Once you have come up with words and images to link to your numbers, you can start to apply the technique to remember, for example, long numbers. A good way of doing this is to associate Major System words with stops on a journey (see [6.1.5](#)).

Example:

The number Pi is 3.14159265359 (to 11 decimal places). Using the major system and the journey system together, I can remember this as:

- Passing my Ma (3) by the front door of my house
- Seeing Michelangelo's David (1,4,1) sleeping under the rose bush in the garden
- Someone has tied a loop (5,9) of yellow ribbon onto the steering wheel of my car.
- I see a poster with a photo of a steaming pile of sausages and mashed potato, with the title 'glorious nosh' (2,7) at the end of the road.
- A lama (5,3) is grazing on grass outside the garage forecourt
- Another loop (5,9) of yellow ribbon has been tied around the railway bridge. This is getting strange!

Note that this is another use of the journey used in the example of 6.1.5.



**Key points:** The major memory system works by linking numbers to consonants, and then by linking these into words. By using the images these words create, and linking them together with the journey system, large amounts of information can be accurately memorized.

## Using Concept Maps as Memory Aids (6.1.8)

**Function:** Remembering the structure of information

---

**How to use tool:** Concept Maps (see section [5.1](#) for full information) are not formally mnemonics. They do, however, help you to plan the structure of a topic as a clear “shape” that you can remember easily. By seeing this shape in your mind, you can prompt yourself to remember the information coded within it.

This becomes even easier if you have coded this information using striking images. See the introduction to this module to see how to make information as memorable as possible.

## Aide Memoires (6.1.9)

**Function:** Ensuring that you remember to consider all aspects of a situation

---

**How to use tool:** An Aide Memoire (Memory aid) is a structured list of points or headings that should be considered when solving a particular problem. It tends to be specific to the type of problem being faced.

A good aide memoire can be a very powerful planning tool, as it contains a great deal of the experience of the people who developed it. If you use a good aide memoire effectively, you can be reasonably confident that you will have considered all relevant factors. Often this makes the difference between carrying out a task effectively and making a mess of it, particularly when you are under pressure.

Aide Memoires are routinely used in areas as diverse as computer systems analysis, construction of financial proposals and military planning.

### **Developing an Aide Memoire**

If you are solving a common problem, then a good aide memoire may already exist for it. If you cannot find a good pre-prepared one, then you may have to develop it for yourself. This is worthwhile where you need to plan a number of similar jobs.

Developing an aide memoire is an iterative process. First you start by producing what you think is a definitive list of points or headings that should be considered. Use this to plan the job. After the job is complete, review the list, and see if there are any additional points that should be included. Every time an unforeseen problem arises on a project, ask yourself whether you need to prompt yourself on it on your list.

As your aide memoire improves, so will the quality of your planning.

---

**Example:** Systems Analysts use a number of different aide memoires for designing computer software. The one used depends on the size and type of job being executed. An example of a simple one is shown below. This is used during preparation of a specification to ensure that relevant factors are considered.

**Customer Requirement**

- Stated Requirement and Purpose of Enhancement
- Special Requirements
- Volumes of Data and Processing Time
- Technical Risks and Feasibility
- Implications:
  - Hardware
  - Supporting software
  - System specific considerations
- Project Stages

**Project Implementation**

- Programmer Instructions
- Quality Assurance
- Documentation
- Training
- Installation
- Follow Up Work

The analyst will run through this list of headings while preparing a specification to ensure that he or she has considered all aspects of a problem. Where headings are not relevant they are ignored. By using and developing the aide memoire, the analyst can be reasonably confident that all appropriate project stages have been taken into consideration. This ensures that a fair price is charged for work done.

---

**Key points:** An aide memoire is a standard list of points or headings that show what you should consider while you are planning to solve a problem. By using an aide memoire you ensure that you do not forget important factors.

Aide memoires should be improved continuously. If you find that have not included an important point, then update the list appropriately. This ensures that the next time you use the aide memoire you will remember to think about the point. This will improve the quality and depth of future planning that you carry out.

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## Learning a Foreign Language (6.3.1)

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Systems Needed: Link Method ([6.1.1](#))  
Roman Room Mnemonic ([6.1.6](#))

---

Foreign languages are the ideal subject area for the use of memory techniques. Learning vocabulary is often a matter of associating a meaningless collection of syllables with a word in your own language. Traditionally, people have associated these words by repetition, by saying the word in their own language and the foreign language time and time and time and time again. You can improve on this tedious way of learning by using three good techniques:

### 1. Using Mnemonics to link words

This is a simple extension of the link method described in 6.1.1. Here you are using images to link a word in your own language with a word in a foreign language. For example, in learning English/French vocabulary:

- English: rug/carpet - French: tapis - imagine an ornate oriental carpet with a tap as the central design woven in chrome thread
- English: grumpy - French: grognon - a grumpy man groaning with irritation
- English: to tease - French: taquiner - a woman teasing her husband as she takes in the washing.

This technique was formalized by Dr. Michael Gruneberg, and is known as the 'LinkWord' technique. He has produced language books in many language pairs to help students acquire the basic vocabulary needed to get by in the language (usually about 1000 words). It is claimed that using this technique this basic vocabulary can be learned in just 10 hours.

### 2. The Town Language Mnemonic

This is a very elegant, effective mnemonic that fuses a sophisticated variant of the Roman Room system with the system described above.

This depends on the fact that the basic vocabulary of a language relates to everyday things: things that you can usually find in a city, town or village. To use the technique, choose a town that you are very familiar with. Use objects within that place as the cues to recall the images that link to foreign words.

#### Nouns in the town

Nouns should be associated to the most relevant locations: For example, the image coding the foreign word for book could be associated with a book on a shelf in the library. You could associate the word for bread with an image of a loaf in a baker's shop. Words for vegetables could be associated with parts of a display outside a greengrocer's. Perhaps there is a farm just outside the town that allows all the animal name associations to be made.

#### Adjectives in the park

Adjectives can be associated with a garden or park within the town: words such as green, smelly, bright, small, cold, etc. can be easily related to objects in a park. Perhaps there is a pond there, or a small wood, or perhaps people with different characteristics are walking around.

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### Verbs in the sports center

Verbs can most easily be associated with a sports centre or playing field. This allows us all the associations of lifting, running, walking, hitting, eating, swimming, driving, etc.

### Remembering Genders

In a language where gender is important, a very good method of remembering this is to divide your town into two main zones. In one zone you code information on masculine gender nouns, while in the other zone you code information on feminine nouns. Where the language has a neutral gender, then use three zones. You can separate these areas with busy roads, rivers, etc. To fix the gender of a noun, simply associate its image with a place in the correct part of town. This makes remembering genders easy!

### Many Languages, many towns

Another elegant spin-off of the technique comes when learning several languages, as this can be very confusing. With the town mnemonic, all you need do is choose a different city, town or village for each language to be learned. Ideally this might be in the relevant country. Practically, however, you might just decide to use a local town with the appropriate foreign flavor.

### 3. The hundred most common words

Tony Buzan, in his book "Using your Memory", points out that just 100 words comprise 50% of all words used in conversation in a language. Learning this core group of 100 words gets you a long way towards being able to speak in that language, albeit at a basic level. The 100 basic words used in conversation are shown below:

- |               |               |               |              |               |
|---------------|---------------|---------------|--------------|---------------|
| 1. A,an       | 2. After      | 3. Again      | 4. All       | 5. Almost     |
| 6. Also       | 7. Always     | 8. And        | 9. Because   | 10. Before    |
| 11. Big       | 12. But       | 13. (I) can   | 14. (I) come | 15. Either/or |
| 16. (I) find  | 17. First     | 18. For       | 19. Friend   | 20. From      |
| 21. (I) go    | 22. Good      | 23. Goodbye   | 24. Happy    | 25. (I) have  |
| 26. He        | 27. Hello     | 28. Here      | 29. How      | 30. I         |
| 31. (I) am    | 32. If        | 33. In        | 34. (I) know | 35. Last      |
| 36. (I) like  | 37. Little    | 38. (I) love  | 39. (I) make | 40. Many      |
| 41. One       | 42. More      | 43. Most      | 44. Much     | 45. My        |
| 46. New       | 47. No        | 48. Not       | 49. Now      | 50. Of        |
| 51. Often     | 52. On        | 53. One       | 54. Only     | 55. Or        |
| 56. Other     | 57. Our       | 58. Out       | 59. Over     | 60. People    |
| 61. Place     | 62. Please    | 63. Same      | 64. (I) see  | 65. She       |
| 66. So        | 67. Some      | 68. Sometimes | 69. Still    | 70. Such      |
| 71. (I) tell  | 72. Thank you | 73. That      | 74. The      | 75. Their     |
| 76. Them      | 77. Then      | 78. There is  | 79. They     | 80. Thing     |
| 81. (I) think | 82. This      | 83. Time      | 84. To       | 85. Under     |
| 86. Up        | 87. Us        | 88. (I) use   | 89. Very     | 90. We        |
| 91. What      | 92. When      | 93. Where     | 94. Which    | 95. Who       |
| 96. Why       | 97. With      | 98. Yes       | 99. You      | 100. Your     |

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**Summary**

The three approaches to learning foreign languages shown here can be very effective. They help to point out:

- The most important words to learn;
- Show how to link words in your own language to words in a foreign language; and
- Show how to structure recall of the language through use of the town mnemonic.

## Using Mnemonics In Exams (6.3.2)

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Systems Needed:   The Number/Rhyme Technique ([6.1.2](#))  
                          The Number/Shape Technique ([6.1.3](#))  
                          The Alphabet Technique ([6.1.4](#))  
                          The Journey Technique ([6.1.5](#))  
                          Concept Maps ([5.1](#))

---

A very effective way of structuring information for revision is to draw up a full, color-coded Concept Map of a subject. This will help you to see the overall structure of the topic and show you the associations between pieces of information. A good Concept Map can be an effective mnemonic in its own right.

The problem with this is that you can forget the label on a line on a Concept Map. A more reliable method is to take your Concept Map, and break it down into a numbered list of important points. You can then use one of the peg techniques (6.1.2 - 6.1.4) to remember the items on the list. Alternatively you can use the journey technique (6.1.5) for longer lists.

By associating items on a list with a peg system or journey, you can check that you have retrieved all items held by the mnemonic. Supporting facts can be associated into images or sub-mnemonics. These facts can be triggered by the pegs (for the peg system), or at landmarks, if you use the journey system. Alternatively, you can loosely associate this information with the facts coded.

Retrieving all the facts necessary to answer an exam essay question becomes as simple as running through the mnemonic in your mind. As you go, jot down the retrieved facts that are relevant to the question. Once you have written these down, you can apply any other mnemonics you have coded, or note any associated facts and connections that occur to you. This should ensure that you have all possible information available to you, and should help you to produce a good essay plan.

## How to Remember Names (6.3.3)

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Systems Needed: [Link Method \(6.1.1\)](#)  
[Roman Room Mnemonic \(6.1.6\)](#)

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Remembering names needs a slightly different approach from all the others explained so far in this section. The techniques used, though, are quite simple:

### 1. Face association

Examine a person's face discretely when you are introduced. Try to find an unusual feature, whether ears, hairline, forehead, eyebrows, eyes, nose, mouth, chin, complexion, etc.

Create an association between that characteristic, the face, and the name in your mind. The association may be to link the person with someone else you know with the same name. Alternatively, it may be to associate a rhyme or image of the name with the person's face or defining feature.

### 2. Repetition

When you are introduced, ask for the person to repeat their name. Use the name yourself as often as possible (without overdoing it!). If it is unusual, ask how it is spelled or where it comes from, and if appropriate, exchange cards. Keep in mind, the more often you hear and see the name, the more likely it is to sink in. Also, after you have left that person's company, review the name in your mind several times. If you are particularly keen you might decide to write it down and make notes.

### Summary

The methods suggested for remembering names are fairly simple and obvious, but are useful. Association either with images of a name or with other people can really help. Repetition and review help to confirm your memory.

An important thing to stress is practice, patience, and progressive improvement.

## Remembering Lists of Information (6.3.4)

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Systems Needed: [Link Method \(6.1.1\)](#)  
[The Number/Rhyme Technique \(6.1.2\)](#)  
[The Number/Shape Technique \(6.1.3\)](#)  
[The Alphabet Technique \(6.1.4\)](#)  
[The Journey Technique \(6.1.5\)](#)

---

Remembering lists are what many mnemonics are for. You can code almost any information into these mnemonic lists. All that you need is the imagination to come up with the relevant associations.

To memorize short lists, use:

- The Link or Story Methods (6.1.1)
  - The Number/Rhyme System (6.1.2), or
-

- The Number/Shape Method (6.1.3)

To remember intermediate and long lists, use:

- The simple Journey Method (6.1.5)
- The extended Number/Rhyme Method (6.1.2, and 6.2)
- The extended Number/Shape Method (6.1.3, and 6.2), or
- The Alphabet System, and, if necessary, the extended Alphabet system (6.1.4 and 6.2)

## Remembering Numbers (6.3.5)

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Systems Needed: [Link Method \(6.1.1\)](#)  
[The Number/Rhyme Technique \(6.1.2\)](#)  
[The Number/Shape Technique \(6.1.3\)](#)  
[The Alphabet Technique \(6.1.4\)](#)  
[The Journey Technique \(6.1.5\)](#)  
[The Major System \(6.1.7\)](#)

---

Using mnemonic systems, remembering numbers becomes extremely simple. There are a number of approaches, depending on the types of numbers being remembered:

### 1. Short numbers

The easiest, but least reliable, way of remembering numbers is to use simple Number/Rhyme images (see 6.1.2) associated in a story (6.1.1).

A better way is to use a simple peg system, where, for example, you can associate digits from the Number/Rhyme System (6.1.2) into positions organized with the Alphabet system (6.1.4).

### 2. Long numbers (e.g. Pi)

You can store long numbers most effectively with the Journey System (6.1.5). At a simple level, single numbers can be stored at each stop on the journey using Number/Rhyme or Number/Shape images. At a more advanced level you can increase the number of digits stored at each stop by either extending the number systems (see 6.2) or by using the Major System. You can even increase the number of digits stored using the Major System by extending it as described in section 6.2.

By using all the simple techniques together you should be able to store a 10-digit number with relatively little effort. Using the more powerful systems, holding it to 1000 digits might not be too much of a challenge.

### 3. Telephone Numbers

These can be remembered simply by associating numbers from the Number/Rhyme system with positions in either the alphabet system or the Journey System. You can then associate these with the face or name of the person whose number you are remembering.

For example, to remember that someone's phone number is 735-3458, I can imagine myself traveling to her flat: with my destination firmly in mind, I envisage the following stops on my journey:

1. Front door: the door has sprouted angel's wings, and is flying up to heaven! (7)
2. Rose bush: a small sapling (tree, 3) is growing its way through the middle of the bush.
3. Car: some bees have started to build a hive (5) under the wheel of my car. I have to move it very carefully to avoid damaging it.
4. End of road: a tree (3) has fallen into the road. I have to drive around it.
5. Past gas station: Someone has nailed a door (4) to the sign. Strange!
6. Under railroad bridge: the bees are building another hive (5) between the girders!
7. Beside the river: A rusty farm gate (8) is blocking the road.

## Remembering Playing Cards! (6.3.6)

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Systems Needed: The Number/Rhyme or Number/Shape systems ([6.1.2](#), [6.1.3](#))  
The Journey Method ([6.1.5](#))

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Once you are familiar with the Journey system, it becomes relatively simple to remember the order of a pack of playing cards.

Before you try to do this, you should prepare a journey in your mind that has 54 stops. Ensure that the stops are fresh and firm in your mind.

The next step is fairly simple. What you need to do is have an image in your mind representing each of the cards. Counting an ace as 1, and the 10 as zero, you can create a Number/Rhyme or Number/Shape image in your mind for the numbers Ace to 10. For the jack, queen and king, the images on the playing card are ready-made mnemonic images. The suits similarly can be represented by the suit symbols. For example, you could represent the two of hearts by a white swan with a red heart painted on its side. The ten of spades could be a hole with the handle of a spade sticking out.

It is a good idea to prepare all the images to be used beforehand, as remembering cards during a card game will have to be done quite rapidly. As cards come up, associate the card images with the stops on your journey.



## Module 7

# How to Use Time Effectively - Time Management Skills

- Finding out how much your time is worth - *Costing Your Time*
- Finding out what to spend your time on - *Working out your priorities*
- Checking how you really spend your time - *Activity Logs*
- Planning to solve a problem - *Action Plans*
- Tackling the right tasks first - *Prioritized To Do Lists*
- Deciding what to achieve with your time - *Personal Goal Setting*

## 7. How to use time effectively - Time Management Skills

This module discusses important personal time management skills. These are essential skills for effective people. People who use these techniques routinely are the highest achievers in all walks of life, from business to sport to public service. If you use these skills well, then you will be able to function effectively, even under intense pressure. They help you to get the most out of the limited time you have.

At the heart of time management is an important shift in focus:

*Concentrate on results, not on being busy*

Many people spend their days in a frenzy of activity, but achieve very little because they are not concentrating on the right things. This is neatly summed up in the Pareto Principle, or 80/20 rule<sup>5</sup>. This shows that typically 80% of unfocussed effort generates only 20% of results. The remaining 80% of results are achieved with only 20% of the effort. By applying the skills in this module you can change this to ensure that you concentrate as much of your effort as possible on the high payoff tasks. This ensures that you achieve the greatest benefit possible with your investment of time.

The tools we will discuss are:

- Finding out how much your time is worth - *Costing Your Time*
- Checking how you really spend your time - *Activity Logs*
- Planning to solve a problem - *Action Plans*
- Tackling the right tasks first - *Prioritized To Do Lists*
- Deciding what your personal priorities should be - *Personal Goal Setting*

By the end of the module you should have a much clearer understanding of how to use time to its greatest effect.

### Costing your time (7.1)

Function: Finding out how much your time is worth

How to use tool: The first part of your focus on results should be to work out how much your time costs. This helps you to see if you are spending your time profitably.

If you work for an organization, calculate how much you cost it each year. Include your salary, payroll taxes, the cost of office space you occupy, equipment and facilities you use, expenses, administrative support, etc. If you are self-employed, work the annual running costs of your business.

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<sup>5</sup> This is just one instance of the immensely useful Pareto Principle. See section 3.1 for more information.

To this figure, add a “guesstimate” of the amount of profit you should generate by your activity.

If you work normal hours, you will have approximately 200 productive days each year. If you work 7½ hours each day, this equates to 1,500 hours in a year.

From these figures, calculate an hourly rate. This should give a reasonable estimate of how much your time is worth - this may be a surprisingly large amount!

When you are deciding whether or not to take a job on, think about this value” Are you wasting your or your organization’s resources on a low-yield task?

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Key points: Calculating how much your time is worth helps you to work out how whether it is worth doing particular jobs. If you have to spend much of your time doing low yield jobs, then you can make a good case for employing an assistant.

## Deciding Your Work Priorities (7.2)

Function: Finding Out What to Spend Your Time On

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How to use tool: An important part of focusing on results is working out what to focus on! Many people work very hard all day doing little jobs that do not actually affect the quality of their work.

This section concentrates on three areas: clarifying what you enjoy, understanding what your strengths and weaknesses are, and working out both what your job is and what constitutes excellent performance.

### **Doing what you enjoy**

It is important for your own quality of life that you enjoy your job. If you know broadly what you like and dislike, you will be more able to move your job towards doing things that you enjoy. This is important as you are much more likely to do your job effectively if you enjoy it than if you loathe it. Note that sometimes you will have to do unpleasant work!

### **Concentrating on your strengths**

It is also important to know what your talents and weaknesses are. A good way of doing this is to carry out a SWOT analysis (see [2.5](#)). This provides a formal approach to evaluating your strengths and weaknesses, and the opportunities and threats that you face. It makes a lot of sense to find a job that suits your strengths, and where your weaknesses do not matter.

### **Understanding how to be excellent at your job**

One excellent way of ensuring that you concentrate on the right things is to agree them with your boss!

You should ask the following questions:

- **What is the purpose of the job?** If possible, express this in a single sentence starting with the word "To". For example, "To ensure effective distribution in the South East..."
- **What are the measures of success?** Work out how your boss will decide whether you are good at your job or not. Find out what the key targets to be achieved are, and how achievement will be measured.
- **What is exceptional performance?** Find out what this is considered to be, and work out how to achieve it.
- **What are the priorities and deadlines?** You need to know this so that when you are overloaded with work, you know what to focus on.
- **What resources are available?** This ensures that you are using all the tools at your command.
- **What costs are acceptable?** This lets you know the boundaries within which you can move.
- **How does this relate to other people?** What is the broader picture within which you have to work?

If you have answers to these questions, you will know how to do your job in precisely the right way. If you know what exceptional performance is, you can plan to achieve it using all the resources you have available.

---

Key points:

This section gives you three ways of deciding your work priorities:

- Concentrating on what you enjoy
- Using a SWOT analysis to work out your strengths and weaknesses. This helps you to play to your strengths, minimize weaknesses, and move in the right direction.
- Finally it explains how to clarify your job with your boss, and concentrate on doing well in the areas he or she considers to be most important.

By concentrating on the right priorities you will ensure that you are always working as effectively as possible.

## Activity Logs (7.3)

Function: **Checking how you really spend your time**

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How to use tool: Activity logs help you to analyse how you actually spend your time. The first time you use an activity log you may be shocked to see the amount of time that you waste! Memory is a very poor guide when it comes to this, as it can be too easy to forget time spent reading junk mail, talking to colleagues, making coffee, eating lunch, etc.

You may also be unaware that your energy levels may vary through the day. In fact, most people function at different levels of effectiveness at different times. Your effectiveness may vary depending on the amount of sugar in your blood, the length of time since you

last took a break, routine distractions, stress, discomfort, or a range of other factors. There is also some good evidence that you have daily rhythms of alertness and energy.

Keeping an Activity Log for several days helps you to understand how you spend your time, and when you perform at your best. Without modifying your behavior any further than you have to, note down the things you do as you do them. Every time you change activities, whether opening mail, working, making coffee, gossiping with colleagues or whatever, note down the time of the change.

As well as recording activities, note how you feel, whether alert, flat, tired, energetic, etc. Do this periodically throughout the day. You may decide to integrate your activity log with a stress diary (see [8.1](#)).

Once you have logged your time for a few days, analyze the log. You may be alarmed to see the length of time you spend doing low value jobs!

You may also see that you are energetic in some parts of the day, and flat in other parts. A lot of this can depend on the rest breaks you take, the times and amounts you eat, and quality of your nutrition. The activity log gives you some basis for experimenting with these variables.

---

Key points: Activity logs are useful tools for auditing the way that you use your time. They can also help you to track changes in your energy, alertness and effectiveness throughout the day.

By analyzing your activity log you will be able to identify and eliminate time-wasting or low-yield jobs. You will also know the times of day at which you are most effective, so that you can carry out your most important tasks during these times.

## Action Plans (7.4)

Function: Small scale planning

---

How to use tool: An action plan is a list of tasks that you have to carry out to achieve an objective. It differs from a To Do list (see 7.5) in that it focuses on the achievement of a single goal. Wherever you want to achieve something, draw up an action plan. This allows you to concentrate on the stages of that achievement, and monitor your progress towards it.

To draw up an Action Plan, simply list the tasks that you need to carry out to achieve your goal. This is simple, but still very useful!

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Key points: An Action Plan is a list of things that you need to do to achieve a goal. To use it, simply carry out each task in the list!

## Prioritized To Do Lists (7.5)

Function: Ensuring you tackle all tasks, in the right tasks order

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How to use tool: A To Do List is a list of all the tasks that you need to carry out. It consolidates all the jobs that you have to do into one place. You can then prioritize these tasks into order of importance. This allows you to tackle the most important ones first.

To Do Lists are essential when you need to carry out a number of different tasks or different sorts of task, or when you have made a number of commitments. If you find that you are often caught out because you have forgotten to do something, then you need to keep a To Do List.

Whilst To Do Lists are very simple, they are also extremely powerful, both as a method of organizing yourself and as a way of reducing stress. Often problems may seem overwhelming or you may have a seemingly huge number of demands on your time. This may leave you feeling out of control, and overburdened with work.

### Preparing a To Do List

The solution is often simple: Write down the tasks that face you, and if they are large, break them down into their component elements. If these still seem large, break them down again. Do this until you have listed everything that you have to do. Once you have done this, run through these jobs allocating priorities from A (very important) to F (unimportant). If too many tasks have a high priority, run through the list again and demote the less important ones. Once you have done this, rewrite the list in priority order.

You will then have a precise plan that you can use to eliminate the problems you face. You will be able to tackle these in order of importance. This allows you to separate important jobs from the many time-consuming trivial ones.

It may be that you carry unimportant jobs from one To Do List to the next. You may not be able to complete some very low priority jobs for several months. Only worry about this if you need to. For instance, if you are running up against a deadline for them, raise their priority.

If you have not used To Do Lists before, try them now as they are one of the keys to being really productive and efficient.

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Key points: Prioritized To Do Lists are fundamentally important to efficient work. If you use To Do Lists, you will ensure that:

- You remember to carry out all necessary tasks.
- That you tackle the most important jobs first, and do not waste time on trivial tasks.
- That you do not get overly stressed by a large number of unimportant jobs.

To draw up a Prioritized To Do List, list all the tasks you must carry out. Mark the importance of the task next to it, with a priority from A (very important) to F (unimportant).

Redraft the list into this order of importance. Now, carry out the jobs at the top of the list first. These are the most important, most beneficial tasks to complete.

## Personal Goal Setting (7.6)

Function: **Deciding what you want to achieve with your time**

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How to use tool: Goal setting is a formal process for personal planning. By setting goals on a routine basis, you decide what you want to achieve, and then move step-by-step towards the achievement of these goals. The process of setting goals and targets allows you to choose where you want to go in life. By knowing precisely what you want to achieve, you know what you have to concentrate on to do it. You also know what is merely a distraction.

Goal setting is a standard technique used by top-level athletes, successful business-people and achievers in all fields. It gives you long-term vision and short-term motivation. It focuses your acquisition of knowledge and helps you to organize your resources.

By setting sharp, clearly defined goals, you can measure and take pride in the achievement of those goals. You can see forward progress in what might previously have seemed a long pointless grind. By setting goals, you will also raise your self-confidence, as you recognize your ability and competence in achieving the goals that you have set. The process of achieving goals and seeing this achievement gives you confidence that you will be able to achieve higher and more difficult goals.

Goals are set on a number of different levels: First, you decide what you want to do with your life and what large-scale goals you want to achieve. Second, you break these down into the smaller and smaller targets that you must hit so that you reach your lifetime goals. Finally, once you have your plan, you start working towards achieving it.

### **Starting to Set Personal Goals**

This section explains how to set personal goals. It starts with your lifetime goals, and then works through a series of lower level plans culminating in a daily to-do list. By setting up this structure of plans you can break even the biggest life goal down into a number of small tasks that you need to do each day to reach the lifetime goal.

### **Your Lifetime Goals**

The first step in setting personal goals is to consider what you want to achieve in your lifetime, as setting lifetime goals gives you the overall perspective that shapes all other aspects of your decision making.

To give a broad, balanced coverage of all important areas in your life, try to set goals in all of the following categories:

- **Artistic:** Do you want to achieve any artistic goals? If so, what?
- **Attitude:** Is any part of your mind-set holding you back? Is there any part of the way that you behave that upsets you? If so, set a goal to improve your behavior, or find a solution for the problems.
- **Career:** What level do you want to reach in your career?
- **Education:** Is there any knowledge you want to acquire in particular? What information and skills will you need to achieve other goals?
- **Family:** Do you want to be a parent? If so, how are you going to be a good parent? How do you want to be seen by a partner or by members of your extended family?
- **Financial:** How much do you want to earn by what stage?
- **Physical:** Are there any athletic goals you want to achieve, or do you want good health deep into old age? What steps are you going to take to achieve this?
- **Pleasure:** How do you want to enjoy yourself? You should ensure that some of your life is for you!
- **Public Service:** Do you want to make the world a better place by your existence? If so, how?

Once you have decided your goals in these categories, assign a priority to them from A to F. Then review the goals and re-prioritize until you are satisfied that they reflect the shape of the life that you want to lead. Also ensure that the goals that you have set are the goals that you want to achieve, not what your parents, spouse, family, or employers want them to be.

### **How to Start to Achieve Your Lifetime Goals**

Once you have set your lifetime goals, set a 25-year plan of smaller goals that you should complete if you are to reach your lifetime plan. Then set a 5-year plan, 1-year plan, 6-month plan, and 1-month plan of progressively smaller goals that you should reach to achieve your lifetime goals. Each of these should be based on the previous plan. Finally, set a daily to-do list (see [7.5](#)) of things that you should do tomorrow to work towards your lifetime goals. At an early stage, these goals may be to read books and gather information on the achievement of your goals. This will help you to improve the quality and realism of your goal setting.

Finally, review your plans, and make sure that they fit the way in which you want to live your life.

### **Staying on Course**

Once you have decided your first set of plans, keep the process going by reviewing and updating your to-do list on a daily basis. Periodically review the longer-term plans, and modify them to reflect your changing priorities and experience.

### **Setting Goals Effectively**

The following broad guidelines will help you to set effective goals:

- **State each goal as a positive statement:** Express your goals positively. “Execute this technique well” is a much better goal than “Don't make this stupid mistake”.



- **Be precise:** Set a precise goal, putting in dates, times and amounts so that you can measure achievement. If you do this, you will know exactly when you have achieved the goal, and can take complete satisfaction from having achieved it.
- **Set priorities:** When you have several goals, give each a priority. This helps you to avoid feeling overwhelmed by too many goals, and helps to direct your attention to the most important ones.
- **Write goals down:** This crystallizes them and gives them more force.
- **Keep operational goals small:** Keep the low-level goals you are working towards small and achievable. If a goal is too large, then it can seem that you are not making progress towards it. Keeping goals small and incremental gives more opportunities for reward. Derive today's goals from larger ones.
- **Set performance goals, not outcome goals:** You should take care to set goals over which you have as much control as possible. There is nothing more dispiriting than failing to achieve a personal goal for reasons beyond your control. These could be bad business environments, poor judging, bad weather, injury, or just plain bad luck. If you base your goals on personal performance, then you can keep control over the achievement of your goals and draw satisfaction from them.
- **Set realistic goals:** It is important to set goals that you can achieve. All sorts of people (parents, media, society) can set unrealistic goals for you. They will often do this in ignorance of your own desires and ambitions. Alternatively, you may be naïve in setting very high goals. You might not appreciate either the obstacles in the way, or understand quite how many skills you must master to achieve a particular level of performance.
- **Do not set goals too low:** Just as it is important not to set goals unrealistically high, do not set them too low. People tend to do this where they are afraid of failure or where they are lazy! You should set goals so that they are slightly out of your immediate grasp, but not so far that there is no hope of achieving them. No one will put serious effort into achieving a goal that they believe is unrealistic. However, remember that your belief that a goal is unrealistic may be incorrect. If this could be the case, you can change this belief by using imagery effectively. See 8.4 for more information on this.

### **Achieving Goals**

When you have achieved a goal, take the time to enjoy the satisfaction of having done so. Absorb the implications of the goal achievement, and observe the progress you have made towards other goals. If the goal was a significant one, reward yourself appropriately.

With the experience of having achieved this goal, review the rest of your goal plans:

- If you achieved the goal too easily, make your next goals harder.
- If the goal took a dispiriting length of time to achieve, make the next goals a little easier.
- If you learned something that would lead you to change other goals, do so.
- If while achieving the goal you noticed a deficit in your skills, decide whether to set goals to fix this.

Failure to meet goals does not matter as long as you learn from it. Feed lessons learned back into your goal-setting program.

Remember too that your goals will change as you mature, and adjust them regularly to reflect this growth in your personality. If goals do not hold any attraction any longer, then let them go. Goal setting is your servant, not your master. It should bring you real pleasure, satisfaction and a sense of achievement.

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**Example:** The best example of goal setting that you can have is to try setting your own goals. Set aside two hours to think through your lifetime goals in each of the categories. Then work back through the 25-year plan, 5-year plan, 1-year plan, 6-month plan, a 1-month plan. Finally, draw up a To Do list of jobs to do tomorrow to move towards your goals.

Tomorrow, do those jobs, and start to use goal-setting routinely!

---

**Key points:** Goal setting is an important method of:

- Deciding what is important for you to achieve in your life
- Separating what is important from what is irrelevant
- Motivating yourself to achievement
- Building your self-confidence based on measured achievement of goals

You should allow yourself to enjoy the achievement of goals and reward yourself appropriately. Draw lessons where appropriate, and feed these back into future performance.

If you do not already set goals, now is a great time to start!

## Module 8

# Techniques for Controlling Stress

- Stress Diaries and Action Plans
  - *Analyzing the stress you are under, and planning to control it*
- Psyching Up - *Raising your stress levels to improve performance*
- Anticipation of Stress - *Preparing for stress by thinking ahead*
- Time Management - *Reducing stress by achieving more*
- Thought Awareness, Rational Thinking & Positive Thinking
  - *Controlling internally generated stress*
- Attitude - *Eliminating stress you cause for yourself*
- Progressive Muscular Relaxation - *Controlling adrenaline*
- Breathing Control - *Physical relaxation technique*
- Imagery - *Mental adjustment of stress levels*
- Self-hypnosis & auto-suggestion - *Powerful relaxation techniques*
- Meditation - *Giving your mind and body a break*
- Time Management - *Improving your efficiency, and taking control of your life*
- Your attitude - *Reducing stress that you cause for yourself*
- Slowing Down out of Work
- Health & Nutrition - *Reducing chemical and medical stress*
- Improving your environment - *Eliminating Environmental Stress*

## 8. Techniques for Controlling Stress

This module explains how to use stress to your advantage. First, we will look at stress, what causes it, and understand optimum stress levels. We will then discuss analyzing and planning to control stress. Finally, we will discuss many of the good stress management techniques available.

The tools we will discuss are:

- Stress Diaries and Action Plans
  - *Analyzing the stress you are under, and planning to control it*
- Psyching Up - *Raising your stress levels to improve performance*
- Anticipation of Stress - *Preparing for stress by thinking ahead*
- Time Management - *Reducing stress by achieving more*
- Thought Awareness, Rational Thinking & Positive Thinking
  - *Controlling internally generated stress*
- Attitude - *Eliminating stress you cause for yourself*
- Progressive Muscular Relaxation - *Controlling adrenaline*
- Breathing Control - *Physical relaxation technique*
- Imagery - *Mental adjustment of stress levels*
- Self-hypnosis & auto-suggestion - *Powerful relaxation techniques*
- Meditation - *Giving your mind and body a break*
- Time Management - *Improving your efficiency, and taking control of your life*
- Your attitude - *Reducing stress that you cause for yourself*
- Slowing Down out of Work
- Health & Nutrition - *Reducing chemical and medical stress*
- Improving your environment - *Eliminating Environmental Stress*

By the end of the module, you should have a much clearer understanding of stress and the importance of controlling it. You should be able to analyze the points of pressure in your life, and plan to neutralize them. You will also have an armory of different stress reduction methods. This will help you to control each stress with the most appropriate technique.

### Understanding Stress

Within this module, we consider stress to be anything that stimulates you and increases your level of alertness. Life without stimulus would be incredibly dull and boring. Life with too much stimulus becomes unpleasant and tiring, and may ultimately damage your health or your well-being. Too much stress can seriously interfere with your ability to perform effectively.

The art of stress management is to maintain a level of stimulation that is healthy and enjoyable to you. This series of articles will help you to monitor and control stress so that you can find and operate at a level that is most comfortable for you. It will discuss strategies to reduce or eliminate sources of unpleasant stress.

Most people realize that aspects of their work and lifestyle can cause stress. While this is true, it is also important to note that it can be caused by your environment and by the food and drink you consume. The strategies that you should use to counter stress depend on the causes of that stress.

There are several major sources of stress:

- Survival stress
- Internally generated stress
- Environmental and job stress
- Fatigue and overwork

These different sources of stress are explained in more detail below:

## Survival Stress

Where you are in a physically or emotionally threatening situation, your body adapts to help you react more effectively to meet the threat. This is controlled mainly by release of adrenaline. The changes are quite powerful and useful in a “fight or flight” situation. The main ones are:

- Adrenaline mobilizes sugars, giving your body access to more strength, energy and stamina. This helps you to fight harder or run faster.
- It reduces the blood supply to your skin and short-term inessential organs. This minimizes bleeding if you are hurt, and ensures that energy is not wasted on processes that are not immediately useful.
- You may experience nausea or diarrhea: this eliminates excess weight that might otherwise slow you down.

You may have experienced these changes as fear. Where speed and physical strength are important this adrenaline stress will be helpful and beneficial, as fear can help you to survive or perform better. However, when calm thought or precise motor skills are important, it is best to control and, ideally, eliminate these adrenaline responses.

Prolonged exposure to adrenaline can damage your health.

## Internally Generated Stress & Anxiety

Internally generated stress is stress that you cause for yourself. This can come from anxious worrying about events beyond your control, from a tense, hurried approach to life, or from relationship problems caused by your own behavior. It can also come from an addiction to and enjoyment of stress.

Stress can cause the levels of a chemical called noradrenalin to rise in and between nerve cells. This gives a feeling of confidence and elation that some people like. They can subconsciously defer work until the last minute to cause a “deadline high”, or can create a stressful environment at work that feeds their enjoyment of a situation. The downside of this is that they may leave jobs so late that they fail when an unexpected crisis occurs. They may also cause unnecessary stress for other colleagues who are already under a high level of stress.

Other aspects of personality can cause stress. Examples are perfectionism, where extremely or impossibly high standards can cause stress; and excessive self-effacement, where constant attention to

the needs of others can lead to dissatisfaction. A major cause of internally generated stress in many people is anxiety.

### Environmental, Nutritional and Job Stress

Your environment may be a significant source of stress. This can come from:

- Crowding and invasion of personal space
- Insufficient working and living space
- Noise
- Dirty or untidy conditions
- Pollution
- A badly organized or run down environment

Working environments are rarely perfect, however often you can improve your environment quite cheaply.

### Chemical and nutritional stresses

The food you eat may contribute to the stresses you experience. Examples of stressors you may not be aware of are:

- Caffeine: this raises your levels of stress hormones, makes it more difficult to sleep, and can make you more irritable. Many people report as big a reduction in feelings of stress after switching away from coffee as they do after giving up smoking. Note that there is often as much caffeine in a cup of tea as there is in a cup of coffee.
- Bursts of sugar from sweets or chocolate. These can make you feel more energetic in the short-term. However, your body reacts to stabilize abnormally high sugar levels by releasing too much insulin. This causes a serious energy dip shortly after the sugar high.
- Too much salt: This raises your blood pressure and puts your body under chemical stress.
- Smoking: most people who smoke feel relaxed after a cigarette. If you smoke, however, try taking you pulse before and after a cigarette and think about the difference. Smoking puts your body under chemical stress. Most people who have given up smoking feel much more relaxed generally after the initial giving-up period is finished.

As well as these specific sources of stress, you may experience stress if you eat an unbalanced or unhealthy diet. You may find that some dietary deficiency or excess causes discomfort and illness that generates stress. If you are obese, then this causes physical stress on your internal organs and emotional stress as your view of yourself declines.

While there is a lot of crooked, biased, naïve or incorrect dietary information around, you can normally rely on nutritional advice from your doctor or from government health education. Before you accept advice, examine the motives of the people offering the advice!

### Lifestyle and job stress

Many of the stresses you experience may come from your job or from your lifestyle. These may include:

- Too much or too little work
- Time pressures and deadlines

- Responsibility for people, budgets or equipment
- Frustration and boredom with current role
- Lack of clear plans and goals
- Demands from clients
- Disruptions to plans
- Frustration at having to overcome unnecessary obstacles
- Financial or relationship problems
- Ill-health
- Family changes such as birth, death, marriage or divorce
- Etc.

### Fatigue and Overwork

Here, stress builds up over a long period. This can occur where you try to achieve too much in too little time, or when you are not using effective time management strategies.

## Optimum Stress Levels

The level of stress under which you operate is important. If you are not under enough stress, then you may find that your performance suffers because you are bored and unmotivated. If you are under too much stress, then you will find that your results suffer as stress related problems interfere with your performance.

It is important that you recognize that you are responsible for your own stress, and very often, it is a product of the way that you think. Learn to monitor your stress levels, and adjust them up if you need to be more alert, or down if you are feeling too tense. By managing your stress effectively, you can significantly improve the quality of your life.

This section explains the linkage between stress and performance, and shows how you can ensure that you perform at your best by optimizing stress levels.

The approach to optimizing stress depends on the sort of stress being experienced. Strategies to deal with short term stresses focus on managing adrenaline to maximize performance. Short-term stresses may be difficult meetings, sporting or other performances, or confrontational situations. With long-term stress, fatigue and high adrenaline levels over a long period can seriously reduce your performance. Optimizing long-term stress concentrates on management of fatigue, health, energy and morale. Naturally, there is some element of overlap between these.

### Short term stress

Figure 8.1 shows the relationship between stress and the quality of performance when you are in situations that impose short-term stress:

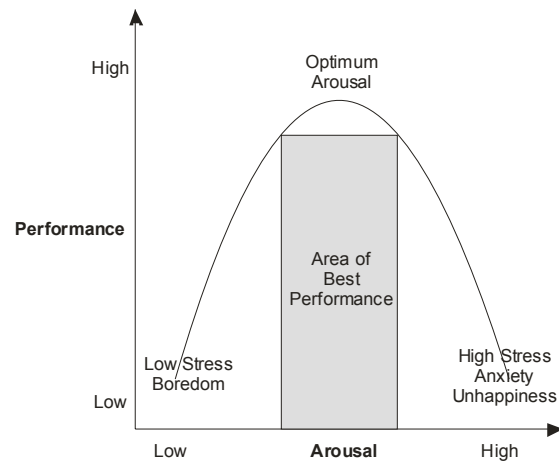


Figure 8.1: Inverted-U relationship between arousal and performance

When your stress level is too low, you may find that your performance is low because you become bored, lack concentration and motivation. When your stress level is too high, your performance can suffer from all the symptoms of excessive short-term stress. In the middle, at a moderate level of stress, there is a zone of best performance. If you can keep yourself within this zone, then you will be sufficiently aroused to perform well while not being over-stressed and unhappy.

The above graph, and its zone of optimum performance, will be represented by are different shapes for different people. Some people may operate most effectively at a level of stress that would leave other people either bored or in pieces. It is possible that someone who functions superbly at a low level might experience difficulties at a high level. Alternatively, someone who performs only moderately at low level might perform exceptionally under extreme pressure. The best way of finding your optimum level of stress is to keep a stress diary (see [8.1](#)) for a number of weeks.

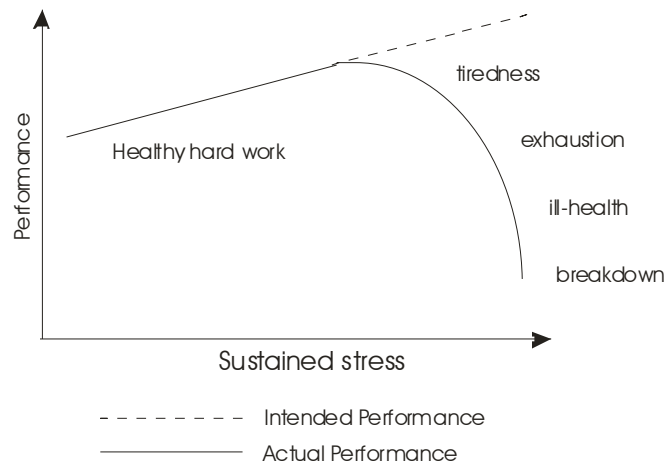
### Long term stress

The problems of long-term, sustained stress are more associated with fatigue, morale and health than with short term adrenaline management.

Figure 8.2 shows the way in which performance can suffer when you are under excessive long-term stress:



Figure 8.2 - The relationship between long-term stress and performance



The graph shows stages that you may go through in response to sustained levels of excessive stress:

- During the first phase, you will face challenges with plenty of energy. Your response will probably be positive and effective.
- After a period of time, you may begin to feel seriously tired. You may start to feel anxious, frustrated and upset. The quality of your work may begin to suffer.
- As high stress continues, you may begin to feel a sense of failure and may be ill more frequently. You may also begin to feel exploited by your organization. At this stage, you may start to distance yourself from your employer, perhaps starting to look for a new job.
- If high levels of stress continue without relief, you may ultimately experience depression, burnout, nervous breakdown, or some other form of serious stress related illness.

Different people may move between these stages with different speeds under different stress conditions.

At a simple level it may appear that a measure of “toughness” is how well you keep on going under extreme stress. This is simplistic. It is certainly possible to be self-indulgent and use stress as an excuse for not pushing yourself hard enough. It is, however, also far too easy to let yourself be pushed to a level where your work, and physical and mental health start to suffer. The strongest and most flexible position is to actively manage your levels of stress and fatigue so that you are able to produce high quality work over a long period, reliably.

High performance in your job may require continued hard work in the face of high levels of sustained stress. If this is the case, it is essential that you learn to pay attention to your feelings. This ensures that you know when to relax, slacken off for a short period, get more sleep, or implement stress management strategies. If you do not take feelings of tiredness, upset or discontent seriously, you may face failure, burnout or breakdown.

There are good strategies for avoiding or surviving these that are beyond the scope of this e-book. They will be covered in the next Mind Tools e-book, “Life Psychologies”.

## Choosing Which Stress Management Technique to Use

Techniques that you select depend on the cause of the stress and the situation in which the stress occurs.

In choosing methods to combat stress, it is worth asking yourself about where the stress comes from. If outside factors such as important events or relationship difficulties are causing stress, then a positive thinking or imagery-based technique may be effective. Where stress and fatigue are long-term, then lifestyle and organizational changes may be appropriate. If the feelings of stress come from adrenaline in your body, then it may be effective to relax the body and slow the flow of adrenaline.

This module looks at stress management techniques from a number of different perspectives:

- First, we look at a method of analyzing the stresses you are under so that you can choose the appropriate control technique. This is explained in [8.1](#), The Stress Diary.
- Next, in 8.2 to 8.7 we look at a number of different mental approaches to controlling short-term stress.
- In [8.8](#) and [8.9](#) we look at physical techniques for reducing stress, relaxing muscles and controlling adrenaline in your body.
- After this, we switch focus to long-term stress, and look at ways of controlling stress that you may be creating for yourself. This is covered in sections 8.10 to 8.12.
- Finally, we look at ways of reducing stress caused by your environment.

## Stress Diary (8.1)

Function: **Finding your optimum stress levels**

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How to use tool: Keeping a stress diary is an effective way of finding out what causes you stress, the level of stress you prefer, and your effectiveness under pressure.

In this diary, make note of your stress levels and how you feel throughout the day. In particular, make note of stressful events. Record the following information:

- At a regular interval, for example every hour, record routine stress. Note:
  - The time
  - The amount of stress that you feel (perhaps on a scale of 1 to 10)
  - How happy you feel
  - Whether you are enjoying your work
  - How efficiently you are working
- When stressful events occur, write down:
  - What the event was
  - When and where did it occur?
  - What important factors made the event stressful?
  - How stressful was the event?
  - How did you handle the event?
  - Did you tackle the cause or the symptom?
  - Did you deal with the stress correctly?

After a few weeks you should be able to analyze this information. It may be interesting as you carry out the analysis to note down the outcomes of the jobs you were doing when you were under stress.

This should give you two types of information:

1. You should be able to understand the level of stress you are happiest with, and the level of stress at which you work most effectively. You may find that your performance is good even when you feel upset by stress.
2. You should know what the main sources of unpleasant stress in your life are. You should understand what circumstances make stresses particularly unpleasant, and should be able to see whether your strategies for handling the stresses are effective or not.

You will get the real benefits of having a stress diary in the first few weeks. After this, the benefit you get of keeping it each additional day will reduce. If, however, your lifestyle changes or you begin to suffer from stress again in the future, then it may be worth using the diary approach again. You will probably find that the stresses you face have changed. If this is the case, then keeping a diary again will help you to develop a different approach to deal with them.

Once you have discovered the stress level you are happiest with, and understand what triggers unpleasant stress, make an Action Plan (see [7.4](#)) to control it. Some elements of this action plan will be actions you are going to take to contain, control or eliminate problems that are causing you stress. Other parts may be health-related, such as taking more exercise, changing your diet, or improving the quality of your environment. It may also cover stress management techniques that you will employ when stress levels begin to build.

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Key points: Keeping a stress diary helps you to learn how you handle stress. It helps you:

- Find out the stress levels you prefer
- To know how effectively you operate under pressure
- Understand the things that cause you stress
- To see how effective your stress control strategies are

Once you have kept a stress diary for a number of weeks, you will be in a position to analyze it and develop an action plan to control stress.

## 'Psyching Up' (8.2)

Function: Raising your stress levels to improve performance

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How to use tool: Where you are not feeling motivated towards a task, either because you are bored by it, or because you are tired, then you may need to "psych yourself up". This will increase your arousal so that you can perform effectively.

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You can use the following techniques to psych up:

- Focus on the importance or urgency of the task.
- Set yourself a challenge - e.g. to do the job in a particular time or to do it to a particularly high standard.
- Break job down into small parts, do each part between more enjoyable work, and take satisfaction from the successful completion of each element.
- Use suggestion: e.g. "I can feel energy flowing into me".
- Get angry about something!

Remember the importance of optimum stress levels (see the introduction to this module). If you are already quite stressed, perhaps before an important event or test, then psyching up may actually move you further out of your area of best performance.

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Key points: "Psyching Up" is a useful way of improving your performance if you are feeling bored or unmotivated. Use it to move into your area of best performance when you are under-stressed.

## Anticipating Stress (8.3)

Function: Controlling stress by preparing for it

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How to use tool: By anticipating stress, you can prepare for it and work out how to control it when it happens. This can be carried out in a number of ways:

- **Rehearsal:**  
By practicing for a stressful event, such as an interview or a speech, several times in advance, you can polish your performance and build confidence.
- **Planning:**  
By analyzing the likely causes of stress, you will be able to plan your responses to likely forms of stress. These might be actions to alleviate the situation or may be stress management techniques that you will use. It is important that you formally plan for this. It is little use just worrying in an undisciplined way as this will be counter-productive. Formal planning of responses to stress is a technique used by top-level athletes to ensure that they respond effectively to the stresses of competition.
- **Avoidance:**  
When a situation is likely to be unpleasant, and will not yield any benefit to you, it may be one you can just avoid. You should be certain in your own mind, however, that this is the case, and that you are not running away from problems.
- **Reducing the Importance of an Event:**  
When an event is important to you, it can become very stressful. This is particularly true when you are operating at a high level, when many people are watching, or when there is the prospect of a large financial reward, of promotion, or of personal advancement. The presence of family, friends or important people can also add to

pressure. If stress is a problem under these circumstances, then think carefully about the event, and take every opportunity to reduce its importance in your eyes:

- If the event seems big, put it in its place along the path to your goals. Compare it in your mind with bigger events you might know of or might have attended.
- If there is a financial reward, remind yourself that there may be other opportunities for reward later. This will not be the only chance you have. Focus on the quality of your performance. Focusing on the rewards will only damage your concentration and raise stress.
- If members of your family are watching, remind yourself that they love you anyway. If friends are real friends, they will continue to like you whether you win or lose.
- If people who are important to your goals are watching then remind yourself that you may well have other chances to impress them.

If you focus on the correct performance of your tasks, then the importance of the event will dwindle into the background.

- **Reducing Uncertainty:**

Uncertainty can cause high levels of stress. Causes of uncertainty can be:

- Not having a clear idea of what the future holds
- Not knowing where your organization will be going
- Not having any career development plans
- Not knowing what will be wanted from you in the future
- Not knowing what your boss or colleagues think of your abilities
- Receiving vague or inconsistent instructions

In these cases, lack of information or the actions of other people are negatively affecting your ability to perform. The most effective way of countering this is to ask for the information you need. This might be information on your organization's performance. It may involve asking what your employer wants from you in the future, so that you can set the appropriate career development goals. If you are unsure of how you are doing, ask for a performance review. Where instructions are inconsistent or conflicting, ask for clarification.

If you ask in a positive way, then people are usually quite happy to help.

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Key points:

By anticipating stressful situations you can prepare for them. This may involve rehearsals, plans to counter stressful contingencies, or avoidance of an unpleasant situation altogether.

Stress may also be caused by the size of an event. If this is the case, put it in its proper context within your goals. Where stress arises from uncertainty, ask for information you need.

## Imagery (8.4)

Function: **Mental adjustment of stress levels**

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How to use tool: Imagery is a potent method of stress reduction, especially when combined with physical relaxation methods such as deep breathing.

You will be aware of how particular environments can be very relaxing, while others can be intensely stressful. The principle behind the use of imagery in stress reduction is that you can use your imagination to recreate a place or scene that is very relaxing. The more intensely you imagine the place or situation, the stronger and more realistic the experience will be.

### **What is imagery?**

Remember that your brain is a mass of nerve cells. Your sense organs convert signals from your environment into nerve impulses. These feed into the areas of your brain that interpret that environment. Imagery seeks to create a similar set of nerve impulses that can feed into those areas of the brain that experience the outside world.

The effectiveness of imagery can be shown very effectively if you have access to equipment that measures body stress (this functions by measuring, for example, muscle electrical activity, electrical conductivity through skin sweat, etc.) By imagining a pleasant scene, which reduces stress, you can cause a needle on the machine to move in one direction. By imagining an unpleasant and stressful situation, you can move it in the opposite direction. This can be quite alarming when you see it happen the first time!

### **Imagery in stress reduction**

One common use of imagery in relaxation is to imagine a scene, place or event that you remember as safe, peaceful, restful, beautiful and happy. You can bring all your senses into the image, with sounds of running water and birds, the smell of cut grass, the taste of cool white wine, the warmth of the sun, etc. Use the imagined place as a retreat from stress and pressure.

Scenes can involve complex images such as lying on a beach in a deserted cove. You may “see” cliffs, sea and sand around you, “hear” the waves crashing against rocks, “smell” the salt in the air, and feel the warmth of the sun and a gently breeze on your body. Other images might include looking at a mountain view, swimming in a tropical pool, or whatever. You will be able to come up with the most effective images for yourself.

Other uses of imagery in relaxation involve mental pictures of stress flowing out of the body; or of stress, distractions and everyday concerns being folded away and locked into a padlocked chest.

### **Imagery in preparation and rehearsal**

You can also use imagery in rehearsal before a big event, allowing you to run through it in your mind. It allows you to practice in advance for anything unusual that might occur, so that you are prepared and already practiced in handling it. Imagery also allows you to pre-experience achievement of your goals. This helps to give you the self-confidence you

need to do something well. Successful athletes use imagery this way to prepare for important performances.

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**Key points:** With imagery, you substitute actual experience with scenes from your imagination. Your body reacts to these imagined scenes almost as if they were real.

To relax with imagery, imagine a warm, comfortable, safe and pleasant place, and enjoy it in your imagination.

Imagery can be shown to work by using machines that measure body stress. By imagining pleasant scenes and unpleasant scenes, you can alter see your body stress change.

## Thought Awareness, Rational Thinking & Positive Thinking (8.5)

**Function:** Controlling internally generated stress

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**How to use tool:** These three related tools are useful in combating negative thinking. Negative thinking causes stress because it damages any confidence you may have that you are equal to the task you face.

You are thinking negatively when you put yourself down, criticize yourself for errors, doubt your abilities, expect failure, etc. It is the negative side of suggestion, and it damages confidence, harms performance and paralyses mental skills.

### Thought Awareness

Thought awareness is the process by which you observe your thoughts for a time, perhaps when under stress, and become aware of what is going through your head. It is best not to suppress any thoughts. Instead, just let them run their course while you observe them.

Watch for negative thoughts while you observe your "stream of consciousness". Normally, these appear and disappear being barely noticed. Normally, you will not know that they exist. Examples of common negative thoughts are:

- Worries about how you appear to other people
- A preoccupation with the symptoms of stress
- Dwelling on consequences of poor performance
- Self criticism
- Feelings of inadequacy

Make a note of the thought, and then let the stream of consciousness run on.

Thought awareness is the first step in the process of eliminating negative thoughts, as you cannot counter thoughts you do not know you think.

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### Rational Thinking

Once you are aware of your negative thoughts, write them down and review them rationally. See whether the thoughts have any basis in reality. Often you find that when you properly challenge negative thoughts they are obviously wrong. Often they persist only because they escape notice.

### Positive Thinking and Affirmation

You may find it useful to counter negative thoughts with positive affirmations. You can use affirmations to build confidence and change negative behavior patterns into positive ones. You can base affirmations on clear, rational assessments of fact, and use them to undo the damage that negative thinking may have done to your self-confidence.

Examples of affirmations are:

- I can do this.
- I can achieve my goals.
- I am completely myself and people will like me for myself.
- I am completely in control of my life.
- I learn from my mistakes. They increase the basis of experience on which I can draw.
- I am a good valued person in my own right.

Traditionally, people have advocated positive thinking almost recklessly, as if it is a solution to everything. It should be used with common sense. No amount of positive thinking can make everyone who applies it an Olympic champion marathon runner (though an Olympic marathon runner is unlikely to have reached this level without being pretty good at positive thinking). First, decide rationally what goals you can realistically attain with hard work, and then use positive thinking to reinforce these.

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Key points: Thought awareness, rational thinking and positive thinking are three closely connected tools which help you to eliminate thought patterns that damage your self-confidence and cause you stress.

With thought awareness you observe your own thinking when you are under pressure, and spot negative thoughts you would otherwise not be aware of. These may often come and go in an instant.

With rational thinking you look at the basis of these negative thoughts, and challenge them rationally. Where the thoughts are obviously wrong, you can eliminate them. Where the thoughts may be fair, you can work on the problem to eliminate or neutralize it.

Positive thinking helps you not only to counter negative thinking, it also helps you to build self-confidence when sensibly applied.



## Self-Hypnosis & Auto-Suggestion (8.6)

Function: **Powerful relaxation techniques**

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How to use tool: Hypnosis has a bad reputation. Many people over many years have made their living by overlaying this practical and useful technique with unwarranted religious, mystical and magical rituals.

Hypnosis is merely a state of mind in which:

- You are very relaxed
- You are paying complete attention to the suggestions you want to implant
- You do not criticize the suggestions made, and accept them at face value

Self-hypnosis is used to directly program your unconscious with affirmations and suggestions that would otherwise have to run through critical processes in your mind. You can use this programming as an effective method of reducing stress and inducing relaxation.

Normal hypnosis is often ineffective in stress reduction, as it requires the presence of a hypnotist. Self-hypnosis, however, is just as easy and has the additional benefit that you can completely control the inputs to your mind when you are in a suggestible state.

### **Hypnotizing Yourself**

The first few times that you use self-hypnosis, it is best to find a place where you can be undisturbed for a while. Sit or lie down, eliminate any distractions, and relax. This puts you in the best possible conditions for using the technique; however, as you get more practice you will find that you can use self-hypnosis almost anywhere. Obviously, it should not be used when you need to be alert, such as when driving or operating machinery, etc.

The first step is to relax yourself: Close your eyes, and try using imagery (see [8.4](#)) of waves of relaxation running down your body from your scalp downwards, washing out stress. Let the waves run in time with your breathing, first washing down over your head, then your neck, then your torso, then arms, and finally your legs. Feel the muscles in your body relaxing as the waves of relaxation wash over them.

Alternative techniques can involve fixing your eyes on a spot on the wall, or riding down in a lift/elevator from the top of a tall building, slowly dropping down into relaxation and drowsiness. The method you choose to induce hypnosis is up to you.

The next step is to use suggestion to deepen the state. This is as simple as saying something like "I am feeling relaxed and comfortable to yourself, and with every breath I am becoming more relaxed and more comfortable."

Once you are completely relaxed and focused on your own suggestions, you are in a useful state of self-hypnosis. One suggestion you can usefully embed is that when you repeat a particular trigger word to yourself you will relax into this state.

### **Suggestion and Hypnosis**

Before you enter a hypnotic state it is useful to think about the suggestions that you want to apply in it. Suggestions can be simple affirmations that undo the damage done by negative thinking (see Thought Awareness, Rational Thinking and Positive Thinking, [8.5](#)). Alternatively you can use them to make psychological adjustments or reinforce confidence to help to achieve goals that you have set.

Once you have decided what you want to use in suggestions, spend a little time working out a form of words for each suggestion that is short, positive, and powerful. Repeat this to yourself when you are under hypnosis.

Effective use of suggestion can:

- Build confidence
- Reinforce goals by etching them into your mind
- Reduce stress
- Motivate and energize you when you are feeling sluggish.

Suggestion can be used without hypnosis where you want to remain alert. Using suggestion with self-hypnosis just makes it more effective.

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Key points: Self-hypnosis is a useful relaxation technique. It uses imagery intensively to move you into a state of extreme relaxation.

It is useful to use suggestion when under hypnosis. This helps you to directly program your mind with confidence-building affirmations. By building your self-confidence, you counter stress.

## **Meditation (8.7)**

Function: **Relaxation by sustaining focused attention on one thing**

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How to use tool: The idea of meditation is to focus your thoughts on one relaxing thing for a sustained period of time. This rests your mind by diverting it from thinking about the problems that have caused stress. It gives your body time to relax and recuperate and clear away toxins that may have built up through stress and mental or physical activity.

### **Meditation Techniques**

The essence of meditation is to quiet your thoughts by focusing completely on just one thing. Unlike hypnosis, which is more of a passive experience, meditation is an active process that seeks to exclude outside thoughts by concentrating all mental faculties on the subject of meditation.

In all cases, it helps if your body is relaxed. It should be in a position that you can comfortably sustain for a period of time (20 - 30 minutes is ideal). If you choose (and you are sufficiently supple!) then the lotus position (a seated Yoga position) may be

appropriate. Otherwise, sitting in a comfortable chair or lying on a bed may be equally effective.

You can use a number of different focuses of concentration. The one you choose is a matter of personal taste. Some of these are detailed below:

- **Breathing:**

A useful method may be to focus your attention on your breathing. Concentrate on your breaths in and out. You can accompany this by counting your breaths using the numbers 0 to 9. You can visualize images of the numbers changing with each breath. Alternatively you could visualize health and relaxation flowing into your body when you inhale, and stress or pain flowing out when you exhale.

- **Focusing on an object:**

Here you completely focus attention on examination of an object. Look at it in immense detail for the entire meditation. Examine the shape, color differences, texture, temperature and movement of the object. Objects often used are flowers, candle flames or flowing designs. However, you can use other objects equally effectively (for example alarm clocks, desk lamps, or even coffee mugs!)

- **Focus on a sound:**

Some people like to focus on sounds. The classic example is the Sanskrit word "Om", meaning "perfection". Whether or not this is practical depends on your lifestyle.

- **Imagery:**

This can be a very refreshing and pleasant way of meditating. Here, you create a mental image of a pleasant and relaxing place in your mind. Involve all your senses in the imagery: See the place, hear the sounds, smell the aromas, feel the temperature and the movement of the wind. Enjoy the location in your mind.

In all cases, it is important to keep your attention focused. If external thoughts or distractions wander in, let them drift out. If necessary, visualize attaching the thoughts to objects and then move the objects out of your attention.

You may find that your attention keeps breaking as you worry that time runs out. In this case it may be easiest to set an alarm to go off when you should stop meditating.

You will find that as you practice meditation your attention will improve.

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Key points:

Meditation is a useful relaxation technique. It gives you a period of peace and time in which you can let your body relax, and clear your mind of stressful thoughts. You do this by concentrating on one thing for a long period of time, possibly 20-30 minutes. This could be your breathing, an object, a sound, or an imagined scene.

## Taking Exercise (8.8)

Function: Improving health, eliminating toxins, reducing tiredness

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How to use tool: Taking frequent effective exercise is probably one of the best physical stress-reduction techniques available. Exercise not only improves your health and reduces stress caused by unfitnes, it also relaxes tense muscles and helps you to sleep.

Exercise has a number of other positive benefits you may not be aware of:

- It improves blood flow to your brain, bringing additional sugars and oxygen that may be needed when you are thinking intensely.
- When you think hard, the neurons of your brain function more intensely. As they do this, they build up toxic waste products that cause foggy thinking (you may have experienced the feeling that your brain has turned to cotton wool). These toxins can damage the brain in the long-term. By exercising, you speed the flow of blood through your brain, moving these waste products faster. You also improve this blood flow so that even when you are not exercising, waste is eliminated more efficiently.
- It can cause release of chemicals called endorphins into your blood stream. These give you a feeling of happiness and overall well-being.

There are many wrong approaches to exercise. Many traditionally recommended forms of exercise actually damage your body over the medium or long term. It is worth finding reputable and up-to-date sources of advice on exercise, possibly from your doctor, and then having a customized exercise plan drawn up for you.

An important thing to remember is that exercise should be fun. If you do not enjoy it, then you will probably not keep doing it.

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Key points: Exercise is an important stress management technique. It helps you to eliminate physical stresses of obesity, strain on your body and lack of stamina. It also relaxes tense muscles, and helps you to sleep well.

In addition to this it can improve blood flow to your brain. This helps to bring more nutrients to it while you are thinking, and improves the efficiency of elimination of the toxic waste products of thinking.

## Physical Stress Reduction: PMR and Deep Breathing (8.9)

Function: Controlling muscular tension and adrenaline

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How to use tool: **Progressive Muscular Relaxation (PMR)**  
Progressive Muscular Relaxation is a purely physical technique for relaxing your body when muscles are tense.

The idea behind PMR is that you tense up a group of muscles so that they are as tightly contracted as possible. Hold them in a state of extreme tension for a few seconds. Then relax the muscles to their previous state. Finally, you consciously relax them again as much as you can.

You can apply PMR to any or all of the muscle groups in your body depending on whether you want to relax just a single area or your whole body.

Experiment with PMR by forming a fist, and clenching your hand as tight as you can for a few seconds. Then relax your hand to its previous tension, and then consciously relax it again so that it is as loose as possible. You should feel deep relaxation in the muscles.

For maximum relaxation, you can use PMR in conjunction with breathing techniques and imagery (e.g. of stress flowing out of the body).

It can also be effective to link the exercise of PMR to a keyword that you can say to yourself. Associating the feeling of relaxation with the keyword means that in a moment of tension you can bring the feeling of relaxation purely by repeating that word.

### **Breathing Control**

Deep breathing is a very effective method of relaxation. It is a core component of everything from the “take ten deep breaths” approach to calming someone down, right through to yoga relaxation and Zen meditation. It works well in conjunction with other relaxation techniques such as Progressive Muscular Relaxation, relaxation imagery and meditation to reduce stress.

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Key points: PMR and deep breathing are purely physical techniques for relaxing tense muscles and calming down under stress. They can be used in conjunction with mental techniques such as imagery and meditation.

## Time Management (8.10)

Function: Reducing stress by improving your effectiveness and efficiency

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How to use tool: Time Management is a set of related practical skills that help you to use your time in the most effective and productive way possible. Time management helps you to reduce work stress by being more in control of your time and by being more productive. This ensures that you have time to relax outside work.

The central shift of attitude within time management is to concentrate on results, not on activity. To this end it embraces a range of skills that help you to:

- Assess the value of your time, and how effectively you are using it.
- Focus on your priorities so that you know which tasks must be completed by you, which tasks can be delegated, and which tasks can be dropped.

- Plan projects so that they are done properly, with adequate resources.
- Use the time you have more effectively.
- Create more time.
- Manage and avoid distractions.
- Increase your productivity and personal effectiveness.

This helps you to reduce long-term stress by:

- Helping to put things in perspective when you feel “drowned” in work.
- Ensuring that you are in control of where you are going and what you are doing.
- Helping you to be highly productive, and secure because of this.
- Improving the enjoyment you feel from your current role, and increasing the probability of promotion to more interesting jobs.
- Giving you more quality time to relax and enjoy life outside work.

The Mind Tools section on Time Management Skills (Module 8) covers this in much more detail.

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Key points: Time Management is an essential set of skills that help you to take control of your life, and work efficiently and effectively. By working effectively you can have confidence in the security of your job and your future, and can still have time to do what you enjoy in your own time. This helps to significantly reduce long-term stress.

## Improving Attitudes (8.11)

Function: Reducing stress you cause for yourself

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How to use tool: Attitude is fundamental to long-term stress management. Where your attitude is negative or hostile, you will create problems out of opportunities and cause stress by alienating and irritating other people. Where you have a positive attitude, you can maintain a sense of perspective and draw the positive elements out of each situation. You will find that people will be more helpful and co-operative as they find you a pleasure to work with.

This next series of articles discusses the attitudes that will help you to maintain perspective, stay in control and get the best out of other people.

### **Keeping things in Perspective**

When you are under stress, it is very easy to lose perspective. Problems that are relatively minor can take on an apparent size that makes them seem difficult and intimidating. Naturally this feeds your feeling of stress, which makes your problems feel worse, which feeds your feeling of stress....

If you take a positive approach to life, trying to find a good side to every situation, then you will find that you are much less prone to stress. You will worry less, sleep better and

enjoy life more. You will probably also find that you do better as people enjoy working with you more.

An important part of this is learning to view mistakes as learning experiences. If you have learned something from a mistake, then the mistake has a positive value.

When you face what seems to be a huge and overwhelming problem, ask yourself the following questions:

- **Is this really a problem at all?**  
If you view it in a different way, is it actually an opportunity to do something well? If it really is a difficult problem, then most other people will probably fail at it or give up. If you can deal with the situation, then this will be a major triumph for you. If you take the problem on, then what will you learn from it, whatever the outcome?
- **Is this a problem that anyone else has or has had?**  
If it is, find out how they deal with it, or just talk to them to share the problem. They may be glad to talk. If you are facing a problem at work, talk to older or more experienced colleagues whom you trust. He or she will probably have seen the problem before, and may be able to help to put it in perspective.
- **Can you break it down?**  
With a little thought you can usually reduce seemingly huge and impossible problems to a number of smaller, more manageable problems or tasks.
- **If you are facing a lot of problems, can you prioritize them?**  
This helps you to work out the order in which you should approach tasks, and helps you to distinguish between important jobs and jobs that can be deferred. A good way of doing this is to use a Prioritized To Do List.
- **Does it really matter anyway?**  
If everything goes wrong, will it really matter anyway? If it does, will it matter in six months or a year? Bear in mind that you will probably have plenty of opportunities to correct any failure, or to shine in other ways if things go wrong. As long as you have done your best, and learn from any mistakes you make, then you cannot do any better.

### **Being in Control**

When you are in control of your life, you can control the level of stress you face. When you are out of control and unable to schedule events, then you cannot prevent stress building on top of stress. You will experience unpleasant peaks and troughs of stress. The feeling of being out of control is unpleasant and stressful in its own right.

Being in control of your life is largely a matter of attitude.

Often the difference between being in control and out of control comes down to making an investment of a little of your free time in planning. An effective method of doing this is to use personal goal setting (see [7.6](#)).

By planning, you can anticipate problems in advance. This helps you to work out how to prevent or avoid a problem, or anticipate and exploit the positive elements of a situation.

Some of the most satisfying and enjoyable work you can do is work that you choose to do to meet your own long-term goals.

Part of this process of planning and goal setting should include self-improvement goals. If you have identified areas of your personality that you should improve, then you can set goals to do this. This can include work on improving your self-image, being realistic about your faults, thinking positively, learning from mistakes and taking satisfaction from your successes.

### **Change**

Another important attitude is to learn to welcome change, otherwise you will expose yourself to intense stress. You will be aware that we are currently in the middle of a huge information revolution. As this runs its course, its impact on ways of life and society will be at least as great as the Industrial Revolution.

As with the Industrial Revolution, people who resist change will be crushed by it. People who welcome change will be able to exploit the new niches opening up on a constant basis. Success depends on adaptation to, or anticipation of, change.

### **Attitudes to Other People**

Relations with other people can be either very satisfying or very stressful and unpleasant. While a certain amount of this comes down to their personalities, your attitude has a surprisingly large effect on the way that other people respond to you.

It is important when you are trying to improve the quality of relationships that you understand the difference between managing them and exploiting them. When you manage a relationship you are improving it for mutual advantage. When you exploit a relationship you are improving your results at the expense of the other person. If you exploit other people, then you will probably get a reputation for this and suffer in the medium- and long-term. It will also cultivate an unnecessarily cynical attitude to other people.

The following are important factors in forming harmonious relationships with other people:

- **Take a positive approach:**  
People enjoy working with and relating to happy, optimistic people. When things are getting difficult, a smile or positive approach to a problem can make the difference between success and failure of a project.
- **Project a positive image:**  
Take care over personal grooming. Wear good quality, well cared for clothes that project a suitable image. Learn about body language, and learn how to adopt a good, open posture.
- **Be assertive:**  
When you deal with other people, you should confidently project your right to have your views taken into consideration. This does not mean aggressively insisting on getting your own way, which irritates other people and tramples on their rights. If you are not assertive, then you will probably not be noticed, your triumphs will not be given their due weight and your needs will not be given proper attention.



- **Pay compliments where they are due:**  
If you notice something good about someone, or they have done something well, compliment them. This costs you nothing, and helps to build their confidence. It is obviously important to be sincere, as no one likes an obvious flatterer.
- **Try to leave people pleased to have spoken to you:**  
This can be an extremely useful maxim, providing that you do not allow other people to exploit you as a result. When you are dealing with well-adjusted human beings, the more you give, the more you get.

An extremely powerful technique when dealing with other people is to try to understand the way they think. Try to think yourself inside their mind. See life through their eyes, feel what they feel, and understand their background, influences and motivations.

Sometimes things can go wrong. Some people are not intelligent in the way they conduct relationships. Where you face relationship problems, your attitude will often determine the amount of stress you experience:

- **If someone is sarcastic and rude to you:**  
Remember that this is probably caused by a fault in their character. They are probably irritating and offending many other people as well. Examine any comment rationally: if it is unfair, then reject it. If rude comments are fair, then learn from them. Do remember, though that one person's vice may be another person's virtue: what seems stubborn to one person may seem firm-minded to another.
- **If someone hurts you:**  
Do not bear grudges. If you do, you will tend to churn them over in your mind. This will damage your vital positive attitude to life, may cause stress and may interfere with the quality of your sleep. Forgiveness is important in maintaining relationships that are important, providing that the forgiveness is genuine. You may decide, however, not to forget the fact of the hurt. With this in mind, it makes sense to confront, avoid or circumvent people who are unnecessarily hurtful.
- **If you are facing a frustrating situation:**  
Where unnecessary obstacles are put in your way, or people you are dealing with are being indecisive or unhelpful, then using relaxation techniques can be useful. This helps you to remain calm with people.
- **If someone is annoying you:**  
It is almost always best to remain calm and neutral, if only because you will be able to think and react more clearly and effectively.

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Key points: If you experience a lot of stress from other people, or find that you are out of control in your life, then your attitude may be at fault. You can eliminate a great deal of stress by being positive, by keeping things in perspective, by setting personal goals and by welcoming change.

## Slowing down out of work (8.12)

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**How to use tool:** A good way of reducing long-term stress is to take up an unrushed sport or hobby in your own time. If you spend all your working day competing or stressed, then it is very pleasant to be completely non-competitive for some of your free time.

Slow physical activities such as sailing or walking can be very pleasant, as can others where there is little or no pressure for performance. Similarly, you can reduce long-term stress by making a routine period of time for yourself every day for undirected activities such as:

- Reading a novel
- Watching television or listening to music
- Meditating
- Having a long bath
- Having a massage
- Etc.

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**Key points:** Taking part in a non-competitive sport or hobby can be an excellent way of relaxing after a stressful day.

## Health & Nutrition (8.13)

**Function:** Reducing Chemical and Medical Stress

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**How to use tool:** A surprisingly large amount of the stress we may experience daily can be attributed to the damaging chemicals that we consume. By eating or drinking certain things, we can actually put our bodies under chemical stress.

Similarly, if we are eating an unbalanced diet we may be stressing our bodies by depriving them of essential nutrients. Eating too much for a long period causes obesity. This puts your heart and lungs under stress, overloads your organs and reduces stamina.

You should be aware of the effects of the following:

- **Caffeine:**  
Caffeine is a stimulant. One of the reasons you probably drink it is to raise your level of arousal (i.e. stress). If you are drinking many cups of coffee a day, then you may find that you can reduce a lot of stress by switching to a good decaffeinated coffee (or alternative).

- **Alcohol:**  
In small amounts alcohol may help you relax. In larger amounts it may increase stress as it disrupts sleep (and causes hangovers!). In large amounts over a long-term alcohol will damage your body.
- **Nicotine:**  
While in the very short term nicotine can cause relaxation, its toxic effects raise your heart rate and stress your body. If you smoke, try taking your pulse before and after a cigarette, and notice the difference. After the initial period of giving up smoking, most ex-smokers report feeling much more relaxed on a general basis. If you are ready to give up smoking, then an excellent book to read is Alan Carr's "Easy Way to Give Up Smoking".
- **Sugar:**  
Sugar-rich foods can raise energy in the short term. The problem with this is that your body copes with high levels of sugar by secreting insulin, which reduces the amount of sugar in your blood stream. Insulin can persist and continue acting after it has normalized levels of blood sugar. This can cause an energy dip.

If you eat a good, well-balanced diet then you should be able to minimize this sort of chemical stress. Your body will be receiving all the nutrients it requires to function effectively. As with exercise, there is a lot of bad advice on diet available. You will normally be able to get reliable information on diet from your doctor or government health education.

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Key points: A lot of the stress you experience may be caused by the chemicals you consume. You can eliminate a great deal of this stress by reducing the amount of coffee you drink, stopping smoking and eating the right amount of a well balanced diet

## Eliminating Stress From Your Environment (8.14)

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How to use tool: If your living and working environments are badly organized then they can be a major source of stress. If you have made them well organized and pleasant, then they can help to reduce stress and increase productivity. Remember though that while it may be important for people under stress to have a calm environment, others may enjoy the raised levels of arousal associated with the "buzz" of a busy office.

Individually, the points listed below may contribute only in a small way to creating a more pleasant environment. Taken together, however, they can have a significant effect in reducing stress:

**Air quality**

Poor air quality can make life unpleasant. The following factors can contribute to the problem:

- Smoking
- Air conditioning
- Heating
- Ionization by electrical equipment
- Overcrowding
- Pollution
- Solvents in e.g. carpets and furniture
- Excess humidity or dryness

You can do a number of things to improve air quality and reduce the stress caused by it:

- Ban smoking
- Open windows
- Use an ionizer. This helps to freshen the air by eliminating positive ions created by e.g. electric motors powering computer fans.
- Use dehumidifiers where humidity is a problem
- Introduce plants where the air is too dry. Evaporation of water from the plant pots or from the plants themselves will help to raise humidity. Plants also raise the amount of oxygen in the air and reduce stuffiness. Plants can also help to mop up unpleasant chemicals in the air.

**Lighting**

Bad lighting can cause strain on the eyes and increase fatigue, as can light that is too bright, or light that shines directly into your eyes. Fluorescent lighting can also be tiring.

What you may not appreciate is that the quality of light may also be important. Most people are happiest in bright sunshine, as this may cause release of chemicals in the body that bring a feeling of emotional well-being. Artificial light, which typically comprises only a few wavelengths of light, does not seem to have the same effect on mood that sunlight has.

Try experimenting with working by a window or using full spectrum bulbs in your desk lamp. You will probably find that this improves the quality of your working environment.

**Decoration and tidiness**

If your environment at work or home is dirty, uncomfortable or neglected, then this can cause stress. Similarly, if your living or working area is untidy and chaotic, then this can be distracting.

It is important, however, not to be dogmatic about tidiness. While it is very difficult to successfully coordinate many tasks in an untidy work area, it is perfectly possible to work on one task very effectively. The recent trend of "clear desk" thinking ignores one of the most important lessons about human beings: That different people work most effectively in different ways.

**Noise**

Noise can cause intense stress.

In a working environment, a high level of background noise can severely impair your ability to concentrate. In an open plan office, the sound of people talking casually, of office machinery, or of meetings going on can seriously undermine the quality of work done. Ringing telephones disturb not only the person to whom the call is directed, but also other people in the same area.

Large amounts of background noise during the day can cause irritability, tension and headaches in addition to loss of concentration.

Solutions to noise at work can involve:

- Installation of partitions
- Use of meeting rooms separate from the main work area
- Use of quiet rooms when concentration is needed
- and, if all else fails, use of earplugs!

In a home environment, unwanted noise can be even more stressful and irritating as it intrudes on private space.

Where noise comes from neighbors or someone sharing the house, it may be effective to try a pleasantly assertive approach. Ask that music is turned down or that a different room be used as a child's nursery.

Where noise comes from outside the home, double-glazing may be effective in reducing it.

**Furniture & Ergonomics**

Another source of stress is muscular tension and pain caused by bad furniture, or by bad use of good furniture.

This normally shows itself in backache caused by badly designed chairs or by bad seating positions in properly designed chairs, although it can come about in other ways. It is important to take the time to arrange your working environment so that it is comfortable. For example, when you consider that you may spend a large proportion of each day sitting in a particular seat, it is worth ensuring that it is not causing you pain or damaging your body.

If you work at a computer, make sure that the monitor and keyboard are comfortably placed, and that you are well positioned relative to them. If you find that tendons in your hands get sore when you type for sustained periods, it may be worth experimenting with a natural or ergonomic keyboard. If you find that your eyes get sore when looking at a monitor, or that you start to get headaches, then try taking breaks periodically.

If you feel that you are experiencing pain from your environment, it may be worth looking into ergonomics in more detail.

**Personal space**

It is also important for people to feel that they have sufficient personal space at work and at home. You may have experienced the dissatisfaction, stress and irritation of working at a different desk each day, or of sleeping in a different hotel room each night. This unpleasant situation is largely caused by the lack of power or time to organize and control the space in which you operate.

Other people can also cause you stress when they impose themselves on your personal space, perhaps entering it uninvited.

The ideal way of establishing personal space is to have a room or office of your own, into which you control access. If this is not possible, you can block off areas with furniture, screens or blinds.

You may be in the unpleasant situation where no personal space is available. In this case, you can establish some feeling of ownership by bringing objects such as small plants or photographs of loved-ones into the workspace.

Some recent experiments in management practice have involved eliminating personal space in the working environment. Members of staff are allocated different working cubicles each time they come in. The idea behind this is to keep sales people out of the office. If your employer shows this level of contempt for you, then the best thing may be to find another job with a better company.

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Key points: You can often significantly reduce stress by improving the quality of your environment. The following actions can significantly reduce environmental stress:

- Improving air quality
- Introducing plants
- Improving lighting
- Maintaining a reasonably decorated, tidy environment
- Baffling noise where possible
- Ensuring that furniture is well-positioned and comfortable

You can do most of these things at relatively little cost. Taken together, they can have a major positive effect on your stress levels.

## Module 9

# Job Hunting Skills

- Introduction to the Job Hunting Process
- Career Choice - Finding your ideal career
- Career Tests - Finding the jobs you will love
- Career Research - The good, the bad and the ugly
- Resume Writing - An insider's view
- Example Resume - Making it talk to the recruiter
- Resume Tips - Helping you to be the ideal candidate
- Resume Cover Letter - The instant advantage
- The Art of Job Hunting
- Networking - Finding jobs before they are advertised
- Targeting Organizations - Job Hunting you control
- Working With Agencies - Using existing networks
- Internet Job Hunting - Job hunting the easy way
- The Ideal Employer - *What to look for*
- Interview Skills - To be or not to be, whatever the question
- Interview Questions - Interrogation or negotiation, you choose
- Interview Tips - Reminders and warnings
- Salary Negotiation - Negotiating the salary you deserve
- Making a Great Start to Your New Job

## Job Hunting Skills - finding your ideal job

by [James Manktelow](#), editor of *Mind Tools*, and [Steve Holmes](#), a career journalist and resume writer who orchestrates over 500 job applications a year.

This section of Mind Tools helps you to find and win your ideal job.

It starts by helping you to identify the careers that are open to you, and shows you how to research them thoroughly so that you can pick the very best. It then talks you through the process of writing an excellent resume. Next, it explains the most effective ways of looking for jobs, and shows you how to plan and conduct a great job hunt that uncovers plenty of opportunities. Then it coaches you on how to be a persuasive and professional interviewee.

Finally, it shows you how you can make a great start to your new job.

It does this through these articles:

- Introduction to the Job Hunting Process
- Career Choice - *Finding your ideal career*
- Career Tests - *Finding the jobs you will love*
- Career Research - *The good, the bad and the ugly*
- Resume Writing - *An insider's view*
- Example Resume - *Making it talk to the recruiter*
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## Introduction to the Job Hunting Process

Finding a great job is one of the most important things you can do to live a happy, fulfilled life. This section of Mind Tools guides you through the job hunting process and shows you how to win the job you really want.



Like most things, job hunting can be done well and it can be done badly: if you are lazy in your approach, then you are only likely to find the jobs that more active job hunters have rejected. If you put in the time and hard work needed to generate many good opportunities, you are much more likely to be rewarded with a rich choice of the best jobs available.

Job hunting is not as intuitive as it first appears - the most obvious approaches are often the least productive. At several points in these articles we recommend that you use services like reports, psychometric tests or career portals - a small investment in these can save you weeks or months of slow, frustrating learning.

Good luck, and good job hunting!

## Career Choice (9.1)

Function: **Finding Your Ideal Career**

by [James Manktelow](#), editor of *Mind Tools* and an experienced recruiter

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How to use tool: Your career choice determines the course that your life will take - it determines how successful you are, how happy you are and whether you live a good, bad or indifferent life.

These next articles help you to think through the options open to you and choose the career that suits your abilities, skills, ambitions and ideals.

Firstly, we show you how to inventory your knowledge, skills, experience, interests and resources. We then look at how you can explore your aspirations and choose the balance of your life. We then look at tests that help you to assess yourself and identify career choices open to you. Finally, we explain how to research these opportunities to find out whether they will suit you.

### Identifying Your Assets and Aspirations

#### Recognizing Your Assets - Your Personal Inventory

An important first step is to make a personal inventory - this helps you to understand where you are starting from and ensures that you recognize and make full use of your assets.

The inventory is a simple list of:

- **Your knowledge:** What do you know? What subjects have you studied? What training courses have you attended? What specialist areas or industry sectors do you know about? What qualifications do you have?

- **Your skills:** What do you do well? What do people compliment you on?
- **Your experience:** What jobs and roles have you performed in the past? What have you learned? Where have you been successful?
- **Your interests:** What do you enjoy doing? What are you passionate about? What hobbies or interests do you have?
- **Your resources:** What financial resources can you draw upon? What assets can you use? What contacts do you have? Who (or what organization) is prepared to help you? Who may be prepared to mentor you?

The process of making this inventory helps you to think through everything that can help you to find your next job. It also helps you to be realistic about the level at which you can operate.

### Focusing on Your Aspirations - Setting Personal Goals

Once you know your starting point, the next step is to think through your ambitions and what you want to achieve with your life.

A great way of doing this is to set goals. The Mind Tools section on [Personal Goal Setting](#) helps you to think through what you want to achieve with your life in important areas such as your career, your family, artistic or sporting goals and public service.

A crucial part of this is setting priorities in these different areas. No-one has the time to excel in all areas - if the major focus of your life is to spend a lot of time with your family and contribute to voluntary organizations, then you must recognize that this will limit the time and effort you can dedicate to your career. If you want to focus exclusively on your career, then you must understand and manage the consequences.

Bear in mind that your priorities will probably change over time - many people focus completely on their careers in their twenties as they make a place for themselves in the world. In their thirties, they may take more of a family focus. Other things may become important later on - this is a normal part of life.

The next stage of career choice is to look at career tests...

## Career Tests (9.2)

Function: Finding the Jobs You Will Really Love

by [James Manktelow](#), editor of Mind Tools and an experienced recruiter

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**How to use tool:** If you want to be happy in your work, you need to find a career that suits your personality, meets your needs and helps you to achieve your personal goals. This article shows you how to use career tests to identify the careers that you will enjoy.

It can be very difficult to separate the careers that suit your personality and abilities from the careers that would frustrate you or make you unhappy. To be happy and successful in a job, you need to ensure that your abilities, values and personality are well aligned with those needed for your chosen career and with those of the organization you work for.

Online career tests are very useful for this sort of self-assessment - they are quick to complete and give you good information on which you can base your decision-making.

An important approach is provided by [Assessment.com](#) with the MAPP test. This asks you a series of questions based on your work preferences, and then recommends the careers that suit your preferences. Click [here](#) to take the MAPP free career assessment.

A different approach is provided by [AnalyzeMyCareer](#) provides a suite of powerful career tests - its different tools help you to assess your personality and fundamental skills in key areas. From these, it is able to suggest a good range of occupations that will suit you. This approach is important in that it gives you an objective assessment of whether you have the skills needed to succeed in particular careers. Click [here](#) to visit AnalyzeMyCareer.

Both of these tests are useful and insightful, and give a good list of suggested careers for you to review. List the careers suggested - and also any other careers you may be interested in. Then screen them to see whether they are consistent with your [assets and aspirations](#).

Having used these career tests, the next step is to research your career list to separate the good ones from the bad and ugly...

## Career Research (9.3)

Function:        **The Good, the Bad and the Ugly**

by [James Manktelow](#), editor of Mind Tools and an experienced recruiter

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How to use tool:    By this stage you should have a list of careers you may be interested in.

Some of these will be careers that you will love and in which you will flourish. Others may be not be so promising - pay levels may be poor, they may be in decline, or they may have characteristics and demands that you really do not like.

This is where you need to do some good career research.

The best career opportunities are likely to be those that need people at your level of education and are in industries or sectors that are expanding. Expanding industries are often exciting to work in, and there will usually be plenty of opportunities for advancement as companies grow.

By contrast, the worst opportunities are often in declining industries - here salaries are likely to be low, conditions may be poor and opportunities are likely to be limited.

[America's Career InfoNet](#) provides a useful range of tools helping people to conduct career research. The 'Employability Check Up' tool is a great facility helping you to research your list of careers - by entering where you want to work, the salary you want and a precise description of the career, the tool will query the US Department of Labor database. This will tell you the health of the profession, what local employment levels are like, the educational qualifications needed for the profession and the salaries that you can expect. This is vital information for screening your list of possible occupations and for getting rid of the ones that are clearly inappropriate.

This database is useful even for non-US citizens - as the economy becomes more global, trends will often be similar. Alternatively, check to see if similar databases are provided by local providers.

The next stage is to do some detailed research into the careers that you are still interested in. [WetFeet.com](#) is a great place to do this - the Industry Insider Guides in its Careers & Industries section give a thoroughly-researched insight into many of the industries and careers that you may be interested in. They point out in detail what is needed for success in the industry, what you can expect as a career path and the salaries and lifestyle that are associated with it. They tell you everything you need to know about whether the industry is right for you, and give good advice on what is needed to get a job in the best companies in the industry.

Having chosen your target career and done your career research, the next step is to prepare your resume...

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## Resume Writing – An Insider’s View (9.4)

by [Steve Holmes](#), more than 10 years resume writer working internationally

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*“90% of the population have lost their ability to communicate effectively and so the 10% who still know how bring joy to the hearts of recruiters. These people build a special and different kind of relationship that gives them better access to feedback and a head start in positioning themselves professionally.”*

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How to use tool: **Take the time to be yourself**

Your resume only has 20 seconds to impress but if you start early you have days, weeks and months to perfect it. If you look in the word-processing application on your desktop you will find templates for resume writing. Do not use these or anything you find in a website or in a book. Do not neutralise your individuality by presenting the same design as the 90% of weak candidates. There are no rules as to what a resume must be but whatever it looks like it has to communicate, as described in the [sister article](#) to this one.

**Understand what they are looking for**

The person who gets that job will be the one who offers the highest level of solution to the problems the employer is trying to solve. Catch 22 is that they probably do not know exactly what they need and it may change depending on who applies. Your goal is to imagine and anticipate the kind of employee profile that will impress the type of employers you will target, at the approximate level you are hoping to go in at.

This does not mean writing a new resume for every single job but it could mean being flexible on your cover letter and being able to adjust the headline content of your resume for a particular job if you do get some detailed facts.

**Avoid resume automation**

For many years there has been a trend for short, punchy resumes, leading with sections like profile, objectives and achievements, often crammed into one exploding page of bullet points. Try to imagine how daunting that is to the reader and how little chance you have of connecting with them as a human being who starts to understand the stranger behind the words.

We are all different so nobody can tell you what your perfect resume looks like, but there is no rule saying you can't give yourself 2 pages and generally speaking, the right pattern to follow is:

- **the pitch:** summarize who you are and make some professional sounding claims
- **the validation:** use the rest of the resume to prove who you are and justify those claims

### **Your life is a narrative**

Basically, you are hoping to tell a short story about your career, interesting enough to engage the reader and have them like you, impressive enough to make them consider you as a candidate and convincing enough for them to believe in what you say. Try to avoid using the first person "I" and "my" because it positions you lower than a more professional form of words. Turn off the grammar checker because resumes use their own conventions and actually contain no proper sentences or paragraphs.

### **Just be human**

The nerves, the fears, the caution, the bravado - all the unprofessional attitudes will show through to the X-ray eyes of an experienced recruiter. You cannot manipulate them or second-guess their opinions. You can only influence them by the sheer professional quality and integrity of what your resume says when it speaks to them. So be yourself in your resume writing - let them find the real human being they are looking to appoint to that job.

The next page gives an [example resume...](#)

## **Example Resume – Make it talk to the recruiter (9.5)**

by [Steve Holmes](#), more than 10 years resume writer working internationally

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*"A great resume has the ring of truth. From the moment you pick it up you sense that the person behind it is a professional, giving you just the information you need to be convinced of that - and nothing more."*

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How to use tool: Here is an architecture into which a good resume might fit:

### **Example Resume: Page 1**

email address and phone numbers

**Your Name in Bold** MBA, etc.

Other contact details or location

Job handle, eg. Marketing Executive

**A brief profile or introduction that summarizes what you have to offer and what you have achieved so far, using keywords that will attract recruiters and taking up no more than a few lines.**

- Then use a handful of bullet points that encapsulate your most important assets, not crazy claims or ambitious objectives.
- Stick to the highest level of concept that applies to your career; you will be justifying these assets later in the resume.
- Include a couple of headline achievements, whether numerical or intangible; you can even include disasters that you prevented from happening.
- Show how your professionalism has deepened and give a suggestion of the levels at which you can operate and the vision and approach that will inspire your future performance.

### **Professional**

- If your professional assets focus mainly on achievement and experience you can have a section here that describes your skills, your knowledge, the technology you have mastered, the business scenarios you can operate in, the sectors you know about, the level of negotiation you are able to engage at, the conceptual level of your vision and professional influence.
- If your work record in the most recent job is the most spectacular thing in your working life or you can push this section to page 2 of the resume, after the career narrative.
- If your main claim to fame is your knowledge and qualifications you can headline those assets here where they will immediately catch attention; if not this section might belong on page 2.
- If your professional assets are a mix of expertise and qualifications this handy section title enables you to cover every inch of the ground in about 1/3 of a page instead of having lots of different sections for skills, achievements and education; focus mainly on what matters most.
- For younger people I would call this section "Education" and focus on the value of any training, schooling or college studies; I might in that case also include projects that have the effect of illustrating your initiative and teamwork; The true objective of a younger person's resume is to demonstrate a mature career choice and personality.

### **Recent Career**

- If your recent working achievements are paramount move this section before the professional assets so that the name of the employer, your job title and your professional roles are what first catches attention; this section should occupy nearly the final 1/3 of page 1 and about half of page 2, enough so they can see who you've been working for and at what level.
- At the most you want to focus on the last 5-6 years, the last employer if you've been there longer or the last couple of jobs or contracts if that fits your employment pattern.

- There are no rules about what you have to say but it works best to set the scene, break your story down into roles and areas of influence and tell the reader how you have conducted yourself.
- A good working formula is, for each aspect of your work that you want to tell them about: 1) what did you find or what was the brief, 2) how did you plan your actions against what objectives or to solve what problems, 3) what creative innovations or above-and-beyond input did you contribute, 4) what were the outcomes and the measurable levels of success of your involvement.

### **Page break about here....**

- By now you have probably summarized the most recent most senior job title or role within your recent work and you are probably moving on to page 2; chose something else that is impressive to catch the reader's attention a second time.
- Then move down the hierarchy of your recent work, avoiding repeating anything and taking the reader back to when you started that job, so they can see your promotion and progression.
- If you have had several promotions at the same organization it is probably best to list those on page 1 at the head of this section and break this narrative section down into roles such as: product development, culture change, supplier relations, legal and contract work, human resources, training leadership, sales promotion, marketing collateral, leadership team and strategic planning, financial evaluation and systems improvement - whatever it happens to be that you have been gaining expertise at.
- Eventually you will find you have exhausted your recent career. When this happens, you may need to edit or restructure what you have written or you may find room for expansion. It always works to show what you have written to people you trust and get their honest feedback (while ignoring their out-of-date opinion of what a resume should be).

### **Previous/Early Career**

- If you use a separate heading like this it shows that you know how to prioritize your career history and it gives you the freedom to vary your resume's format so it can contain a great deal of information in a short space.
- Using this format you can summarize 10 valuable years in a couple of lines without throwing them away.
- If all the jobs were similar you can use functional headings such as: Transition from Assistant to Marketing Director, 1990-2001 - then list the organizations you worked for and summarize the main roles and achievements.
- If the jobs or roles were very different this format gives you the power to break them out and group them in whatever way best suits you; take that freedom with both hands and let the story of your life sound as interesting as it really is.
- Do not be afraid of complexity: we have all been part of mergers and business collapses; we have all had to deal with challenging people; most of us have been greatly influenced by technology changes and the fashions in business gurus; just let it all be there in your resume but focused on you and your ability to roll with the punches and catch the waves.
- By now you are well down page 2 of your resume. If the space looks crowded you can go down as low as 9.5 font size in Tahoma and even 9 in Ariel or Verdana. The only other universal font that is native to Windows is Times Roman, which looks OK printed but terrible on screen. Avoid other faces that recruiters may not have on their systems and avoid all graphic effects, boxes, photos, etc.



### A personal section?

Outside North America people include personal details on their resume, which is called a CV or Curriculum Vitae (Latin for the path of your life). If you want to apply in other countries, take a look at my website [www.cvservices.net](http://www.cvservices.net) for further help.

Some North Americans operate globally and want to fall in line by including a few details about themselves. This could include things like languages you speak, countries where you have done business, study or research you undertake out of leisure interest, involvement with good causes, participation in fitness activities or any hobbies that show you in a good light. The more senior you are the less this helps, whereas for new graduates it could give their resume some welcome bulk.

Next, [tips on how to write winning resumes...](#)

## Resume Tips – Helping You be the Special Candidate (9.6)

by [Steve Holmes](#), more than 10 years resume writer working internationally

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*“Not so much the trivial kind of Top Tips list you can read at any website - here is a thinking person's guide to pitching yourself as a professional.”*

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### How to use tool: **Resume Tip 1: Stay above the trivia**

Strong candidates know how to concentrate on the most recent, most senior and most complex functions in their employment history. They don't waste space on minor skills and repetitions from the distant past.

See [Resume Writing](#) for some resume methodology and [Example Resume](#) for some hints on the architecture.

### **Resume Tip 2: Project a good timeline**

Your resume is about what you have to offer in the future; you only use your past record to justify your claims to having valuable assets. Summarize the early stuff in your career and focus attention on whatever most powerfully justifies you in the role of candidate. Leave the job detail and your wonderful personality to the interview; leave your objectives and demand till they offer you the job.

### **Resume Tip 3: Focus on assets**

Don't worry about the functional, the skill-based, the chronological and all the other versions of resume people talk about. Your mission is to find an effective way to

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showcase whatever assets you have that make you a strong candidate: this can be knowledge, experience, results, opinions about your performance, aspects of your vision, character or working methods.

#### **Resume Tip 4: Be positive in a professional way**

Crazy claims and arrogance do not sit well with experienced recruiters who know enough about life to make up their own minds; the perfect tone to hit with your resume would be to make it sound like one experienced recruiter reporting to another. This means that it has the look and feel of comments about you, not claims by you. If you hit that tone you make a more authentic impression on the reader's conscious and unconscious awareness.

#### **Resume Tip 5: The subtle results that really measure you**

It's great if your resume can shout success like "planned new sales initiative that achieved 150% of target and led to adoption of methods by centers across the organization..." But not everyone will have such visible results, especially during an economic downturn. No need for despair: you can highlight all sorts of less obvious achievements when you describe your recent jobs and roles within each job; how about these to get you going:

- *"...saved the company over 10% on its most important supply contracts through a planned process of inventory consolidation, pricing renegotiation and restructuring delivery timelines and SLAs..."*
- *"...initiated the first inter-departmental forum on quality standards against a mood of indifference from the management team and then championed all the advantages of learning, knowledge management, sales reactivity and customer service quality to the point where a major culture shift became possible and showed up on the balance sheet..."*

#### **Resume Tip 6: Leave them wondering**

Some people write resumes so brief they do nothing but shout their headline claims to fame. Other people get stalled on trying to tell the reader everything. The right mix is to give them just enough to start believing in what you have to offer, leaving them plenty to ask when they interview. If you achieve that, you effectively set up the questions they are going to ask and you give yourself all the time in the world to prepare great answers.

#### **Resume Tip 7: Write a great cover letter**

See the next article to see how to do this...

## Resume Cover Letter – The Instant Advantage (9.7)

by [Steve Holmes](#), more than 10 years resume writer working internationally

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*"Yes" can be the unconscious reaction from the first moment the recruiter scans your resume cover letter. The cover letter that you send with your resume is the ideal place to distinguish yourself above other candidates.*

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### How to use tool: **Cover letter quality**

Intelligent people pick up not just what your words are trying to say but a lot of intuitive information from the style, tone, rhythm and quality of the writing itself. They sense when you are desperate but trying to conceal it. They know if you don't really understand the job on offer but are just attracted by the salary. Experienced recruiters may believe they are matching you against a list of skills in the job definition but they are also using their inner eye, which can be influenced....

The tragedy is that 90% of people who could be right for any given job generally spoil their application by sending in boring, casual, jokey, aggressive, cautious, greedy, grammatically weak and downright feeble letters.

If the resume cover letter is not highly relevant to the job they advertised it will go straight in the trash. If you write something that slavishly analyzes every single point in the job description it looks like you are too stupid to summarize. Your mission is to pitch skillfully between the two extremes and it isn't easy. You need a basic template that can easily be adjusted and you'd be wise to work on both cover letter and resume before the perfect job appears...

### **Cover letter content**

A great resume cover letter is basically five statements of this general type:

- Here I am and I largely match what you want....
- .... this is the summary of my expertise that proves my claim
- here are some real achievement highlights to reinforce my case; they show...
- ....the kind of contribution I plan to make out of my combination of vision and ability, possibly delivering even more than you were looking for
- I'm grateful for your time and would like to discuss this further and get more detailed information and feedback from you

Of course, you would not write them just bald like I have; you will change and vary the way you approach each section, using the most elegant language you can muster.

Each statement gets one fairly brief paragraph so the whole letter fits comfortably on one page. At this stage everything is about impact, not the detail you have in your resume. Do not start repeating all that in the letter.

### **Take a professional distance**

The people you are trying to influence have power over your future, so this is not the place for screaming about your achievements and making big demands. The time to negotiate your pay and conditions is when they have already offered you the job.

Modest folks may find the whole business of resume and cover letter writing a real challenge because they naturally avoid "blowing their own trumpet", but when your career becomes complex, even you have to start "selling" yourself.

Work at it, getting help from friends and family. What sounds too strong today may be fine when you read it again next month. Absorb these things into your skillset, so it feels natural, so the tone that a reader picks up about you is of someone effortlessly professional, an equal that they would probably enjoy talking to.

***Eureka ! You made their day. You delivered a solution where the others posed questions, doubts and problems. You go through to the next round.***

By now you should have a great resume and know how to write a strong resume cover letter - next we look at how to find that ideal job...

## The Art of Job Hunting (9.8)

by [James Manktelow](#), editor of Mind Tools and an experienced recruiter

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### How to use tool: **Planning the Job Hunt**

Finding a good job is usually a "numbers game" - the more effort you put into it and the more people you contact, the more good quality opportunities you will uncover. The more opportunities you uncover, the more you have the power to choose the best of them.

Like any major effort, planning is essential for a good job hunt. If you are organized and use your time efficiently, then you will contact more people and find more opportunities.

This is particularly important if you are working out a notice period. Here your employer will want you to complete as much work as possible in the time you have remaining. You, on the other hand, need to put as much time as possible into finding your next job. Finding the right balance between your needs and your current employer's needs takes careful management.

Plan the time you need to find a job into your schedule and set yourself targets. Treat

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finding a good new job as a job or project in its own right, putting as much effort into it as you would expect to put into your job.

Think about it this way - a job in your chosen sector might take you, for example, 50 applications to find. If you make 5 applications a month, it will take you 10 months to find a good job. If you make 20 applications a week, it will take less than a month. Hard work pays off quickly.

### **Job Hunting - From the recruiter's perspective**

If you think that the best way for you to find a job is to post resumes on the Internet, use job sites or browse advertisements in trade publications, then think again - these are among the last methods that recruiters use.

### **How Recruiters Search for Staff**

When employers recognize the need for a new employee, the first thing they do is look around internally or look at people they already know outside the company. By filling a role with someone they already know, they get someone whose performance and reputation is established. They can be confident that that person will succeed in the role. They can also avoid advertising costs and agency fees, which can cost a recruiter something like 20 - 30% of the employee's first year salary.

Many of the best positions are filled before they are ever advertised externally.

Next, recruiters will look at people who have sent their resumes directly to the organization - these people have shown an interest in the company and cost nothing to recruit.

Only when this approach fails do recruiters advertise positions or put requirements out to agencies. If the role is good, they will expect many applications for it - competition can therefore be intense.

Recruiters will often only search resume sites if they are starting to get desperate.

To get the best jobs, your goal should therefore be to make contact as early as possible, ideally before the role is advertised or put out to agencies. This is why the strategies of networking and targeting are so important.

### **Job Hunting Strategies**

In tailoring your job search strategy to fit the way recruiters look for staff, there are a number of major approaches that you can use:

- **Networking:** Networking is one the main ways that you can uncover jobs that have not yet been advertised - up to a third of jobs are found this way. It is also a very important method by which more senior roles are filled - the Harvard Business School Guide to Finding Your Next Job (which is an excellent job search guide for more senior employees) recommends putting at least half of your effort into this. Click here for the Mind Tools guide to networking.

- **Targeting Organizations:** Targeting involves researching companies in particular industries and applying for jobs directly, either applying for jobs advertised on the company's web site or applying speculatively for jobs that may not yet be advertised. Click here for the Mind Tools guide on targeting.
- **Using Agencies/Search firms:** Many jobs with the best firms will never reach agencies and will never be advertised - they will already have been filled by candidates who have targeted the organizations or who have networked their way in. Agencies, however, have established their own networks within industries - this makes them useful for you and for recruiters. Click here for the Mind Tools guide on working with agencies.
- **Using the Internet:** Using the Internet is the most beguiling of job search strategies - it promises to help you to find a wide range of jobs with minimal effort. Bear in mind, however, that the best jobs may never be advertised on the Internet and that dream jobs are as easy for other people to apply for as they are for you. Even then, there are many excellent resources available on the Internet. Click here for the Mind Tools section on searching for jobs on the Internet.
- **Responding to job ads:** A job published in a job advertisement is effectively put out to competitive tender. If you apply for it, you will be competing with many others who want the job. Job ads are useful as a way of showing which industries are doing well and in giving an idea of the overall jobs market. Also, who knows - you may be lucky and find a good job through them!

The job market (like the market for homes) is a very fragmented, imperfect market. Job openings may be advertised in a vast range of different ways. Many jobs will be filled before you find out about them. Others will be advertised using only one channel. Some will be so widely advertised that they attract thousands of applicants.

Your best approach will be to use some or all of the different job hunting strategies together. This gives you a reasonable coverage of channels for your time. Whatever you do, though, don't worry about covering the whole job market - there are so many people, agencies, web sites and job boards out there that it would be impossible to speak to, visit or look at them all. Just do as much good quality job hunting as you can fit into the time available.

#### **Job Hunting Tips:**

- Be professional in the way you manage your job hunt - recruiters will be watching your approach and judging your professionalism as they deal with you.
- Keep a good track of the people and companies you talk to. It can be hugely embarrassing to forget that you have already spoken to someone!
- If you make commitments to people, make sure you deliver on them. When you talk to people, send them a letter of thanks - this will help to fix you in their minds as someone they want to help, and will keep your name in front of them that little bit longer...

Contact management and productivity tools can be very helpful for managing your contact information. They also provide a level of automation that helps you to contact more people, more efficiently in the time you have available.

Next, we look at successful use of each job hunting strategy...

## Networking (9.9)

Function: **Finding Jobs Before They Are Advertised**

by [James Manktelow](#), editor of *Mind Tools* and an experienced recruiter

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How to use tool: Networking is a powerful and important job hunting and job research technique. [What Color is Your Parachute?](#) quotes a study that showed that 33% of people using the technique found their job using it.

It can be particularly good where it helps you to find jobs at the earliest stages - where a manager is identifying the need for new staff and has not yet advertised positions. If you can find the job at this stage, then you may be the first (and only) applicant for the job. The job can often be fluid at this early stage - you may have the opportunity to shape it so that it suits you perfectly.

Many senior positions are filled using networking - it is particularly important where it is essential that reliable people are recruited to carry out a key role.

### Why networking works

Recruiters love networking. After internal promotion, it is often seen as the most reliable and cost-effective strategy for hiring. The benefits to recruiters of hiring you through networking include:

- You come personally recommended by someone the recruiter knows and trusts
- They can see you quickly and without waiting for intermediaries to act
- The recruiter avoid the high costs of agency fees and advertising costs, and
- They can see you and make a decision without having to do the tedious work of writing a job specification and preparing and placing an advertisement
- For you as a job-seeker, the benefits of networking are:
  - You get access to jobs that never get advertised
  - The recruiter can interview you for the job 'ahead of the pack'
  - You have a greater ability to shape the job on offer

- Statistics in your favor - you might be down to a 1:3 chance of getting a job before you even meet the recruiter, where if you approached the same job via an agency or - worse still - an internet resume placement, the odds might be upwards of 1:100
- Importantly, it also gives you the opportunity to talk to key people to research the market and understand where opportunities might lie

### **Starting to network**

Networking is about building relationships with people, asking their advice and sharing information with them where you can. It is about asking them who you should contact next and asking their permission to use their name in making contact.

Start with ex-colleagues, mentors and managers you have known, friends, careers staff at schools or universities, teachers or professors, parents and parents friends. Think about alumni networks you could tap into. Think about all the people you know who may know someone who has a job.

Also, think about people who know the industry you are interested in - while they are often busy, journalists and writers in industry magazines can often be helpful and can offer good advice.

Contact these people - let them know that you are looking for a job. Say that you understand that they might not have one on offer, but ask if they know of any or know anyone who might have one. If the person you are talking to recommends someone, ask their permission to use their name when you make contact ("John Brown from ABC Corporation suggested I called you").

Now call these people and ask them the same thing. And then call the people they suggest. And then call the people they suggest....

If you are polite, you will find that most people are instinctively kind when someone needs help - it costs them nothing, and most know that in the future they may be in the same position. Industries can often be quite small - you may be in a position to help them when they need it.

### **Networking Tips**

An important tip is to use good contact management software to record information on people you have talked to. This means that you know who you have already talked to - this can prevent huge embarrassment! It also gives you easy tools to write letters to people thanking them for their time and for their leads. For the future, it records the network you have created within the industry to find your job - this network may be hugely valuable in the future as you find your way in your new career.

A second tip is to work, if you can, with other people trying to find a job in the same industry - if you look out for each other and share knowledge, you significantly expand your coverage.



A final tip is to remember that as you talk to people in the industry, you are building up information on the industry - this may be useful to the people you are talking to. Where possible, share this new expertise. Remember to give as well as take.

The next article discusses a very powerful technique - targeting organizations...

## Targeting Organizations (9.10)

Function: **Job Hunting You Control**

by [James Manktelow](#), editor of Mind Tools and an experienced recruiter

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How to use tool: Targeting organizations is one of the most effective ways of finding a new job - [What Color is Your Parachute](#) quotes research that showed that 69% of people using this approach were successful in finding a job.

With this approach, candidates research companies in an industry and then approach the ones they want to join.

### **Researching Industries and Organizations**

Where you are targeting industries, the [WetFeet.com](#) Industry Insider Guides are an excellent source of information on leading companies. Most industries also have a directory listing the companies that make up the industry. These help you to identify companies that you may want to approach.

You should also read industry magazines and note companies that are successful, expanding, launching big projects or opening new offices. These companies are very likely to be recruiting.

Once you have identified target companies, do some research on them - visit their web sites, do a web search on them, and search the archives of newspapers and industry magazines. Company web sites often show what the company is looking for in candidates, while the magazines and newspapers give a flavor of what the company is doing. The best companies will also have WetFeet Insider Guides written on them - these will give you the inside track on understanding what they are looking for.

The final research stage is to call the organization and find out the name of the individual to whom you should send your resume. Always, always write to a named person - by sending a "Dear Sir/Madam" letter, you show that you have done no research and that this application is one of very many you are sending out.

### **Making Your Application**

Having done your research, you should now know enough to send in your application.

Send in your resume with a [good cover letter](#). Say why you are approaching the organization, why you want to work for them and what you have to offer. Use the research you have done to tailor your approach appropriately.

Follow up your application with a telephone call to the person you have written to. Ask them if they need any more information and if there are any jobs open. Your goal is to get yourself invited to an interview.

Be assured that your approach will usually be welcome - applicants who target companies are showing a researched interest in that company. Companies recruiting direct applicants do not have to pay agency fees and advertising costs.

Next, we look at working with agencies...

## **Working With Agencies (9.11)**

Function: **Using Existing Networks**

by [James Manktelow](#), editor of *Mind Tools* and an experienced recruiter

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How to use tool: There are positives and negatives in using recruitment agencies to find a job. On the positive side, agencies have strong established networks within their industries. Candidates and recruiters use them because of this.

On the negative side, agencies cost recruiters a lot of money. Hiring an employee through an agency can cost a recruiter something like 20 - 30% of the recruit's first year salary. Recruiters will therefore usually approach agencies only when they have tried to fill the vacancy through all other reasonable means.

If you decide to use an agency, be careful in selecting it - there are both good and bad agencies. Good agencies will specialize (and be seen as specialists) in the industry you want to work in. They will interview you and will give you advice on the sort of jobs you should apply for. As experts in finding people like you a job, they will speed up your search.

Bad agencies have no interest in you beyond their commission. They will scatter your resume around widely. Recruiters don't enjoy reading resumes - they quickly learn the good agencies from the bad ones and will often refuse resumes from all but a selected short list.

You can often find specialist recruitment agencies in industry magazines. Alternatively,

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network with people in the industry and in the roles you want to move into to find which agencies they use.

Once you are on the books of a good agency, be professional in the way you deal with them - if they arrange an interview for you, turn up on time and be well-prepared. Remember that the reputation of the agency rests on providing good, pre-screened candidates to recruiters. You need to help them maintain and build this reputation - if you let your agency down, you may never hear from them again.

#### **Executive Search and Headhunters...**

Industry-specialist agencies are usually most appropriate for jobs with a salary of less than \$100K. Only above this level do executive search and selection companies tend to take over - do not waste your time applying to them unless you are an established and successful manager.

The next article discusses the most important Internet job sites...

## Internet Job Hunting (9.12)

Function: **Job Hunting the Easy Way**

by [James Manktelow](#), editor of *Mind Tools* and an experienced recruiter

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How to use tool: The Internet is a powerful job hunting tool. For some people it can work superbly, but for others it can be surprisingly ineffective.

#### **On the Down Side...**

On the downside, the only jobs that will be posted on the Internet are those that have not already been filled by candidates who have networked into or have targeted organizations. Internet job hunting is so easy that if a good job is posted, many hundred good applicants may send in their resume.

#### **On the Up Side...**

On the upside, there are some fabulous research and job-hunting tools on the net, and the larger job boards have excellent facilities for matching the right people with the right jobs.

#### **The Starting Point**

[WorkTree.com](#) is a good starting point for your job search. It lists hundreds of job sites in a wide range of different specialist industries. It helps you to automate placement of your resume on very many job boards, and helps you to search many job sites with one query.

WorkTree also gives you good background information on particular industries that helps you in your targeted approach to particular employers.

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### Job Boards

WorkTree posts a standardized entry on all boards - it is also worth customizing your resume on the most popular job boards, just as it is worth checking these regularly. The most important general job boards are:

- [FlipDog.com](http://FlipDog.com)
- [Monster.com](http://Monster.com)
- [Hotjobs.com](http://Hotjobs.com), and
- [Careerbuilder.com](http://Careerbuilder.com)

[WorkTree](http://WorkTree) is also useful for helping you to identify the industry-specific job boards you should be looking at.

### Resume Distribution

Another important tool is the [ResumeZapper](http://ResumeZapper) resume distribution service - this gives you a very simple facility to distribute your resume to thousands of recruiters. When using this, remember that recruiters will be receiving a lot of resumes by email - yours must instantly stand out. With a good resume, ResumeZapper's service gives you massive coverage at a low cost.

### In Summary...

The Internet gives you access to some superb job hunting tools, and it may work for you very quickly. Use of the Internet is an important strategy to use as part of your job hunt.

However, don't be dispirited if it doesn't work for you - if you use the mixture of strategies that we recommend, you should find one that works very well for you.

## The Ideal Employer – What to look for (9.13)

by [James Manktelow](#), editor of *Mind Tools* and an experienced recruiter

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**How to use tool:** After all of the hard work of identifying and researching your career, writing a good resume and planning and executing a well-organized job hunt, you should find that you are invited to several interviews.

This section firstly describes what you should look for in a good employer and then talks you through the process of preparing for your interview. It then explains how to negotiate a good salary.

## What to Look for in a Good Employer

Employers vary enormously - the best will provide you with good training opportunities and will help you to fulfill your potential. The worst will wring you out and leave you with skills that are so out-of-date that you are unemployable.

It is up to you to select the best employer you can find. To be able to do this you must be active enough in your job hunt to generate many opportunities - this gives you the power to select the best available.

In looking at an employer, you should look at:

- the culture of the company
- the people you will be working with
- the extent to which the role will meet your personal needs, and
- the opportunities that the job will be opened to you.

## Company Culture & People

By this stage in your job hunt, you should have a good idea of your own personality and strengths and weaknesses (if not, see the Mind Tools articles on [Finding Your Ideal Career](#) and [Career Tests](#)).

Companies have personalities just as you have a personality - these are called 'Company Cultures'.

Company cultures can be extremely diverse, depending on what is important for the company: an insurance company may have bureaucratic, regimented culture that is geared to safe processing of customers' transactions. A sales organization may have an aggressive, dynamic, competitive culture that drives successful selling. A school may have a culture that emphasizes caring for pupils. Cultures can be constructive and can support the aims of the organization, or can be destructive and can damage the people within them.

When you look at an employer, it is worth understanding the company culture and how your personality fits with it - you are much more likely to succeed (and be rewarded) in companies where your behavior is natural and appreciated than in one where you constantly struggle with yourself or with "the system".

Look for signs of the culture when you meet people. Pay attention to the way that recruiters behave during the interview and look at how they interact with their colleagues. Listen to the words they use, the questions they ask and the emphasis they put on different characteristics. Try to get a feel for how happy and energetic people around the company seem to be. Ask yourself whether you would enjoy working there.

## People

Naturally, you need to get on well with your colleagues and your boss. Good relationships make life much more pleasant and help people to work together successfully.

You will usually meet your boss during the interview process. In addition to this and at an appropriate stage of the process, ask if you could meet some of the people who would be your colleagues - find out if you like them, if you have interests in common and if you feel you can work happily and well in a team with them.

### Your Personal Needs

For a job to be good and satisfying, it needs to satisfy your personal needs. It should also lead you towards achieving your aspirations and personal goals. If you have not done so already, read the Mind Tools section on [Identifying Your Assets and Aspirations](#) to make sure that the job is consistent with what you want to do with your life.

As well as this, look at the job using "Maslow's Hierarchy". This is a popular framework that can be used to look at whether work is meeting people's psychological needs. Maslow argued that in seeking satisfaction, people move through the needs below in sequence, satisfying each need before they move on to the next:

- **Physiological Needs:** these relate to survival and physical comfort - in the context of your job, will you be paid enough to live reasonably comfortably? Will your working conditions be adequate?
- **Security Needs:** Will you have reasonable job security? Will the job reasonably fairly structured? Will you get consistent reward for hard work?  
**Social Needs:** Will you like the people you work with? Will you feel part of a good team?
- **Esteem Needs:** Will you feel valued by your organization and by your colleagues?
- **Self-Actualization:** Will you have a reasonable degree of autonomy in what you do? Will you enjoy what you do? Will it help you to develop as a person?

While this model is obviously not perfect, it is a good practical framework for assessing how happy or otherwise you might be in a role. In time, a good employer should give you the opportunity to satisfy all of these needs if you work hard and well.

### Opportunities

Poor employers may offer "dead end" jobs - when you are at an early stage in your career, these can be very damaging - with dead end jobs you make little personal progress at a time when other professionals are building their skills, knowledge and experience.

Good employers will be able to offer you good opportunities for career development.

In many industries, there may be a company that has the reputation of being an 'academy company', with excellent training schemes, personnel practices and opportunities. 'Graduates' of these academy companies can often be found later leading other competitors in the industry or leading related companies. These companies are great places to start a career - the [Wetfeet Insider's Guides](#) will point you towards these companies.

Good organizations will offer good training programs, will build people's experience by rotating them between functions and may offer training and sponsorship on educational programs.

It is an obvious point to make, but successful companies are also much more fun to work for than less successful ones. In the former, the overall mood tends to be optimistic and fun - companies that are growing offer more opportunity than static or declining ones. Life in a declining company can be insecure, stressful, grim and joyless.

Larger companies tend to breed specialists in particular areas. At the other extreme are small start-ups. If these are good enough to grow fast, then they will have a strong need for good people at all levels - start-ups can help you to develop a wide range of skills and for get early career advancement. A warning, though: it can often be much more difficult to move from a start-up to a major corporation than it is to move the other way. Similarly, be aware that often it can be much more difficult to move from a consultancy role into a line management role than the other way around.

Pulling this together, make sure that you research future employers properly before you accept a job offer. Ignore the hype you may have heard during the recruitment process, and look at the following:

- **Company Accounts:** The company's accounts are constructed to give a true and fair view of the company's performance to people in the outside community. Get hold of a copy showing two or three years performance and compare them with the accounts of the company's competitors - this will show how the company is performing in its industry. Accounts are often available from company web sites under the heading "Investor Information". If you do not know how to analyse them, then find someone who you respect who can and ask their advice.
- **Products:** How do the company's products and services compare with those of the competition? Do they seem to give good value to customers? Where you can, use your initiative to research this - for example, do national consumer's associations publish surveys that compare the company's products against the competition? Are competitors reporting gains in market share? Can you make your own comparison of products?
- **Press Comments:** If you search newspaper or industry publication web sites, can you find any independent articles on the company?
- **Human Resource Policies and Opportunities:** Make sure that you understand the company's approach to training and staff development, and that you have a good idea of the opportunities that are open to you if you work hard and do well. You should also check that the role you are taking on has a clear and credible career path taking you to where you want to go.

We have already mentioned the excellent WetFeet Insider Guides - these give very good insights into potential employers - it is much better to invest \$20 into one of these than it is to invest a year of your life with a bad company.

**In Conclusion...**

It is up to you to put in the hard work needed to generate enough good opportunities for you to choose the best employers. Do your research and form your own opinion of the company. At interview, ask all the questions necessary for you to decide that the employer is right for you.

You should now know what to look for in a good employer. The next articles explain [how to do well at interview...](#)

## Interview Skills – To be, or not to be, whatever the question (9.14)

Function: Finding the Jobs You Will Really Love

by [Steve Holmes](#), a career journalist with more than 10 years experience

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*“No matter how nervous you feel, no matter how you bluff to cover it over - only one important skill will ever give you mastery over the job interview nightmare - and that skill is to retain the power to be yourself.”*

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How to use tool: **Interview Skills - Let's deal with the reality**

We cannot second guess what your next interview will be like in any detail because it could be anything from an informal chat over coffee to a three day battery of aptitude and personality tests followed by a set of focused encounters with various people who all have different agendas.

Given this diversity of scenarios you have only one way to prepare that will really give you power when the time comes, which is to prepare yourself - your presence and who you are - and remain that person under stress.

**Stress: don't go under the carpet**

You might feel nervous meeting Bill Gates but not about meeting the guy who runs your local convenience store; a VP of the XYZ Corp might be relaxed meeting you but feel nervous meeting The President of the United States. Our ability to remain true to ourselves depends on factors like:

- **how familiar the situation is:** which means that it pays to practice applying for jobs, even if you don't really want them all
- **how confident you are in your performance:** which means that it pays to prepare yourself in every possible way you can
- **how much is at stake:** you're better off if you are not desperate for the job and if you have a good reputation so people start headhunting you



The Mind Tools section on [stress management](#) explains a range of tools you can use to manage interview stress.

### **Practice gets you nearer to perfect**

The two other articles in this series to give you some detail about [Interview Questions](#) that might come up and give [Interview Tips](#) on how to conduct yourself.

When you have read both of those you need to acquire interview experience by applying for jobs and by joining up with your friends to develop the ability to communicate under pressure. Get debriefed after each experience, keeping a careful note of what was less than perfect in your manner, your impact, your ease with the situation, the quality of your replies, the impact of your questions and the thoroughness of your knowledge.

### **Well prepared is well performed**

The articles on [Resume Writing](#) and [Resume Cover Letters](#) open up an innovative strategy in terms of what information to present to recruiters. This strategy is all about developing a "script" whereby you begin to control the information flow, you begin to lead to what questions they ask you and you find yourself extremely well prepared in those areas in terms of information, buzzwords, anecdotes, examples from your own career, facts, questions and industry comparisons.

### **Wouldn't it be nice if...**

Knowledge is power. Power helps you relax. Relaxed makes you convincing. Convincing gets them on your side....

You know your stuff. You appreciate your own value. You speak with authority in a calm voice. People listen to what you say and they nod and make eye contact that proves it. When you ask a question they take it seriously....

Picture all this and compare it with how your typical interview goes. If you cannot see it happening then isolate the problem areas and start work on yourself.

Phony confidence makes people squirm but real and genuine personal presence is something we can all work on. In fact you could say that the development of personal wisdom is what this entire MindTools website is about. The more you know yourself the more you know how to be yourself whatever comes up in life.

Next, we look at [interview questions](#) in more detail...

## **Interview Questions – Interrogation or Negotiation? (9.15)**

by [Steve Holmes](#), a career journalist with more than 10 years experience

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*“Are you the kind of person who relies on charm? Will it work when you are sitting in front of the most important people you ever met, interviewing you for the best job you ever dreamed of...”*

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**How to use tool: You need to train yourself**

There is no substitute for the relaxed professionalism that will come across in the tone of your voice, your body language, your ability to achieve rapport and your power to influence recruiters... You can't fake these things and we aren't insulting your intelligence by recommending you wear a decent suit and smile a lot. Recruiters are not stupid people and no fake body language or positive thinking will influence them...

To get the job does not require you to act like someone else. It only requires you to become the best candidate and to convince them that you are the best candidate. This takes work, no matter who you are....

**No second guessing and no second chance**

First, you must be well-informed. If you have not researched the sector, the company, the marketplace, the competition, the products, the people involved, the financial situation and any recent press comment - then you are simply ignorant and barely worth employing.

Second, have you truly understood what they want from the person they appoint to this job and have you built a list of intelligent questions to clarify the roles, the structures, the personalities, the strategies and the targets that could become your everyday life - if you haven't, how can you be sure you actually want this job?

Have you done your risk assessment - finding out everything possible about this organization's future viability, vulnerability to economic change or acquisition, quality of product and R&D - any factors they may not be boasting about or anything you'd like reassurance on?

A person who is prepared has become fluent with all these issues and can therefore act naturally during the interview process. You may still have some nerves, but you will have the space to notice them and to deal with them, rather than being the victim of your own emotions.

**The power of scripting**

This strategy is all about developing a "script" whereby you begin to control the information exchange instead of being the victim of an interrogation. If you have already created a great resume and cover letter then you will have "planted" the issues and questions and the interviewer will be using your guidelines to stimulate discussion. They will actually be looking at your resume.

Naturally, you have prepared responses that cover all those areas in an informed and spontaneous way, backed by your research. And, most important, you have created a couple of simulations, in your mind, on the plane, with friends and family, "real" simulations where they or you work hard at being a perceptive interviewer and you refine your ability to make natural, human, lively, occasionally humorous answers, illustrated with positive examples from your own professional life.

**You are going to ask them some questions....**

An interview is both a consultation and a negotiation. Your task is to find out who they want for this job and reveal yourself as that person, to discover what their issues are and to become the solution.

It is OK at any stage to pose questions, take brief and unobtrusive notes for questions later (ask if it's OK if you wish to be ultra polite) and there will usually come a time when they invite you to ask questions. Do not begin your questions with yourself (salary, prospect, conditions); leave your benefits until they are offering you the job; concentrate your questions on how you can contribute to what they think they need.

Next, tips on the ideal interview...

## Interview Tips – Reminders and Warnings (9.16)

by [Steve Holmes](#), a career journalist with more than 10 years experience

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How to use tool: This article deals with interview tips - the more general arts of conducting yourself at the interview.

**Interview Tip 1: Be polite and manage your nerves**

No power on earth can prevent you feeling what you feel but if you have a framework of good manners, if you look good and are well-prepared, if you know how to behave and have practiced this situation, then all you need do to manage your physical and emotional feelings is to...

- calm yourself down a little, by breathing a little more deeply and getting your attention off your mind, through your body and out into the room
- consciously slow your speech and deepen voice tone early in the interview at the more formal part; you can lighten up later when rapport has been established
- follow their lead on matters of etiquette; don't rush into your coffee; be sure to acknowledge everyone in the room; no need to be obsequious

For more help on relaxation techniques, visit the Mind Tools [stress management](#) section.

**Interview Tip 2: Be prepared and stay professional**

Depending on the skill of the interviewer(s) the warm up period may be just passing time and you may get some trivial but unexpected questions. As things proceed there could be any number of interviewing styles deployed and whatever happens your best strategy is to remain resolutely the professional that you are.

- be ready for relative trivia like "what's your idea of a great weekend" or unexpected openers: "why do you like the look of this job"

- prepare answers to any trick questions you could think of, things like "why do you want to leave your present job" and "what are your worst weaknesses"
- respond with questions of your own, based on the research you have done in advance, giving them a chance to talk about the company
- in moments of temporary confusion you can ask them what is behind a particular question, "could you clarify what you'd like to learn here"
- aggressive interviewers are probably just acting and looking for your response; staying clam and professional will impress them the most and if they really do try to belittle you take the initiative with a counter question of your own
- watch out for really indulgent interviewers who encourage your negative traits and give you enough rope to hang yourself; never start swearing, criticizing or giving away secrets of your present employer
- ALWAYS stay with this truth: it is not the question that matters, nor is it you answer; it is what is behind the question and what the answer reveals about you
- do not try out any manipulation techniques you have learned in sales training or elsewhere; many interviewers have been trained to notice and counter these and some organizations will immediately reject you

### **Interview Tip 3: Leave a positive final impression**

The way you say goodbye can leave a good impression for when they talk about you afterwards. Make sure that your handshake and smile are really warm and say something about how stimulating you found the interview. I might briefly try to gauge their feeling by asking what happens next (without being at all pushy).

If in these final words you can include some brilliant phrase that summarizes the path of the interview, again without leaning too hard on their patience, then that would be in your favor too. Maybe something such as "I really like your plan for the new product roll-out strategy; it's just the kind of thing I have been working towards in the last two years..." They might, after you leave, be scoring the interview to help them distinguish each candidate; a memorable moment or comment helps them to do that - and it doesn't have to be spectacular.

### **Interview Tip 4: You do not need to send 'Thank You Letters'**

In a world of automation and sophistication when you are dealing with trained, experienced and professional recruiters - it is dumb to believe that you will actually persuade them to select you instead of a better candidate simply because you have good manners.

If you are close to being recruited, you might just make the judgment call that a letter to jog their memory would be useful and show strength of interest. If so, send it by email and keep it incredibly brief.

Fix on some aspect of the interview itself and remind them of it in a professional way that is barely obvious at all; say something like:

- "I was particularly interested in the XYZ project and my mind has been racing with further questions about the implications for the ABCD role....", or
- "What impressed me was the obvious commitment within the organization to XYZ development and the more I thought about this the more I saw an inspiring match with my own career goals (and the more I uncovered questions it is too late to ask!). If time permits, perhaps we could have a very brief discussion along those lines, by telephone if that suits you..."

Once again, this is high risk and needs to be subtle. If you feel you must communicate and you aren't sure what to say, keep it polite and just say thanks, you enjoyed the experience and you are interested. If you have a handle on the scenario, take it a little further.

You do not have to do this, so don't prejudice your chances with something lame.

Next, how to negotiate the salary you deserve...

## Negotiating Salaries – Getting the salary you deserve... (9.17)

by [James Manktelow](#), editor of *Mind Tools* and an experienced recruiter

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**How to use tool:** Most of your job hunt should be a win-win process - you are seeking a good employer in your chosen field, while recruiters are seeking good candidates who will fulfill important functions within their organizations. A good match benefits both.

This is not true when it comes to negotiating salaries. Salary negotiation is where your goals conflict directly - your goal should be to get the best salary possible, one that captures a fair proportion of the value you can deliver. The recruiter's goal is to recruit you as cheaply as possible without you feeling exploited.

You can just 'roll over' and accept what you are offered or a small increment on what you are already being paid. If you do this, then you lose. For example, if you do not negotiate you may lose \$5,000 a year for 5 years - think of what you could do with \$25,000!

By doing a little research and playing the negotiation game, you may find that you can substantially increase the salary you are paid.

### **Putting Yourself in the Best Position**

An important part of the negotiation occurs before the negotiation starts.

Firstly, it is useful to have other recruiters interested in you - this gives you the power to walk away if the recruiter's offer is too low. If you have been active and organized in your job hunt, you should have plenty of interviews arranged - if you do, then make sure that the recruiter you are negotiating with knows. This will put pressure on him or her to make a good offer.

Remember also that recruitment is an uncertain and judgment-based activity. Companies often do not know whether they have made the correct decision until the new recruit has been doing the job for several months. Where potential recruiters can see that other people are interested in you, this gives them confidence that you must be a good candidate (and that you are therefore worth more).

Secondly, make sure that you research the sort of salaries that are on offer in the industry. Look at the employment section of the industry magazine and visit sites like [Jobsmart.org](#) - these help you to understand the salary ranges that are offered for the job, and help you to understand what are good and bad offers. If you can, research the salaries of people at the next level above you and at the next level below you. It will cause you and the employer real problems if you are paid more than your boss. Similarly, you will not be pleased if you find that you are paid less than people working for you!

Thirdly, think through how rare your skills are, and how many people have the skills the recruiter's needs - the more uniquely you meet these needs, the more power you have in the negotiation.

Finally, know your BATNA before you go in - BATNA is a negotiator's term for Best Alternative To a Negotiated Agreement. Think through what your alternatives are. You could, for example, stay in your current job if that is appropriate. You could accept another offer. You could keep on looking for another job. Knowing your BATNA means you know what the minimum amount that you are prepared to accept.

### Discussing Salary

If you discuss salary before the recruiter knows what you can offer his or her organization, then you have lost the negotiation - all you will get is either the standard rate for the job or what you got at your last job. The best time to talk about salary is once you know that the recruiter wants you, and once you have a good idea of what you can do for the recruiter.

When you start to discuss salary, try to get the recruiter to quote a figure first - it may be higher than you expect, in which case you can try to move it even higher. If the offer is too low, then use the leverage of your research into industry salaries, your knowledge of your capabilities and your knowledge of your worth to the organization to move it higher. Remember that experienced recruiters know that this is a game.

While doing this, bear in mind the upper limits you have researched for the job. You will be very fortunate if you negotiate beyond these and will be vulnerable to being laid off in hard times if you are not a truly exceptional performer. The recruiter will lose interest in you if you price yourself too high.

For more information on salary negotiation, it is well worth reading the Wetfeet.com guide to Negotiating Salary and Perks - this takes you to the next level of detail in conducting salary negotiations.

The next (and final) article shows how you can make a great start at your new job...

## Making a Great Start to Your New Job (9.18)

by [James Manktelow](#), editor of Mind Tools and an experienced recruiter

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How to use tool: However similar it seems on paper, your new job will be different from your existing one. You will be working with new people, in a company with a different culture and set of values. You will be dealing with different clients and using different working methods.

**Your success will depend on how well and how quickly you adapt to this new environment.**

### Preparing for Your New Job

As soon as you accept an offer, ask the employer if there is any preparation that you could do. Try to get hold of and read any training material, procedures manuals, personnel documents etc. well in advance of joining. Find out who the key customers are

and visit their web sites. Do all you can to learn as much as you can before you join your new company - this will shorten the length of time it takes for you to become effective.

### **Joining Your New Team**

On joining, make sure that you understand what your boss wants from you. Understand how he or she will assess your success in the role. Ask him or her to give advice as often as necessary to help you get productive quickly.

Similarly, make sure that you know what customers want from you - this is a very important part of being successful in your job.

In joining your new team, try to understand the values of the team and what motivates the people within it. Make sure that you understand the behavior that the team respects and the behaviors that it hates. For example, you will lose respect quickly if you miss deadlines in a very mission-focused team.

Obviously, be friendly and open with all team members. Bear in mind, however, that some of the most important team members may take some time to get to know you - this is particularly the case where there is a moderate or high level of staff turnover.

In looking at the jobs you have been allocated, try to identify 'quick wins' and deliver them well. This helps to build people's confidence in you.

### **The First Few Months...**

Finally, remember that people are on your side: the person who hired you wants the recruitment to be seen as a success. Your boss and your colleagues want you to be successful - otherwise they will have to cover for you.

More than this, few people will truly expect you to be immediately effective - you will probably have a "honeymoon period" where people expect you to be learning and during which the good impression you made at interview will still be present in people's minds.

Enjoy your new job!



## Moving On...

We have put a great deal of effort into developing and testing this e-book to make it as useful as possible. If you have any suggestions on how we can improve it for the future, then please let us know at [mindtools@hotmail.com](mailto:mindtools@hotmail.com) or through the Mind Tools web site at [www.mindtools.com](http://www.mindtools.com). Alternatively, if you have enjoyed this e-book and found it useful, please [let us know!](#)

The Mind Tools web site at [www.mindtools.com](http://www.mindtools.com) also offers articles on a wide range of important career development and personal effectiveness techniques, as well as a range of related products and services. Click [here](#) to visit [Mind Tools](#).

Alternatively, visit <http://www.mindtools.com/subscribe.htm> to [subscribe to the Mind Tools newsletter](#) so that we can update you on new mind tools as we launch them.

Best wishes, and enjoy using Mind Tools!



Mind Tools  
James Manktelow  
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