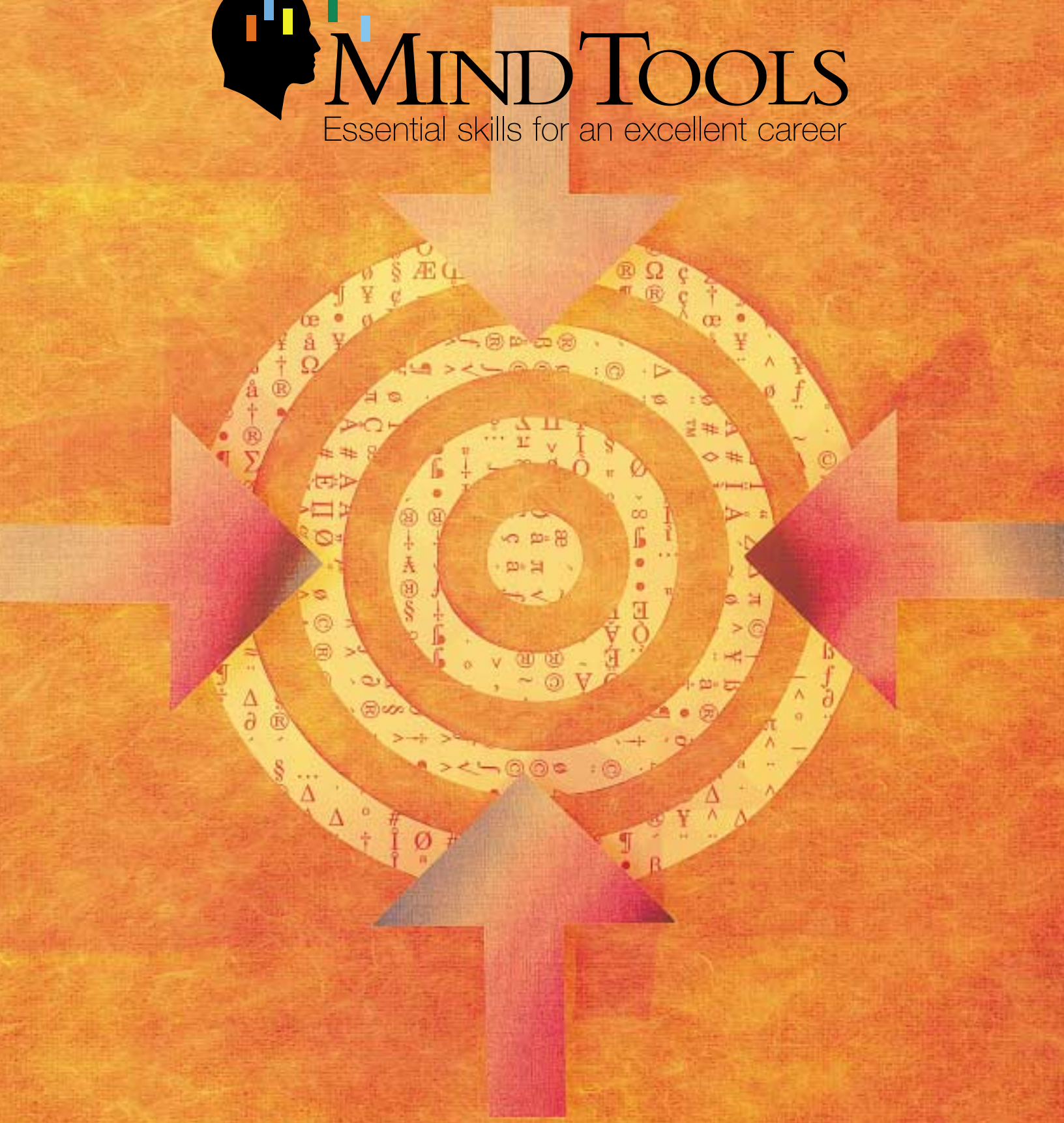
MindTools

Essential skills for an excellent career



Essential skills for an excellent career

The Mind Tools E-book

Part I: Tools and Skills for Working with Others

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About the Author

'We are here to help you understand the simple, practical skills that will help you to excel, what ever you choose to do.'

James Manktelow, Mind Tools

James Manktelow founded MindTools.com in 1995. The concept for the site 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 taught.

The Mind Tools site exists to correct this issue – our team now works with experts and specialists, spanning four continents, to bring you the best and most up-to-date career skills we can find.

Since 1999, more than 8,500,000 visitors have used the site to develop their careers. Many have been kind enough to send us enthusiastic testimonials saying how the techniques we have helped to popularize have helped them in their lives and their jobs.

As well as leading the Mind Tools team, James has written six books, including Make Time for Success! with Namita Anand, and How to Lead with Felix Brodbeck and Namita Anand.

In addition to working with Mind Tools, James' career has spanned strategic analysis, business development, marketing, production and project management, business and systems analysis, software development and consultancy for major corporations in several European countries. He has led teams at all corporate levels and, as an entrepreneur, he has worked with others to build two successful companies.

James holds an MBA from London Business School with specialties in entrepreneurship and strategy. He lives in the UK with his wife Rachel (also an LBS MBA) and son Alex.

Acknowledgements

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- Helena Smalman-Smith for editing and updating the latest version of this book.
- My wife Rachel, for her help and professional advice during the writing of this e-book.

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.

This e-book is divided into two parts. The first part (this volume) of the book focuses on the tools you need to lead and manage others effectively. This begins with all-important Leadership skills, and then moves on to cover Problem Solving and Decision Making, giving you the skills you need to understand many difficult problems, and make the best decisions possible with the information available. The section on Project Planning shows you how to plan, schedule and implement complex projects, and the book ends with a section on Practical Creativity that shows you how to generate fresh and innovative ideas reliably.

The second part covers techniques that will help you to develop your skills as a business thinker and make you more productive. This begins with individual sections that cover the time and stress management skills 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.

Next, there are sections on the Information and Communication Skills that are so critical in today's workplace. Finally, the section on Memory Improvement explains useful ways of remembering people's names, lists of information, foreign languages, and so on.

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.

Worksheets and Templates Supplement

This e-book is supplied with a free accompanying *Worksheets and Templates Supplement*. Wherever you see the 'Worksheet' or 'Template' symbols (shown below) in the text, you will find a Worksheet or Template for that tool in your *Worksheets and Templates Supplement*. Editable electronic copies of these can be downloaded by clicking links in the online versions of the articles at www.mindtools.com.

Section 1: Leadership

- Blake Mouton Managerial Grid - Balancing task- and people-oriented leadership
- Leadership Motivation Test - How motivated are you to lead?
- Leadership Motivation Tools - Find the passion to lead
- Winning Expert Power - Leading from the front
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- Team Effectiveness Assessment - How well do you and your team work together?
- Forming, Storming, Norming, Performing - Helping new teams perform effectively, quickly
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- Conflict Resolution - Resolve conflict rationally and effectively

1. Introduction to Leadership Skills

'At the age of seven, a young boy and his family were forced out of their home. The boy had to work to support his family. At the age of nine, his mother passed away. When he grew up, the young man was keen to go to law school, but had no education.

At 22, he lost his job as a store clerk. At 23, he ran for state legislature and lost. The same year, he went into business. It failed, leaving him with a debt that took him 17 years to repay. At 27, he had a nervous breakdown.

Two years later, he tried for the post of speaker in his state legislature. He lost. At 31, he was defeated in his attempt to become an elector. By 35, he had been defeated twice while running for Congress. Finally, he did manage to secure a brief term in Congress, but at 39 he lost his re-election bid.

At 41, his four-year-old son died. At 42, he was rejected as a prospective land officer. At 45, he ran for the Senate and lost. Two years later, he lost the vice presidential nomination. At 49, he ran for Senate and lost again. At 51, he was elected the President of the United States of America.–

The man in question: Abraham Lincoln.'

— Author Unknown

Many of us are acquainted with this eloquent example of persistence and determination in achieving victory. We read it, stop for a moment and then sigh and say: 'Wow! That's the stuff real leaders are made off.'

And in saying this, it's all too easy for us to think about leaders like Lincoln almost as 'mythological creatures', separate from the rest of humanity and empowered by some mysterious quality that smoothes their path towards inevitable success. This is the view of leadership that many people have traditionally taken: That leaders are marked out for leadership from early on in their lives, and that if you're not a leader, there's little that you can do to become one.

However, that's not the way we see it now. The modern view is that through patience, persistence and hard work, you can be a highly effective leader.

This section of Mind Tools helps you make a start in finding and developing these leadership qualities within yourself

Our first tools explore different approaches to leadership: the Blake Mouton Managerial Grid allows you to assess how you balance concern for your team with concern for production. We then look at Winning Expert Power, one of the profoundly honest sources of strength and power that you can draw on as a leader, before moving on to consider the different Leadership Styles that you could adopt.

The people skills that come from having good Emotional Intelligence are the subject of our next article. This leads into a set of tools on team dynamics including a Team Effectiveness Assessment to help you identify how well you and your team are working together right now, as well as the core skill of Delegating.

Leaders also need to understand what motivates the people working for them, so we look at Herzberg's Motivators and Hygiene Factors, amongst other tools.

Finally, we explain the important skill of Conflict Resolution.

These articles are just a few of the 48 essential leadership skills explained within Mind Tools new course 'How to Lead: Discover the leader within you.' Click here to find out more about 'How to Lead'.

1.1 Blake Mouton Managerial Grid

Balancing task- and people-oriented leadership

When your boss puts you in charge of organizing the company Christmas party, what do you do first? Do you develop a time line and start assigning tasks or do you think about who would prefer to do what and try to schedule around their needs? When the planning starts to fall behind schedule, what is your first reaction? Do you chase everyone to get back on track, or do you ease off a bit recognizing that everyone is busy just doing his/her job, let alone the extra tasks you've assigned?

Your answers to these types of questions can reveal a great deal about your personal leadership style.

Some leaders are very task-oriented; they simply want to get things done. Others are very people-oriented; they want people to be happy. And others are a combination of the two. If you prefer to lead by setting and enforcing tight schedules, you tend to be more production-oriented (or task-oriented). If you make people your priority and try to accommodate employee needs, then you're more people-oriented.

Neither preference is right or wrong, just as no one type of leadership style is best for all situations. However, it's useful to understand what your natural leadership tendencies are, so that you can then working on developing skills that you may be missing.

A popular framework for thinking about a leader's 'task versus person' orientation was developed by Robert Blake and Jane Mouton in the early 1960s. Called the Managerial Grid, or Leadership Grid, it plots the degree of task-centeredness versus person-centeredness and identifies five combinations as distinct leadership styles.

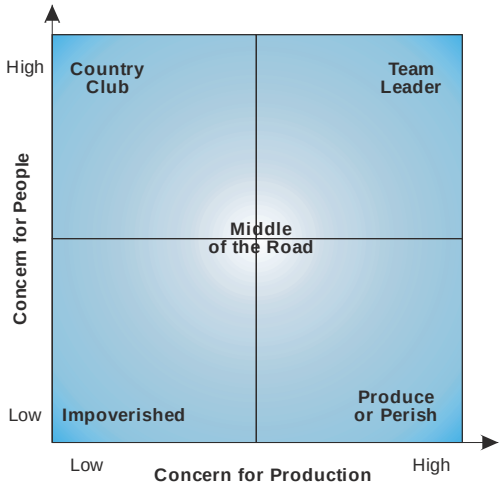
Understanding the Model

The Managerial Grid is based on two behavioral dimensions:

- **Concern for People** – This is the degree to which a leader considers the needs of team members, their interests, and areas of personal development when deciding how best to accomplish a task.
- **Concern for Production** – This is the degree to which a leader emphasizes concrete objectives, organizational efficiency and high productivity when deciding how best to accomplish a task.

Using the axis to plot leadership 'concerns for production' versus 'concerns for people', Blake and Mouton defined the following five leadership styles:

Figure 1: The Blake Mouton Grid



Country Club Leadership – High People/Low Production

This style of leader is most concerned about the needs and feelings of members of his/her team. These people operate under the assumption that as long as team members are happy and secure then they will work hard. What tends to result is a work environment that is very relaxed and fun but where production suffers due to lack of direction and control.

Produce or Perish Leadership – High Production/Low People

Also known as Authoritarian or Compliance Leaders, people in this category believe that employees are simply a means to an end. Employee needs are always secondary to the need for efficient and productive workplaces. This type of leader is very autocratic, has strict work rules, policies, and procedures, and views punishment as the most effective means to motivate employees. (See also our article on Theory X/Theory Y.)

Impoverished Leadership – Low Production/ Low People

This leader is mostly ineffective. He/she has neither a high regard for creating systems for getting the job done, nor for creating a work environment that is satisfying and motivating. The result is a place of disorganization, dissatisfaction and disharmony.

Middle-of-the-Road Leadership – Medium Production/Medium People

This style seems to be a balance of the two competing concerns. It may at first appear to be an ideal compromise. Therein lies the problem, though: When you compromise, you necessarily give away a bit of each concern so that neither production nor people needs are fully met. Leaders who use this style settle for average performance and often believe that this is the most anyone can expect.

Team Leadership – High Production/High People

According to the Blake Mouton model, this is the pinnacle of managerial style. These leaders stress production needs and the needs of the people equally highly. The premise here is that employees are involved in understanding organizational purpose and determining production needs. When employees are committed to, and have a stake in the organization's success, their needs and production needs coincide. This creates a team environment based on trust and respect, which leads to high satisfaction and motivation and, as a result, high production. (See also our article on Theory Y.)

Applying the Blake Mouton Managerial Grid

Being aware of the various approaches is the first step in understanding and improving how well you perform as a manager. It is important to understand how you currently operate, so that you can then identify ways of becoming competent in both realms.

Step One: Identify your leadership style.

- Think of some recent situations where you were the leader.
- For each of these situations, place yourself in the grid according to where you believe you fit.

Step Two: Identify areas of improvement and develop your leadership skills

- Look at your current leadership method and critically analyze its effectiveness.
- Look at ways you can improve. Are you settling for 'middle of the road' because it is easier than reaching for more?
- Identify ways to get the skills you need to reach the Team Leadership position. These may include involving others in problem solving or improving how you communicate with them, if you feel you are too task-oriented. Or it may mean becoming clearer about scheduling or monitoring project progress if you tend to focus too much on people.
- Continually monitor your performance and watch for situations when you slip back into bad old habits.

Step Three: Put the Grid in Context

It is important to recognize that the Team Leadership style isn't always the most effective approach in every situation. While the benefits of democratic and participative management are universally accepted, there are times that call for more attention in one area than another. If your company is in the midst of a merger or some other significant change, it is often acceptable to place a higher emphasis on people than on production. Likewise, when faced with an economic hardship or physical risk, people concerns may be placed on the back burner, for the short-term at least, to achieve high productivity and efficiency.

Note:
Theories of leadership have moved on a certain amount since the Blake Mouton Grid was originally proposed. In particular, the context in which leadership occurs is now seen as an important driver of the leadership style used.

And in many situations, the 'Team Leader' as an ideal has moved to the ideal of the 'Transformational Leader': Someone who, according to leadership researcher Bernard Bass:

- Is a model of integrity and fairness.
- Sets clear goals.
- Has high expectations.
- Encourages.
- Provides support and recognition.
- Stirs people's emotions.
- Gets people to look beyond their self-interest.
- Inspires people to reach for the improbable.

So use Blake Mouton as a helpful model, but don't treat it as an 'eternal truth'.

Key Points

The Blake Mouton Managerial Grid is a practical and useful framework that helps you think about your leadership style. By plotting 'concern for production' against 'concern for people', the grid highlights how placing too much emphasis in one area at the expense of the other leads to low overall productivity.

The model proposes that when both people and production concerns are high, employee engagement and productivity increases accordingly. This is often true, and it follows the ideas of Theories X and Y, and other participative management theories.

While the grid does not entirely address the complexity of 'Which leadership style is best?', it certainly provides an excellent starting place to critically analyze your own performance and improve your general leadership skills.

1.2 The Leadership Motivation Assessment

How motivated are you to lead?

The first and most basic prerequisite for leadership is the desire to lead. After all, becoming an effective leader takes hard work. If you're not prepared to work hard at developing your leadership skills or if, deep down, you're really not sure whether you want to lead or not, you'll struggle to become an effective leader.

Are you motivated to lead? This assessment helps you find the answer.

How to Use the Tool

Instructions: Show the extent to which you agree with each of the following statements on a scale running from 1 (Strongly Disagree) to 5 (Strongly Agree) by circling the number in the column that most applies.

Statement	Strongly Disagree (1)	2	3	4	Strongly Agree (5)
1. I am energized when people count on me for ideas.	1	2	3	4	5
2. As a practice, I ask people challenging questions when we are working on projects together.	1	2	3	4	5
3. I take delight in complimenting people that I work with when progress is made.	1	2	3	4	5
4. I find it easy to be the cheerleader for others, when times are good and when times are bad.	1	2	3	4	5
5. Team accomplishment is more important to me than my own personal accomplishments.	1	2	3	4	5
6. People often take my ideas and run with them.	1	2	3	4	5
7. When involved in group projects, building team cohesiveness is important to me.	1	2	3	4	5
8. When involved in group projects, coaching others is an activity that I gravitate toward.	1	2	3	4	5
9. I find pleasure in recognizing and celebrating the accomplishments of others.	1	2	3	4	5
10. When involved in group projects, my team members' problems are my problems.	1	2	3	4	5
11. Resolving interpersonal conflict is an activity that I enjoy.	1	2	3	4	5
12. When involved in group projects, I frequently find myself to be an 'idea generator.'	1	2	3	4	5
13. When involved in group projects, I am inclined to let my ideas be known.	1	2	3	4	5
14. I find pleasure in being a convincing person.	1	2	3	4	5
				TOTAL (Add up all the numbers you have circled)	

Score Interpretation

Score	Comment
14 – 27	This implies a low motivation to lead.
28 – 55	This implies some uncertainty over your motivation to lead.
56 – 70	This implies a strong motivation to lead.

Source: This set of questions was constructed for this self-assessment and for illustrative purposes only. No prior validation work has been conducted that enables us to address the construct validity of this assessment. This self-assessment was patterned after that of A. J. DuBrin in Leadership: Research Findings, Practice and Skills (2nd edition) (Boston: Houghton Mifflin Co., 1998). Pp. 10-11.

1.3 Winning Expert Power

Leading from the front

There are many different power bases that a leader can develop and use.

These include problematic ones such as the power of position, the power to give rewards, the power to punish and the power to control information. While these types of power do have some strength, they put the person being led in an unhealthy position of weakness, and can leave leaders using these power bases looking autocratic and out of touch.

More than this, society has changed hugely over the last 50 years. Citizens are individually more powerful, and employees are more able to shift jobs. Few of us enjoy having power exerted over us, and many will do what they can to undermine people who use these sorts of power.

However there are three types of positive power that effective leaders use: charismatic power, expert power and referent power.

This article teaches you how to build expert power.

How to Use the Tool

Expert power is essential because as a leader, your team looks to you for direction and guidance. Team members need to believe in your ability to lead in a worthwhile direction, give sound guidance, and co-ordinate a good result.

If members of your team see you as a true expert, they will be much more receptive when you try to persuade them to do something, and when you want to inspire them to make more of an effort.

And if they see you as an expert, you'll find it much easier to motivate them:

- If team members respect your expertise, they'll trust you to show them how to work effectively.
- If team members respect your judgment, they'll trust you to guide their efforts in such a way that you'll make the most of their hard work.

- If they can see your expertise, they'll believe that you have the wisdom to direct their efforts towards a goal that is genuinely worthwhile.

Taken together, if your team sees you as an expert, you'll find it much easier to motivate your people to perform at their best.

So how do you build expert power?

- **Gain expertise:** The first step is fairly obvious (if time consuming) – gain expertise. And, if you are already using tools like the information gathering tool, the chances are that you have already progressed well ahead in this direction.

But just being an expert isn't enough, it is also necessary that your people recognize your expertise and see you as a credible source of information and advice. Gary A. Yukl, in his book 'Leadership in Organizations,' details some steps to build expert power. These are:

- **Promote an image of expertise:** Since perceived expertise in many occupations is associated with a person's education and experience, a leader should (subtly) make sure that subordinates, peers, and superiors are aware of his or her formal education, relevant work experience, and significant accomplishments.

  One common way of doing this is to display diplomas, licenses, awards, and other evidence of expertise in a prominent location in your office – after all, if you've worked hard to gain knowledge, it's fair that you get credit for it. Another tactic is to make subtle references to prior education or experience (for example, 'When I was chief engineer at GE, we had a problem similar to this one'). Beware, however: this can easily be overdone.

- **Maintain credibility:** Once established, you should carefully protect your image of expertise. Avoid making careless comments about subjects on which you are poorly informed, and avoid being associated with projects with a low likelihood of success.

- **Act confidently and decisively in a crisis:** In a crisis or emergency, subordinates prefer a 'take charge' leader who appears to know how to direct the group in coping with the problem. In this kind of situation, your people will associate confident, firm leadership with expert knowledge. Even if you're not sure how to deal with a crisis, you'll lose influence with members of your team if you appear confused.

- **Keep informed:** Expert power is exercised through rational persuasion and demonstration of expertise. Rational persuasion depends on a firm grasp of up-to-date facts. It is therefore essential that you keep well-informed of developments within your team, within your organization, and in the outside world.

- **Recognize team member concerns:** Use of rational persuasion should not be seen as a form of one-way communication from the leader to members of his or her team. Listen carefully to the concerns and uncertainties of your team members, and make sure that you address these.

- **Avoid threatening the self-esteem of subordinates:** Expert power is based on a knowledge differential between the leader and team members. Unfortunately, the very existence of this differential can cause problems if you're not careful about the way in which you exercise expert power.

  Team members can dislike unfavorable status comparisons where the gap is very large and obvious. And they are likely to be upset by a leader who acts in a superior way, and arrogantly flaunts his greater expertise.

In the process of arguing for what they want, some leaders lecture their team members in a condescending manner and convey the impression that the other team members are 'ignorant.' Guard against this.

1.4 Leadership Styles

Using the right one for your situation

From Mahatma Gandhi to Jack Welch, and Martin Luther King to Rudolph Giuliani, there are as many leadership styles as there are leaders. Fortunately, business people and psychologists have developed useful, shorthand ways of describing the main leadership styles. This can help aspiring leaders to understand and adapt their own styles, so that they can improve their own leadership.

Whether you are managing a team at work, captaining your sports team or leading a major corporation, your leadership style is crucial to your success. Consciously, or subconsciously, you will no doubt use some of the leadership styles featured, at least some of the time. By understanding these leadership styles and their impact, you can become a more flexible, better leader.

This article helps you understand 10 of the most frequently talked-about leadership styles, some good, some bad.

Understanding Leadership Styles

The leadership styles we look at here are:

- Autocratic leadership.
- Bureaucratic leadership.
- Charismatic leadership.
- Democratic leadership/participative leadership.
- Laissez-faire leadership.
- People-oriented leadership/relations-oriented leadership.
- Servant leadership.
- Task-oriented leadership.
- Transactional leadership.
- Transformational leadership.

Autocratic Leadership

Autocratic leadership is an extreme form of transactional leadership, where a leader exerts high levels of power over his or her employees or team members. People within the team are given few opportunities for making suggestions, even if these would be in the team's or organization's interest.

Most people tend to resent being treated like this. Because of this, autocratic leadership usually leads to high levels of absenteeism and staff turnover. Also, the team's output does not benefit from the creativity and experience of all team members, so many of the benefits of teamwork are lost.

For some routine and unskilled jobs, however, this style can remain effective where the advantages of control outweigh the disadvantages.

Bureaucratic Leadership

Bureaucratic leaders work 'by the book', ensuring that their staff follow procedures exactly. This is a very appropriate style for work involving serious safety risks (such as working with machinery, with toxic substances or at heights) or where large sums of money are involved (such as cash-handling).

In other situations, the inflexibility and high levels of control exerted can demoralize staff, and can diminish the organizations ability to react to changing external circumstances.

Charismatic Leadership

A charismatic leadership style can appear similar to a transformational leadership style, in that the leader injects huge doses of enthusiasm into his or her team, and is very energetic in driving others forward.

However, a charismatic leader can tend to believe more in him or herself than in their team. This can create a risk that a project, or even an entire organization, might collapse if the leader were to leave: In the eyes of their followers, success is tied up with the presence of the charismatic leader. As such, charismatic leadership carries great responsibility, and needs long-term commitment from the leader.

Democratic Leadership or Participative Leadership

Although a democratic leader will make the final decision, he or she invites other members of the team to contribute to the decision-making process. This not only increases job satisfaction by involving employees or team members in what's going on, but it also helps to develop people's skills. Employees and team members feel in control of their own destiny, and so are motivated to work hard by more than just a financial reward.

As participation takes time, this style can lead to things happening more slowly than an autocratic approach, but often the end result is better. It can be most suitable where team working is essential, and quality is more important than speed to market or productivity.

Laissez-Faire Leadership

This French phrase means 'leave it be' and is used to describe a leader who leaves his or her colleagues to get on with their work. It can be effective if the leader monitors what is being achieved and communicates this back to his or her team regularly. Most often, laissez-faire leadership works for teams in which the individuals are very experienced and skilled self-starters. Unfortunately, it can also refer to situations where managers are not exerting sufficient control.

People-Oriented Leadership or Relations-Oriented Leadership

This style of leadership is the opposite of task-oriented leadership: the leader is totally focused on organizing, supporting and developing the people in the leader's team. A participative style, it tends to lead to good teamwork and creative collaboration. However, taken to extremes, it can lead to failure to achieve the team's goals.

In practice, most leaders use both task-oriented and people-oriented styles of leadership.

Servant Leadership

This term, coined by Robert Greenleaf in the 1970s, describes a leader who is often not formally recognized as such. When someone, at any level within an organization, leads simply by virtue of meeting the needs of his or her team, he or she is described as a 'servant leader'.

In many ways, servant leadership is a form of democratic leadership, as the whole team tends to be involved in decision-making.

Supporters of the servant leadership model suggest it is an important way ahead in a world where values are increasingly important, in which servant leaders achieve power on the basis of their values and ideals. Others believe that in competitive leadership situations, people practicing servant leadership will often find themselves left behind by leaders using other leadership styles.

Task-Oriented Leadership

A highly task-oriented leader focuses only on getting the job done, and can be quite autocratic. He or she will actively define the work and the roles required, put structures in place, plan, organize and monitor. However, as task-oriented leaders spare little thought for the well-being of their teams, this approach can suffer many of the flaws of autocratic leadership, with difficulties in motivating and retaining staff. Task-oriented leaders can benefit from an understanding of the Blake-Mouton Managerial Grid, which can help them identify specific areas for development that will help them involve people more.

Transactional Leadership

This style of leadership starts with the premise that team members agree to obey their leader totally when they take a job on: the 'transaction' is (usually) that the organization pays the team members, in return for their effort and compliance. As such, the leader has the right to 'punish' team members if their work doesn't meet the pre-determined standard.

Team members can do little to improve their job satisfaction under transactional leadership. The leader could give team members some control of their income/reward by using incentives that encourage even higher standards or greater productivity. Alternatively a transactional leader could practice 'management by exception', whereby, rather than rewarding better work, he or she would take corrective action if the required standards were not met.

Transactional leadership is really just a way of managing rather a true leadership style, as the focus is on short-term tasks. It has serious limitations for knowledge-based or creative work, but remains a common style in many organizations.

Transformational Leadership

A person with this leadership style is a true leader who inspires his or her team with a shared vision of the future. Transformational leaders are highly visible, and spend a lot of time communicating. They don't necessarily lead from the front, as they tend to delegate responsibility amongst their teams. While their enthusiasm is often infectious, they can need to be supported by 'detail people'.

In many organizations, both transactional and transformational leadership are needed. The transactional leaders (or managers) ensure that routine work is done reliably, while the transformational leaders look after initiatives that add value.

The transformational leadership style is the dominant leadership style taught in the 'How to Lead: Discover the Leader Within You' leadership program, although we do recommend that other styles are brought as the situation demands.

Using the Right Style – Situational Leadership

While the Transformation Leadership approach is often highly effective, there is no one 'right' way to lead or manage that suits all situations. To choose the most effective approach for you, you must consider:

- The skill levels and experience of the members of your team.
- The work involved (routine or new and creative).
- The organizational environment (stable or radically changing, conservative or adventurous).
- You own preferred or natural style.

A good leader will find him or herself switching instinctively between styles according to the people and work they are dealing with. This is often referred to as 'situational leadership'.

For example, the manager of a small factory trains new machine operatives using a bureaucratic style to ensure operatives know the procedures that achieve the right standards of product quality and workplace safety. The same manager may adopt a more participative style of leadership when working on production line improvement with his or her team of supervisors.

1.5 Emotional Intelligence

Developing strong 'people skills'

We probably all know people, either at work or in our personal lives, who are really good listeners. No matter what kind of situation we're in, they always seem to know just what to say – and how to say it – so that we're not offended or upset. They're caring and considerate, and even if we don't find a solution to our problem, we usually leave feeling more hopeful and optimistic.

We probably also know people who are masters at managing their emotions. They don't get angry in stressful situations. Instead, they have the ability to look at a problem and calmly find a solution. They're excellent decision makers, and they know when to trust their intuition. Regardless of their strengths, however, they're usually willing to look at themselves honestly. They take criticism well, and they know when to use it to improve their performance.

People like this have a high degree of emotional intelligence, or EI. They know themselves very well, and they're also able to sense the emotional needs of others.

Would you like to be more like this?

As more and more people accept that emotional intelligence is just as important to professional success as technical ability, organizations are increasingly using EI when they hire and promote.

For example, one large cosmetics company recently revised their hiring process for salespeople to choose candidates based on emotional intelligence. The result? Salespeople hired with the new system have sold, on average, $91,000 more than salespeople selected under the old system. There has also been significantly lower staff turnover among the group chosen for their emotional intelligence.

So, what exactly is emotional intelligence, and what can you do to improve yours?

What Is Emotional Intelligence?

We all have different personalities, different wants and needs, and different ways of showing our emotions. Navigating through this all takes tact and cleverness – especially if we hope to succeed in life. This is where emotional intelligence becomes important.

Emotional intelligence is the ability to recognize your emotions, understand what they're telling you, and realize how your emotions affect people around you. Emotional intelligence also involves your perception of others: when you understand how they feel, this allows you to manage relationships more effectively.

People with high emotional intelligence are usually successful in most things they do. Why? Because they're the ones that others want on their team. When people with high EI send an email, it gets answered. When they need help, they get it. Because they make others feel good, they go through life much more easily than people who are easily angered or upset.

Characteristics of Emotional Intelligence

Daniel Goleman, an American psychologist, developed a framework of five elements that define emotional intelligence:

1. **Self-Awareness**: People with high emotional intelligence are usually very self-aware. They understand their emotions, and because of this, they don't let their feelings rule them. They're confident – because they trust their intuition and don't let their emotions get out of control.

   They're also willing to take an honest look at themselves. They know their strengths and weaknesses, and they work on these areas so they can perform better. Many people believe that this self-awareness is the most important part of emotional intelligence.

2. **Self-Regulation**: This is the ability to control emotions and impulses. People who self-regulate typically don't allow themselves to become too angry or jealous, and they don't make impulsive, careless decisions. They think before they act. Characteristics of self-regulation are thoughtfulness, comfort with change, integrity, and the ability to say no.

3. **Motivation**: People with a high degree of emotional intelligence are usually motivated. They're willing to defer immediate results for long-term success. They're highly productive, love a challenge, and are very effective in whatever they do.

4. **Empathy**: This is perhaps the second-most important element of emotional intelligence. Empathy is the ability to identify with and understand the wants, needs, and viewpoints of those around you. People with empathy are good at recognizing the feelings of others, even when those feelings may not be obvious. As a result, empathetic people are usually excellent at managing relationships, listening, and relating to others. They avoid stereotyping and judging too quickly, and they live their lives in a very open, honest way.

5. **Social Skills**: It's usually easy to talk to and like people with good social skills, another sign of high emotional intelligence. Those with strong social skills are typically team players. Rather than focus on their own success first, they help others develop and shine. They can manage disputes, are excellent communicators, and are masters at building and maintaining relationships.

As you've probably determined, emotional intelligence can be a key to success in your life – especially in your career. The ability to manage people and relationships is very important in all leaders, so developing and using your emotional intelligence can be a good way to show others the leader inside of you.

How to Improve Your Emotional Intelligence

The good news is that emotional intelligence CAN be taught and developed. Many books and tests are available to help you determine your current EI, and identify where you may need to do some work. You can also use these tips:

- Observe how you react to people. Do you rush to judgment before you know all of the facts? Do you stereotype? Look honestly at how you think and interact with other people. Try to put yourself in their place, and be more open and accepting of their perspectives and needs.

- Look at your work environment. Do you seek attention for your accomplishments? Humility can be a wonderful quality, and it doesn't mean that you're shy or lack self-confidence. When you practice humility, you say that you know what you did, and you can be quietly confident about it. Give others a chance to shine – put the focus on them, and don't worry too much about getting praise for yourself.

- Do a self-evaluation. What are your weaknesses? Are you willing to accept that you're not perfect and that you could work on some areas to make yourself a better person? Have the courage to look at yourself honestly – it can change your life.

- Examine how you react to stressful situations. Do you become upset every time there's a delay or something doesn't happen the way you want? Do you blame others or become angry at them, even when it's not their fault? The ability to stay calm and in control in difficult situations is highly valued – in the business world and outside it. Keep your emotions under control when things go wrong.

- Take responsibility for your actions. If you hurt someone's feelings, apologize directly – don't ignore what you did or avoid the person. People are usually more willing to forgive and forget if you make an honest attempt to make things right.

- Examine how your actions will affect others – before you take those actions. If your decision will impact others, put yourself in their place. How will they feel if you do this? Would you want that experience? If you must take the action, how can you help others deal with the effects?

Key Points

Although 'regular' intelligence is important to success in life, emotional intelligence is key to relating well to others and achieving your goals. Many people believe that emotional intelligence is at least as important as regular intelligence, and many companies now use EI testing to hire new staff.

Emotional intelligence is an awareness of your actions and feelings – and how they affect those around you. It also means that you value others, listen to their wants and needs, and are able to empathize or identify with them on many different levels.

1.6 Team Effectiveness Assessment

How well do you and your team work together?

Teamwork has a dramatic affect on organizational performance. An effective team can help an organization achieve incredible results. A team that is not working can cause unnecessary disruption, failed delivery and strategic failure.

Nowadays it is almost impossible to avoid being a member of team. If you're not on an official team at work, chances are you function within one in one way or another. So it's important for your personal and career development to know your teamworking strengths and weaknesses.

This assessment helps you uncover common teamworking problems that you might be experiencing. Once you've completed the assessment, we direct you towards team tools that will help you to improve and develop these important skills.

How good are you and your team at teamwork and team building?

Instructions: For each statement, circle the number in the column that most applies to how often the statement seems to be true.

Statement	Not At All	Rarely	Some-times	Often	Very Often
1. My team is knowledgeable about the stages of development teams can be expected to go through.	1	2	3	4	5
2. Team members are provided with a great deal of feedback regarding their performance.	1	2	3	4	5
3. Team members are encouraged to work for the common good of the organization.	1	2	3	4	5
4. There are many complaints, and morale is low on my team.	5	4	3	2	1
5. Team members don't understand the decisions that are made, or don't agree with them.	5	4	3	2	1
6. People are encouraged to be good team members, and build good relationships.	1	2	3	4	5
7. Team members are provided with development opportunities.	1	2	3	4	5
8. Meetings are inefficient and there is a lot of role overlap.	5	4	3	2	1
9. Team members are encouraged to commit to the team vision, and leaders help them understand how their role fits into the big picture.	1	2	3	4	5
10. Team members are often given a chance to work on interesting tasks and stretch their knowledge and capabilities.	1	2	3	4	5
11. The team understands what it needs to accomplish and has the resources needed to be successful.	1	2	3	4	5
12. Conflict and hostility between members is a pervasive issue that doesn't seem to get better.	5	4	3	2	1
13. People feel that good work is not rewarded and they are not sure what is expected of them.	5	4	3	2	1
14. Team members balance their individual needs for autonomy with the benefits of mutual interdependence.	1	2	3	4	5

Statement	Not At All	Rarely	Some-times	Often	Very Often
15. Working relationships across units or functions is poor, and there is a lack of coordination.	5	4	3	2	1
TOTAL (Add up all the numbers you have circled)					

Score Interpretation

Score	Comment
46-75	You're a solid team member working well as part of an effective team. Lower scores in this range show that there is room for improvement, though. Read the following summaries of key teamwork functions and determine which of the tools will help you become a better team player and build a stronger team.
31-45	Your effectiveness as a team player and your team's effectiveness are patchy. You're good at some things, but there's room for improvement elsewhere. Focus on the serious issues below, and you'll most likely find that you and your team are soon achieving more.
15-30	This is worrying. The good news is that you've got a great opportunity to improve your effectiveness as a team member, and the effectiveness of your team. Start below!

Team Development (Statements 1, 11)

Your score out of 10 for these statements: _____

Teams do not become effective overnight. Team building is a process that requires due attention and care. If you try to skip over important development stages, you risk not forming the solid foundation needed when trouble or setbacks occur.

To build, lead, or participate in a team requires an understanding of the stages of team development. Through extensive research, it has been found that successful teams have certain aspects of their development paths in common. The one that most people are aware of is Tuckman's Forming, Storming, Norming, and Performing model.

Two other factors that significantly increase a team's chances of being effective are having a well thought out team orientation process, and developing a clear team charter. Both of these help you establish clear guidelines and set clear expectations. When the individuals on a team all know what they are supposed to be doing and how they are to go about doing it, you give the team a good start on maximizing performance. To read more about these processes see the Mind Tools articles on Successful Induction and Team Charters.

Feedback (Statements 2, 13)

Your score out of 10 for these statements: _____

One of the best ways of improving people's performance is by providing information to team members about their individual performance, as well as the overall team performance. After all, how do you know what is working and what isn't if no one gives you an objective summary?

There are usually plenty of people around who are ready and willing to give you their opinions on this. Unfortunately, this information is often conveyed in a manner that causes resentment and animosity.

For feedback to be positive and growth-inspiring, it has to be delivered properly, with enough attention being paid to how the receiver is going to perceive and process it. To learn more on giving feedback, see our articles on Giving and Receiving Feedback, The GROW Model, and 360° Feedback.

Participation and Articulating Vision (Statements 3, 9, 10)

Your score out of 15 for these statements: _____

Articulating the team's vision is fundamental to developing a high performing team. It's the vision that motivates and directs a team to reach its goal.

The best teams invest a great deal of time and energy into exploring and understanding the overall purpose and vision of the team. From this vision, a set of goals and objectives emerges that helps the team stay focused and on track.

The key to using vision successfully is making the process of discovering it a participative one. You can tell a team what the vision is and team members may or may not agree that the cause is worth working hard for. If, however, you allow the team to explore the vision, to see how their specific roles fit into the big picture, and provide meaningful opportunities for team members to assist in the team's success, then you have the basis for a high performing team.

To learn more about tying vision to goals see Performance Management and KPIs, The Balanced Scorecard, and Management By Objectives. To learn where you sit on the participative management scale, see the article on The Blake-Mouton Managerial Grid. The articles on Avoiding Micromanagement and Successful Delegation discuss why it is important to provide challenges to your team members and allow them to use their skills and abilities to the fullest.

Managing Conflict (Statements 2, 12, 14)

Your score out of 15 for these statements: _____

Conflict can be an inevitable consequence of working with other people. Opinions, values, styles, and a whole host of other differences provide more than enough grounds for disagreement. This disagreement is actually part of the reason why teams can be so effective – the more perspectives that go into a process, the better the end result. usually!

Allowing the differences to get out of hand, though, causes unnecessary disruption and leads to breakdowns in working relationships. Team members and leaders should take it upon themselves to understand the basics of conflict management and also learn more about different styles and ways of thinking and working.

For more information on effectively managing conflict, see Managing Conflict, Theory X. Theory Y and Role Playing.

Group Roles and Structure (Statements 6, 8, 14, 15)

Your score out of 20 for these statements: _____

The differences between how people work and view the world make for interesting conversations and dynamic teams. An effective team capitalizes on these natural differences and maximizes performance by putting the right people in the right roles.

The articles on RACI and Task Allocation discuss this exact issue and provide practical methods for getting the most out of your team.

Some research has also been done on the different types of roles people play within teams. While the jury is still out on the detail of this research, having insight into the types of roles that are taken on in teams can help you see which roles and behaviors are constructive and which ones aren't. Mind Tools has featured two such models of team roles: Belbin's Team Roles and Benne and Sheats' Team Roles.

Team Member Development (Statements 7, 12)

Your score out of 10 for these statements: _____

No matter what role a person plays in a team, or what tasks he or she has been assigned to, there is almost always room for personal improvement. When the individuals on a team are functioning at high capacity, the team can flourish as well.

This is a critical understanding in team performance. Although there is no 'I' in 'Team' you have to remember there is no team without individuals. You have to build and foster the skills in the individuals that are congruent with the needs of the team.

To do this, requires a solid understanding of training methods and ways of identifying the needs of the team members. The article on Successful Induction talks about setting out a training needs analysis from day one. The articles on Understanding Developmental Needs and Training Needs Assessment provide practical tips for identifying areas that need improvement.

Understanding and Collaboration (Statements 5, 14)

Your score out of 10 for these statements: _____

The last area of team functioning explored by this quiz covers how well you and your team are able to collaborate and understand the key issues facing the team. Again, this goes back to the idea of cohesion. Members of successful teams all head in the same direction, and work for the same purpose.

When priorities and goals diverge, tensions appear within the team, and the whole is often no longer greater than the sum of its parts. This is a fundamental issue for high performing teams. Consensus, consistency and agreement are vital for effective teamwork.

Even if your test score didn't point to this aspect of teamwork, the articles on Concept Attainment and the Delphi Technique are highly recommended.

Key Points

An effective team is much more than a bunch of people thrown together to accomplish a goal. Because teams are such an inherent part of how we work, it is easy to believe we know what makes a team perform well, however this is often not the case.

Using this test, you can uncover areas of improvement that will help you become a better overall team member and team builder.

1.7 Forming, Storming, Norming, Performing

Helping new teams perform effectively, quickly

Effective teamwork is essential in today's world, but as you'll know from the teams you have led or belonged to, you can't expect a new team to perform exceptionally from the very outset. Team formation takes time, and usually follows some easily recognizable stages, as the team journeys from being a group of strangers to becoming united team with a common goal.

Whether your team is a temporary working group or a newly-formed, permanent team, by understanding these stages you will be able to help the team quickly become productive.

Understanding the Theory

Psychologist Bruce Tuckman first came up with the memorable words 'forming, storming, norming and performing' back in 1965 to describe the path to high-performance that most teams follow. Later, he added a fifth stage that he called 'adjourning' (and others often call 'mourning' – it rhymes better!)

Teams initially go through a '**Forming'** stage in which members are positive and polite. Some members are anxious, as they haven't yet worked out exactly what work the team will involve. Others are simply excited about the task ahead. As leader, you play a dominant role at this stage: other members' roles and responsibilities are less clear.

This stage is usually fairly short, and may only last for a single meeting at which people are introduced to one-another. At this stage there may be discussions about how the team will work, which can be frustrating for some members who simply want to get on with the team task.

Soon, reality sets in and your team moves into a '**Storming'** phase. Your authority may be challenged as others jockey for position as their roles are clarified. The ways of working start to be defined, and as leader you must be aware that some members may feel overwhelmed by how much there is to do, or uncomfortable with the approach being used. Some react by questioning how worthwhile the goal of the team is and resist taking on tasks. This is the stage when many teams fail, and even those who stick with it feel that they are on an emotional roller coaster as they try to focus on the job in hand without the support of established processes or relationships with their colleagues.

Gradually, the team moves into a '**Norming'** stage, as a hierarchy is established. Team members come to respect your authority as leader, and others show leadership in specific areas.

Now the team members know each other better, they may be socializing together, and they are able to ask each other for help and provide constructive criticism. The team is developing a strong commitment to the team goal, and you start to see good progress towards it.

There is often a prolonged overlap between storming and norming behavior: As new tasks come up, the team may lapse back into typical storming stage behavior, but this eventually dies out.

When the team reaches the '**Performing'** stage, hard work leads directly to progress towards the shared vision of their goal, supported by the structures and processes which have been set up. Individual team members may join or leave the team without affecting the performing culture.

As leader, you are able to delegate much of the work and can concentrate on developing team members. Being part of the team at this stage feels 'easy' compared with earlier on.

Project teams exist only for a fixed period, and even permanent teams may be disbanded through organizational restructuring. As team leader, your concern is both for the team's goal and the team members. Breaking up a team can be stressful for all concerned and the '**Adjourning'** or '**Mourning'** stage is important in reaching both team goal and personal conclusions.

The break up of the team can be particularly hard for members who like routine or have developed close working relationships with other team members, particularly if their future roles or even jobs look uncertain.

Using the Tool

As a team leader, your aim is to help your team reach and sustain high performance as soon as possible. To do this, you will need to change your approach at each stage. The steps below will help ensure you are doing the right thing at the right time.

1. Identify which stage of the team development your team is at from the descriptions above.

2. Now consider what needs to be done to move towards the Performing stage, and what you can do to help the team do that effectively. The table below (Figure 1) helps you understand your role at each stage and how to move the team forward.

Figure 1: Leadership Activities at Different Group Formation Stages

Stage	Activity
Forming	Direct the team clearly. Establish objectives clearly (perhaps with a team charter – click here for our article on Team Diagnostics, which gives more information on these.)
Storming	Establish process and structure, and work to smooth conflict and build good relationships between team members. Generally provide support, especially to those team members who are less secure. Remain positive and firm in the face of challenges to your leadership or the team's goal. Perhaps explain the 'forming, storming, norming and performing' idea so that people understand why conflict's occurring, and understand that things will get better in the future.
Norming	Step back and help the team take responsibility for progress towards the goal. This is a good time to arrange a social or team-building event.
Performing	Delegate as far as you sensibly can. Once the team has achieved high performance, you should aim to have as 'light a touch' as you can. You will now be able to start focusing on other goals and areas of work.
Adjourning	When breaking up a team, take the time to celebrate its achievements. After all, you may work with some of these people again, and this will be much easier if people view past experiences positively.

3. Schedule regular reviews of where your teams are, and adjust your behavior and leadership approach to suit the stage your team has reached.

Tip 1:
Make sure that you leave plenty of time in your schedule to coach team members through the 'Forming', 'Storming' and 'Norming' stages.

Tip 2:
Think about how much progress you should expect towards the goal and by when, and measure success against that. Remember that you've got to go through the 'Forming', 'Storming' and 'Norming' stages before the team starts 'Performing', and that there may not be much progress during this time. Communicating progress against appropriate targets is important if your team's members are to feel that what they're going through is worth while. Without such targets, they can feel that, 'Three weeks have gone by and we've still not got anywhere'.

Tip 3:
Not all teams and situations will behave in this way, however many will – use this approach, but don't try to force situations to fit it. And make sure that people don't use knowledge of the 'storming' stage as a license for boorish behavior.

Another useful model of team formation is Cog's Ladder. The phases of each model largely correspond with each other, although Cog's Ladder includes an additional 'Why are we here?' phase which falls across Tuckman's Forming and Storming phases.

Key Points

Teams are formed because they can achieve far more than their individual members can on their own, and while being part of a high-performing team can be fun, it can take patience and professionalism to get to that stage.

Effective team leaders can accelerate that process and reduce the difficulties that team members experience by understanding what they need to do as their team moves through the stages from forming to storming, norming and, finally, performing.

1.8 Belbin's Team Roles

How understanding team roles can improve team performance

When a team is performing at its best, you'll usually find that each team member has clear responsibilities. Just as importantly, you'll normally see that every role needed to achieve the team's goal is being performed fully and well.

But often, despite clear roles and responsibilities, a team will fall short of its full potential.

How often does this happen in the teams you work with? Perhaps some team members don't complete what you expect them to do. Perhaps some team members are not quite flexible enough, so things 'fall between the cracks'. Maybe someone who is valued for their expert input fails to see the wider picture, and so misses out tasks or steps that others would expect. Or perhaps one team member become frustrated because he or she disagrees with the approach of another team members.

Dr Meredith Belbin studied team-work for many years, and he famously observed that people in teams tend to assume different 'team roles'. He defines a 'team role' as 'a tendency to behave,

contribute and interrelate with others in a particular way' and named nine such team roles that underlie team success.

Creating More Balanced Teams

Belbin suggests that, by understanding your team role within a particular team, you can develop your strengths and manage your weaknesses as a team member, and so improve how you contribute to the team.

Team leaders and team development practitioners often use the Belbin model to help create more balanced teams. Teams can become unbalanced if all team members have similar styles of behavior or team roles.

If team members have similar weakness, the team as a whole may tend to have that weakness. If team members have similar team-work strengths, they may tend to compete (rather than co-operate) for the team tasks and responsibilities that best suit their natural styles. So you can use the model with your team to help ensure that necessary team roles are covered, and that potential behavioral tensions or weaknesses among the team member are addressed.

Tip:
Belbin's 'team-roles' are based on observed behavior and interpersonal styles.

Whilst Belbin suggests that people tend to adopt a particular team-role, bear in mind that your behavior and interpersonal style within a team is to some extent dependent on the situation: It relates not only to your own natural working style, but also to your interrelationships with others, and the work being done.

Be careful: You, and the people you work with, may behave and interact quite differently in different teams or when the membership or work of the team changes.

Also, be aware that there are other approaches in use, some of which complement this model, some of which conflict with it. By all means use this approach as a guide, however do not put too much reliance on it, and temper any conclusions with common sense.

Understanding Belbin's Team Roles Model

Belbin identified nine team roles and he categorized those roles into three groups: Action Oriented, People Oriented, and Thought Oriented. Each team role is associated with typical behavioral and interpersonal strengths.

Belbin also defined characteristic weaknesses that tend to accompany the team-role. He called the characteristic weaknesses of team-roles the 'allowable' weaknesses; as for any behavioral weakness, these are areas to be aware of and potentially improve.

The nine team-roles are:

Action Oriented Roles:

Shaper (SH)

Shapers are people who challenge the team to improve. They are dynamic and usually extroverted people who enjoy stimulating others, questioning norms, and finding the best approaches to problems. The Shaper is the one who shakes things up to make sure that all possibilities are considered and that the team does not become complacent.

Shapers often see obstacles as exciting challenges and they tend to have the courage to push on when others feel like quitting.

Their potential weaknesses may be that they're argumentative, and that they may offend people's feelings.

Implementer (IMP)

Implementers are the people who get things done. They turn the team's ideas and concepts into practical actions and plans. They are typically conservative, disciplined people who work systematically and efficiently and are very well organized. These are the people who you can count on to get the job done.

On the downside, Implementers may be inflexible and somewhat resistant to change.

Completer-Finisher (CF)

Completer-Finishers are the people who see that projects are completed thoroughly. They ensure there have been no errors or omissions and they pay attention to the smallest of details. They are very concerned with deadlines and will push the team to make sure the job is completed on time. They are described as perfectionists who are orderly, conscientious, and anxious.

However, a Completer-Finisher may worry unnecessarily and find it hard to delegate.

People Oriented Roles:

Coordinator (CO)

Coordinators are the ones who take on the traditional team-leader role and have also been referred to as the chairmen. They guide the team to what they perceive are the objectives. They are often excellent listeners and they are naturally able to recognize the value that each team members brings to the table. They are calm and good-natured and delegate tasks very effectively.

Their potential weaknesses are that they may delegate away too much personal responsibility, and may tend to be manipulative.

Team Worker (TW)

Team Workers are the people who provide support and make sure the team is working together. These people fill the role of negotiators within the team and they are flexible, diplomatic, and perceptive. These tend to be popular people who are very capable in their own right but who prioritize team cohesion and helping people getting along.

Their weaknesses may be a tendency to be indecisive, and maintain uncommitted positions during discussions and decision-making.

Resource Investigator (RI)

Resource Investigators are innovative and curious. They explore available options, develop contacts, and negotiate for resources on behalf of the team. They are enthusiastic team members, who identify and work with external stakeholders to help the team accomplish its objective. They are outgoing and are often extroverted, meaning that others are often receptive to them and their ideas.

On the downside, they may lose enthusiasm quickly, and are often overly optimistic.

Thought Oriented Roles:

Plant (PL)

The Plant is the creative innovator who comes up with new ideas and approaches. They thrive on praise but criticism is especially hard for them to deal with. Plants are often introverted and prefer to work apart from the team. Because their ideas are so novel, they can be impractical at times. They may also be poor communicators and can tend to ignore given parameters and constraints.

Monitor-Evaluator (ME)

Monitor-Evaluators are best at analyzing and evaluating ideas that other people (often Plants) come up with. These people are shrewd and objective and they carefully weigh the pros and cons of all the options before coming to a decision.

Monitor-Evaluators are critical thinkers and very strategic in their approach. They are often perceived as detached or unemotional. Sometimes they are poor motivators who react to events rather than instigating them

Specialist (SP)

Specialists are people who have specialized knowledge that is needed to get the job done. They pride themselves on their skills and abilities, and they work to maintain their professional status. Their job within the team is to be an expert in the area, and they commit themselves fully to their field of expertise. This may limit their contribution, and lead to a preoccupation with technicalities at the expense of the bigger picture.

Figure 1: Belbin's Team Roles

Action Oriented Roles	Shaper	Challenges the team to improve.
	Implementer	Puts ideas into action.
	Completer Finisher	Ensures thorough, timely completion.
People Oriented Roles	Coordinator	Acts as a chairperson.
	Team Worker	Encourages cooperation.
	Resource Investigator	Explores outside opportunities.
Thought Oriented Roles	Plant	Presents new ideas and approaches.
	Monitor-Evaluator	Analyzes the options.
	Specialist	Provides specialized skills.

To find out which team roles you naturally fulfil, or to profile your team, visit www.belbin.com.

How to Use the Tool

The Belbin Team Roles Model can be used in several ways: You can use it to think about team balance before a project starts, you can use it to highlight and so manage interpersonal differences within an existing team, and you can use it to develop yourself as a team player.

The tool below helps you analyze team membership, using the Belbin team roles as checks for potential strengths and weakness.

Use Belbin's model to analyze your team, and as a guide as you develop your team's strengths, and manage its weaknesses:

1. Over a period of time, observe the individual members of your team, and see how they behave, contribute and behave within the team.

2. Now list the members of the team, and for each person write down the key strengths and characteristics you have observed. (You may also want to note down any observed weaknesses).

3. Compare each person's listed strengths and weakness with the Belbin's descriptions of team-roles, and note the one that most accurately describes that person.

4. Once you have done this for each team member, consider the following questions:

    - Which team roles are missing from your team? And from this, ask yourself which strengths are likely to be missing from the team overall?
    - Is there are prevalent team role that many of the team members share?

Tip: Prevalent team roles:
Among teams of people that do the same job, a few team roles often prevail. For example, within a research department, the team roles of Specialist and Plant may prevail. A team of business consultants may mainly comprise Team Workers and Shapers. Such teams may be unbalanced, in that they may be missing key approaches and outlooks.

If the team is unbalanced, first identify any team weakness that is not naturally covered by any of the team members. Then identify any potential areas of conflict. For example, too many Shapers can weaken a team if each Shaper wants to pull the team in a different direction.

5. Once you have identified potential weakness, areas of conflict and missing strengths, consider the options you have to improve and change this.

5. Consider:
    - Whether an existing team member could compensate by purposefully adopting different a team role. With awareness and intention, this is sometimes possible.
    - Whether one or more team members could improve how they work together and with others to avoid potential conflict of their natural styles.
    - Whether new skills need to brought onto the team to cover weaknesses.

Tip:
Remember not to depend too heavily on this idea when structuring your team – this is only one of many, many factors that are important in getting a team to perform at its best.

That said, just knowing about the Belbin Team Roles model can bring more harmony to your team, as team members learn that there are different approaches that are important in different circumstances and that no one approach is best all of the time.

1.9 Successful Delegation

Worksheet

Using the power of other people's help

Even 'Super-You' needs help and support. There is no shame in asking for assistance. Push aside the pride and show respect for the talent others can bring to the table.

And, remember that there is no such thing as a single-handed success: When you include and acknowledge all those in your corner, you propel yourself, your teammates and your supporters to greater heights.

– Author Unknown.

Do you feel stressed and overloaded? Or that your career seems stalled? If so, then you may need to brush up your delegation skills!

If you work on your own, there's only a limited amount that you can do, however hard you work. You can only work so many hours in a day. There are only so many tasks you can complete in these hours. There are only so many people you can help by doing these tasks. And, because the number of people you can help is limited, your success is limited.

However, if you're good at your job, people will want much more than this from you.

This can lead to a real sense of pressure and work overload: You can't do everything that everyone wants, and this can leave you stressed, unhappy, and feeling that you're letting people down.

On the positive side, however, you're being given a tremendous opportunity if you can find a way around this limitation. If you can realize this opportunity, you can be genuinely successful!

One of the most common ways of overcoming this limitation is to learn how to delegate your work to other people. If you do this well, you can quickly build a strong and successful team of people, well able to meet the demands that others place.

This is why delegation is such an important skill, and is one that you absolutely have to learn!

Why People Don't Delegate

To figure out how to delegate properly, it's important to understand why people avoid it. Quite simply, people don't delegate because it takes a lot of up-front effort.

After all, which is easier: designing and writing content for a brochure that promotes a new service you helped spearhead, or having other members of your team do it?

You know the content inside and out. You can spew benefit statements in your sleep. It would be relatively straightforward for you to sit down and write it. It would even be fun! The question is, 'Would it be a good use of your time?'

While on the surface it's easier to do it yourself than explain the strategy behind the brochure to someone else, there are two key reasons that mean that it's probably better to delegate the task to someone else:

- First, if you have the ability to spearhead a new campaign, the chances are that your skills are better used further developing the strategy, and perhaps coming up with other new ideas. By doing the work yourself, you're failing to make best use of your time.

- Second, by meaningfully involving other people in the project, you develop those people's skills and abilities. This means that next time a similar project comes along, you can delegate the task with a high degree of confidence that it will be done well, with much less involvement from you.

Delegation allows you to make the best use of your time and skills, and it helps other people in the team grow and develop to reach their full potential in the organization.

When to Delegate

Delegation is a win-win when done appropriately, however that does not mean that you can delegate just anything. To determine when delegation is most appropriate there are five key questions you need to ask yourself:

- Is there someone else who has (or can be given) the necessary information or expertise to complete the task? Essentially is this a task that someone else can do, or is it critical that you do it yourself?

- Does the task provide an opportunity to grow and develop another person's skills?

- Is this a task that will recur, in a similar form, in the future?

- Do you have enough time to delegate the job effectively? Time must be available for adequate training, for questions and answers, for opportunities to check progress, and for rework if that is necessary.

- Is this a task that I should delegate? Tasks critical for long-term success (for example, recruiting the right people for your team) genuinely do need your attention.

If you can answer 'yes' to at least some of the above questions, then it could well be worth delegating this job.

Other factors that contribute to the delegability of a task include:

1. The project's timelines/deadlines.
    - How much time is there available to do the job?
    - Is there time to redo the job if it's not done properly the first time?
    - What are the consequences of not completing the job on time?

2. Your expectations or goals for the project or task(s), including:
    - How important is it that the results are of the highest possible quality?
    - Is an 'adequate' result good enough?
    - Would a failure be crucial?
    - How much would failure impact other things?

That being said, having all these conditions present is no guarantee that the delegated task will be completed successfully either. You also need to consider to whom you will delegate the task and how you will do it.

The Who and How of Delegating

Having decided to delegate a task there are some other factors to consider as well. As you think these through you can use our free Delegation Worksheet to keep record of the tasks you choose to delegate and who you want to delegate them to.

To Whom Should You Delegate?

The factors to consider here include:

1. The experience, knowledge and skills of the individual as they apply to the delegated task.
    - What knowledge, skills and attitude does the person already have?
    - Do you have time and resources to provide any training needed?

2. The individual's preferred work style.
    - How independent is the person?
    - What does he or she want from his or her job?
    - What are his or her long-term goals and interest, and how do these align with the work proposed?

3. The current workload of this person.
    - Does the person have time to take on more work?
    - Will you delegating this task require reshuffling of other responsibilities and workloads?

When you first start to delegate to someone, you may notice that he or she takes longer than you do to complete tasks. This is because you are an expert in the field and the person you have delegated to is still learning. Be patient: if you have chosen the right person to delegate to, and you are delegating correctly, you will find that he or she quickly becomes competent and reliable.

How Should You Delegate?

Use the following principles to delegate successfully:

1. Clearly articulate the desired outcome. Begin with the end in mind and specify the desired results.

2. Clearly identify constraints and boundaries. Where are the lines of authority, responsibility and accountability? Should the person:
    - Wait to be told what to do?
    - Ask what to do?
    - Recommend what should be done, and then act?
    - Act, and then report results immediately?
    - Initiate action, and then report periodically?

3. Where possible, include people in the delegation process. Empower them to decide what tasks are to be delegated to them and when.

4. Match the amount of responsibility with the amount of authority. Understand that you can delegate some responsibility, however you can't delegate away ultimate accountability. The buck stops with you!

5. Delegate to the lowest possible organizational level. The people who are closest to the work are best suited for the task, because they have the most intimate knowledge of the detail of everyday work. This also increases workplace efficiency, and helps to develop people.

6. Provide adequate support, and be available to answer questions. Ensure the project's success through ongoing communication and monitoring as well as provision of resources and credit.

7. Focus on results. Concern yourself with what is accomplished, rather than detailing how the work should be done: Your way is not necessarily the only or even the best way! Allow the person to control his or her own methods and processes. This facilitates success and trust.

8. Avoid 'upward delegation'. If there is a problem, don't allow the person to shift responsibility for the task back to you: ask for recommended solutions; and don't simply provide an answer.

9. Build motivation and commitment. Discuss how success will impact financial rewards, future opportunities, informal recognition, and other desirable consequences. Provide recognition where deserved.

10. Establish and maintain control.
    - Discuss timelines and deadlines.
    - Agree on a schedule of checkpoints at which you'll review project progress.
    - Make adjustments as necessary.
    - Take time to review all submitted work.

In thoroughly considering these key points prior to and during the delegation process you will find that you delegate more successfully.

Keeping Control

Now, once you have worked through the above steps, make sure you brief your team member appropriately. Take time to explain why they were chosen for the job, what's expected from them during the project, the goals you have for the project, all timelines and deadlines and the resources on which they can draw. And agree a schedule for checking-in with progress updates.

Lastly, make sure that the team member knows that you want to know if any problems occur, and that you are available for any questions or guidance needed as the work progresses.

We all know that as managers, we shouldn't micro-manage. However, this doesn't mean we must abdicate control altogether: In delegating effectively, we have to find the sometimes-difficult balance between giving enough space for people to use their abilities to best effect, while still monitoring and supporting closely enough to ensure that the job is done correctly and effectively.

The Importance of Full Acceptance

When delegated work is delivered back to you, set aside enough time to review it thoroughly. If possible, only accept good quality, fully-complete work. If you accept work you are not satisfied with, your team member does not learn to do the job properly. Worse than this, you accept a whole new tranche of work that you will probably need to complete yourself. Not only does this

overload you, it means that you don't have the time to do your own job properly. Of course, when good work is returned to you, make sure to both recognize and reward the effort. As a leader, you should get in the practice of complimenting members of your team every time you are impressed by what they have done. This effort on your part will go a long way toward building team member's self-confidence and efficiency, both of which will be improved on the next delegated task; hence, you both win.

Key Points

At first sight, delegation can feel like more hassle than it's worth, however by delegating effectively, you can hugely expand the amount of work that you can deliver.

When you arrange the workload so that you are working on the tasks that have the highest priority for you, and other people are working on meaningful and challenging assignments, you have a recipe for success.

To delegate effectively, choose the right tasks to delegate, identify the right people to delegate to, and delegate in the right way. There's a lot to this, but you'll achieve so much more once you're delegating effectively!

1.10 Task Allocation

Picking the right player for the right job

In any team sport, a lot of time is spent choosing the players who will play in each game. The selection process also involves deciding the position where each team member will play, based on the player's skill, form (current ability to perform well) and the likely opposition that the team will face.

Just as this is true in sport, it is true in business. Leaders need to select the right people for the right jobs, and assign them tasks that fit with their skills and proficiencies. This provides structure.

So how do you do this? To field a match-winning team, first you need to understand the game that has to be played and the skills and abilities required to play it: There's no point asking a football team to play baseball if you want to win at the top level.

Then you have to place the correct player in the correct position. Mere common sense, you would think – but then, as the old quip goes, 'common sense is often quite uncommon'.

How to Use the Tool

Here we give you the four-step 'BALM' method to achieve correct role allocation:

Break down the broader team goals into specific, individual tasks. List all tasks, and then rank each task in terms of importance;

Analyze and list the competencies required to perform each task;

List the competencies of each team member;

Match individuals to task competencies.

Tip 1:
An easy way of doing this is to write down the competencies needed for each task on one color of Post-It® Note, and the competencies of each team member on another color of Post-It Note. You can then move these around as you match people to roles.

Post-It® is a trademark of 3M Corporation.

This is great as a starting point, but in the real world you'll most-likely find lots of overlaps and lots of gaps. In such cases you have to take considered decisions.

Overlaps and Gaps

Where you have overlaps, you have two choices: Either allotting better qualified individuals to more important tasks, or allocating the task to the person at the lowest organizational level who is qualified to do the job. Both approaches have their virtues, but in different situations: One allows you to do the job with a higher level of certainty, the other allows you to do it more efficiently and at a lower cost.

Where you have a gap, you may need to train existing team members, or recruit to fill the gap. Often, training is the best option: Not only is it usually cheaper, you also know more about the individual's talents and working methods. On the downside, a newly trained person usually has plenty of theory, but lacks the experience of putting that training into practice.

Recruitment often takes a very long time (time to agree the role internally, advertise it, screen resumes, interview candidates, select, wait for notice periods to be served, train the individual in organizational methods, and so on) and can be very expensive. It is also risky: Even using the best interviewing and testing methods, it's possible for candidates to cover up failings that only become obvious once someone's been in a role for several months.

Tip 2:
A useful piece of advice handed down from generation to generation of manager is to 'never underestimate the value of team spirit, motivation and hard work'. (This advice usually also concludes 'And never over-estimate people's knowledge and understanding'.)

Tip 3:
However if someone is letting the team down, you need to be active in managing this. Non-performers set a poor example to the team, and block performance of activities that are essential for success.

Make sure that you talk to the person who is failing to perform to make them aware of the situation. And make sure that you quickly understand and remove any blocks on performance. Give a controlled number of short but fair opportunities to perform as required (being 'hard nosed' about this, correcting a situation bears results much more quickly than recruiting new team members). However, if performance doesn't improve to satisfactory levels, then the non-performer needs to be moved off the team.

Briefing Each Team Member

Having decided which team member will fill each role, you have to communicate the decision to your team.

Each team member should know his or her position within the team. The roles of each person should be clearly defined, with individual responsibilities, authority and accountability clearly spelled out (it's often best to do this in writing).

A hint to remember is that no member of your team should be thinking:

- What are we here for?
- What are we supposed to do?
- What part can I play?

Tip 4:
Keep your team lean, but make sure you have back-ups or substitutes for key roles. It is important to have 'a few good people' rather than have 'too many people'. But remember to have back-ups in case you lose key people.

Tip 5:
Research shows that diverse teams can be more successful than teams with a very similar background. People in diverse teams bring different experiences, are less prone to 'group-think' and tend to suffer less from the conflicts that can arise when similar people work together.

(That said, be careful with some of the team design schemes in common use – the research base for some them is quite weak).

1.11 The GROW Model

Coaching team members to improve performance

One key role of any leader is to coach team members to achieve their best. As 'coach', you will typically help your team members to solve problems, make better decisions, learn new skills or otherwise progress in their role or career.

Whilst some leaders are fortunate enough to get formal training as coaches, many are not. They have to develop coaching skills for themselves.

Now this may sound daunting. But if you arm yourself with some of proven techniques, find opportunities to practice and learn to trust your instincts, you can become a better coach, and so enhance your team's performance.

One proven approach that helps with this it the GROW model. GROW is an acronym standing for **G**oal – Current **R**eality – **O**ptions – **W**ill. The model is a simple yet powerful framework for structuring a coaching session.

A useful metaphor for the GROW model is the plan you might make for an important journey. First, you start with a the map: With this, you help your team member decide where they are going (their Goal) and establish where they currently are (their Current Reality). Then you explore various ways (the Options) of making the journey. In the final step, establishing the Will, you ensure your team member is committed to making the journey and is prepared for the conditions and obstacles they may meet on their way.

Tip 1: Know Your Own Role
In its traditional application, the GROW model assumes that the coach is not an expert in the 'client's' situation, and therefore must act as an objective facilitator, helping the client select the best options and not offering advice or direction.

However, when a leader coaches his or her team members, other dynamics are in play: As a leader you will usually have some expert knowledge to offer (see our article on expert power.) Also, it's your job to guide the selection of options which are best for your organization, and veto options that are harmful.

How to Use the Tool

Use the following steps to structure a coaching session:

1. *Establish the Goal:*

   First, with your team member, you must define and agree the goal or outcome to be achieved. You should help your team member define a goal that is specific, measurable and realistic.

   In doing this, it is useful to ask questions like:

   'How will you know that you have achieved that goal?'
   'How will you know the problem is solved?'

2. *Examine Current Reality:*

   Next, ask your team member to describe their Current Reality. This is a very important step: Too often, people try to solve a problem without fully considering their starting point, and often they are missing some of the information they need to solve the problem effectively.

   As the team member tells you about his or her Current Reality, the solution may start to emerge.

   Useful coaching questions include:

   'What is happening now?'
   'What, who, when, how often'
   'What is the effect or result of that?'

3. *Explore the Options:*

   Once you and your team member have explored the Current Reality, it's time to explore what is possible – meaning, all the many possible options you have for solving the problem. Help your team member generate as many good options as possible, and discuss these.

   By all means, offer your own suggestions. But let your team member offer his or hers first, and let him or her do most of the talking.

   Typical questions used to establish the options are:

   'What else could you do?'
   'What if this or that constraint were removed?
   'What are the benefits and downsides of each option?'
   'What factors will you use to weigh up the options?

4. *Establish the Will:*

   By examining Current Reality and exploring the Options, your team member will now have a good idea of how he or she can achieve their Goal. That's great – but in itself, this may not be enough! So your final step as coach is to get you team member to commit to

specific action. In so doing, you will help the team member establish his or her will and motivation.

Useful questions:

'So what will you do now . and when?
'What could stop you moving forward?'
'And how will you overcome it?'
'Will this address your goal?'
'How likely is this option to succeed?'
'What else will you do?'

Tip 2: Practice by Coaching Yourself
A great way to practice using the model is to address your own challenges and issues. When you are 'stuck' with something, you can use the technique to coach yourself. By practicing on your own challenges and issues, you will learn how to ask the most helpful questions. Write down some stock questions as prompts for future coaching sessions.

Tip 3: Ask Great Questions. and Listen Well
The two most important skills for a coach are the ability to ask good questions, and effective listening.

Don't ask closed questions: 'Did that cause a problem?' Do ask open ones: 'What affect did that have?' Be prepared with a list of questions to for each stage of the G-R-O-W process.

Listen well and let your 'client' do most of the talking. Remember that silence is valuable thinking time: You don't always have to fill silence with the next question.

1.12 Mentoring: An Essential Leadership Skill

Mentoring from a mentor's perspective

Mentoring is an essential leadership skill. In addition to managing and motivating people, it's also important that you can help others learn, grow and become more effective in their jobs. You can do this through a mentoring partnership, which you can arrange within your organization or through a personal or professional network, like the Mind Tools Mentor Network for Premium members of our Career Excellence Club.

Should you become a mentor? And what do you need to consider before setting up a mentoring relationship? In this article, we'll highlight some things a mentor does and doesn't do, and we'll help you decide whether mentoring is right for you.

Becoming a Mentor

Mentoring can be a rewarding experience for you, both personally and professionally. You can improve your leadership and communication skills, learn new perspectives and ways of thinking, advance your career, and gain a great sense of personal satisfaction.

To learn more about the advantages of mentoring, see Mentoring: A Mutually Beneficial Partnership.

Is Mentoring Right for You?

Even if you understand the benefits of mentoring and it sounds like a great idea, you have to decide whether it's right for you. To explore your reasons for mentoring and whether you want to take this type of commitment further, ask yourself these questions:

- Do you want to share your knowledge and experience with others?
- Do you enjoy encouraging and motivating others?
- Are you comfortable asking challenging questions?
- Do you want to contribute to other people's growth and success?
- Are you prepared to invest your time in mentoring on a regular basis?
- How will mentoring contribute toward your own career goals?
- How will mentoring add to your sense of contribution and community?
- What type of person do you ideally want to mentor? Can you describe the professional and personal qualities of this person? Do you want someone from the same profession or the same career path?
- In what areas are you willing to help? Are there any areas that you don't want to go near?

Clarify your reasons and motivations for becoming a mentor. When you meet a prospective mentee, this will help you assess your compatibility.

What You Should Consider

Although you may want to jump right in with both feet, think about these practical considerations:

- **Frequency of contact** – How much time can you commit to this relationship?
    - Can you 'meet' weekly? Biweekly? Once a month?
    - How long can you spend in each meeting? Half an hour? An hour? More?
    - Do you want to be available between 'formal' sessions?
- **Method of contact** – Would you prefer face-to-face meetings, phone calls, or emails? If you were to use phone calls, who places the call? Can you both use an Internet phone service such as Skype (giving high quality, free local and international calls)?
- **Duration of partnership** – Do you want to limit the length of the mentoring partnership? Do you want to set regular intervals to review whether you're both happy with the relationship, or do you just want to informally review progress on an ongoing basis?
- **Skills, knowledge, and experience** – What specific expertise can you offer to a mentee?
- **Confidentiality** – How will you approach confidential business information? Think of ways to speak about general concepts and situations while maintaining confidentiality.

Where to Draw the Line

When developing a mentoring partnership, make sure you have clear boundaries of what you can and cannot do for the mentee.

Answer the above questions to help you clearly define these boundaries for yourself. Then, when you meet your potential mentee, you'll better understand your own mindset – what areas you're interested in covering, and what you will and will not do.

Take the lead on where you'll allow the mentoring relationship to go and what ground you'll cover. As a general guide, focus on your expertise and experience. If anything is beyond your skills and abilities, refer the mentee to another expert.

For example, if a discussion about human resources issues raises a concern about employment law, send your mentee to an internal expert or attorney. If conversations about work problems lead into personal or family problems, the mentee may need more focused professional help from a psychologist or therapist.

As a mentor, you can become the mentee's confidante and adviser. You may be called upon to be a 'sounding board' for all sorts of issues and concerns. So know in advance how you're going to deal with difficult situations and getting 'off subject.'

Key Points

A mentoring partnership can be an enriching experience. You can develop your leadership and communication skills as well as contribute toward your own career advancement.

Mentoring can also give you a great overall sense of personal satisfaction, knowing that you're helping someone else learn and grow on a professional and personal level.

Before you begin a mentoring partnership, it's important to think about your reasons for becoming a mentor and the practical considerations and logistics of such a relationship. If you decide that mentoring is right for you, the time and effort that you put into it can reap great rewards that far exceed your expectations.

1.13 How Good Are Your Motivation Skills?

Discover key factors for building a motivated team

Managers everywhere want teams that are effective, focused, and committed to organizational goals. With a team like this, just think of the performance and results you could deliver!

Teams only perform like this if their managers are motivating them effectively.

This is why you need to be able to motivate your team if you want to create a productive work environment. By combining good motivational practices with meaningful work, the setting of performance goals, and use of an effective reward system, you can establish the kind of atmosphere and culture that you need to excel.

The better you are able to link these factors together, the higher the motivation levels of your team are likely to be. That's a win-win for you, them, and the organization.

The interactive motivational skills quiz in this article helps you identify the aspects of team motivation that you can improve. From there you will be directed to specific tools that will help you improve your motivation skills.

Take the test and apply the things you learn from it. You could well see the performance of your team soar!

How Good Are Your Motivation Skills?

Instructions: For each statement, circle the number in the column that most applies to how often you do this.

Statement	Not At All	Rarely	Some-times	Often	Very Often
1. When faced with a performance problem, I take care to establish whether it is caused by lack of resource, lack of motivation, or lack of skills.	1	2	3	4	5
2. I establish clear performance standards and expectations.	1	2	3	4	5
3. The rewards and discipline I use are clearly linked to performance and defined behavioral objectives.	1	2	3	4	5
4. I structure work so that is interesting and challenging, and allows for appropriate autonomy.	1	2	3	4	5
5. When I give a reward I make sure it is one that the recipient values.	1	2	3	4	5
6. I am consistent in the way that I discipline people for sub-standard performance.	1	2	3	4	5
7. When I see good work, I praise it immediately.	1	2	3	4	5
8. I make sure people have the tools, resources, and training to achieve the results I expect.	1	2	3	4	5
9. I try to understand what motivates each individual member of my team.	1	2	3	4	5
10. I make a major effort to ensure that I offer competitive wages and other forms of compensation.	1	2	3	4	5
11. In order to be fair, I use the same rewards for everyone when recognizing good performance.	5	4	3	2	1
12. I help people establish performance goals that are challenging and specific, and that are linked to organizational objectives.	1	2	3	4	5
13. I make sure I know what is going on in the real work environment before taking any remedial or disciplinary action.	1	2	3	4	5
14. I encourage people to set their goals high, and make their achievement measurements challenge them fairly.	1	2	3	4	5
15. I try to combine and rotate job assignments so that people can learn and use a variety of skills.	1	2	3	4	5
TOTAL (Add up all the numbers you have circled)					

Score Interpretation

Score	Comment
15 – 34	Ouch. The good news is that you've got a great opportunity to improve the way you motivate others, and your and your team's long term success! However, to do this, you've got to fundamentally improve your motivation skills. Start below!
35 – 52	You're good at some aspects of motivating others, but there's room for improvement elsewhere. Focus on the serious issues below, and you'll most likely find that your team's performance will increase.
53 – 75	You're probably motivating your team very effectively! Still, check the sections below to see if there's anything you can tweak to make this even better.

As you responded to the statements, you probably had some insight into areas where the motivational practices you use could use a pick-me-up. The following is a quick summary of the main areas of motivation that were explored in the quiz, and a guide to the specific tools you can use for each.

Providing Productive and Challenging Work (Statements 1, 4, 15)

Your score out of 15: _____

The first step in building a highly motivated team is providing interesting work, which is well organized to meet the needs and desires of team members. No matter how self-motivated a person is, how challenging the goals he or she sets, or how wonderful the rewards, if the work is badly designed, it will be hard to motivate people and work will be less than ideal.

Effective motivators understand that work design has a strong impact on performance. When a person finds a job inherently unsatisfying, there's not much you can do to motivate him or her. Job design and enrichment combine to match characteristics of the job with workers' skills and interests: The more variety, challenge and autonomy there is to a job, the more intrinsically satisfying it will be.

Our article on Job Enrichment details how to set up meaningful work assignments. Other articles of interest include Pygmalion Motivation, which addresses the impact that your work assignments have on conscious and unconscious motivators, and Dealing with Poor Performance, which outlines steps that you can take to ensure you have a good fit between the person and the job.

Setting Effective Goals (Statements 2, 3, 12, 14)

Your score out of 20: _____

When you are confident that the work you provide is well organized, the next thing to do is to ensure that workers have clear and attainable goals that they're working to achieve. Managing the goal setting process is essential for creating a highly motivating environment. The effectiveness of goal setting in motivation is a well-recognized fact, and by making goals specific, consistent, and appropriately challenging, you can set goals that are powerfully motivating. As such, the SMART (Specific, Measurable, Attainable, Relevant, Time-bound) acronym helps you define effective goals.

Specific goals are measurable, unambiguous and behavior-changing. They outline exactly what needs to be accomplished, and when it will be considered as 'achieved'. Having goals that are consistent with other personal goals as well as organizational goals is also important. If goals are inconsistent, the resulting confusion and incompatibility would like cause the person to do nothing rather than work in different directions.

For more on goal setting, read our articles on Locke's Goal Setting, which explains the principle of setting SMART goals; Management By Objectives, which details how to align personal goals with those of the organization; Performance Management and KPIs and Performance Agreements.

Finally, challenge is important, due to the observation that we get what we expect. Up to a point, the more you expect from someone, the harder they will generally work. This has been shown time and again, and is explained by the idea of Expectancy Theory: The idea here is that you need to link high effort with high performance, and high performance with a positive outcome. With those two linkages established, people are motivated to work hard to achieve a positive outcome. Read more in our article on Expectancy Theory.

Tip:
Think carefully about the goals you set, and make sure you adapt them to circumstances in a reasonable way. If you're too rigid with your goals, you may motivate members of your team to 'cut corners' in order to reach them.

Understanding Individual Differences in Motivation (Statements 5, 9, 10, 11)

Your score out of 20: _____

Motivational techniques should bring out the best in people. That means they should build on an individual's strengths and minimize his or her weaknesses.

There are certainly some common denominators in motivation, like fair wages, decent working conditions, a sense of camaraderie with co-workers, and a good relationship with one's supervisor. Abraham Maslow and Frederick Herzberg are two famous motivation theorists who established that even if these sorts of things are not necessarily motivating in themselves, they have to be present in order to even think about enhancing motivation.

However, the assumption in most modern workplaces is that these lower order, 'hygiene' factors are being met, and that people are seeking the things that provide real motivation. These are things like challenging work, control, growth opportunities, and recognition for a job well done.

To decide which motivating factors to provide you need to look at the individual employees. Some will be motivated by more time off, while others may prefer to gain status and recognition in the company. Understanding these individual needs is mandatory for building a motivating workplace, and is why question 11 above is a 'trick question': if you try to motivate everyone in exactly the same way, you're likely missing plenty of opportunities for motivating individual members of your team.

Meeting peoples' needs, providing challenge, using a variety of rewards, and matching them to the right people are issues discussed in the following articles: Using Maslow's Hierarchy, Herzberg's Motivators and Hygiene Factors, Alderfer's ERG Theory, Theory X and Theory Y, Adam's Equity Theory, and Expectancy Theory.

Providing Rewards and Recognition (Statements 6, 7, 8, 13)

Your score out of 20: _____

When you know what you want to provide in terms of reward and recognition, it's important to establish an effective system. The primary focus of a reward system is fairness. Both reward and discipline have to be perceived as fairly distributed according to clear guidelines. This is why setting specific performance expectations is so important. ('Fairness' doesn't mean that everyone has the same reward package – it means that differences between people's reward packages need to be clear and understandable.)

It is equally important to make sure you give your team members the tools they need to be successful. If you're setting goals, then you need to make sure that they are attainable, and you do that by providing the necessary support, tools, resources, and training.

It's also important that you get to understand the challenges your team faces. This way you can appreciate the small victories that lead to the major accomplishments. Motivation is all about encouragement and appreciation.

When you are part of the team and not simply an 'observer from above' you will have many opportunities to thank people and recognize good work right on the spot. This is a really important factor in successful recognition. You have to be in a position to show or tell people everyday that you appreciate their contributions. **Once or twice a year in formal review process is not enough!**

To help you understand these key concepts and develop a great reward system, learn to use the following tools: Management By Walking Around, DILO (Day In The Life Of), Expectancy Theory, and 'A Bit of Perfume' – Giving Praise.

Key Points

If you want to build a high performance team, then you absolutely have to learn how to motivate team members. Side benefits of this include high levels of team-member job satisfaction, and good staff retention.

You can stimulate high performance through providing interesting and challenging work, helping people set and achieve meaningful goals, and recognizing and rewarding high performance in ways that are valued by each individual.

Making a point of motivating people is a challenge in and of itself. Once you decide you are up to it, however, you too will reap the rewards and benefits. This creates a momentum that will help you and your team achieve great success.

1.14 Herzberg's Motivators and Hygiene Factors

Learning how to motivate your team

What do people want from their jobs?

Do they want just a higher salary? Or do they want security, good relationships with co-workers, opportunities for growth and advancement – or something else altogether?

This is an important question, because it's at the root of motivation, the art of engaging with members of your team in such a way that they give their very best performance.

The psychologist Fredrick Herzberg asked the same question in the 1950s and 60s as a means of understanding employee satisfaction. He set out to determine the effect of attitude on motivation, by asking people to describe situations where they felt really good, and really bad, about their jobs. What he found was that people who felt good about their jobs gave very different responses from the people who felt bad.

These results form the basis of Herzberg's Motivation-Hygiene Theory (sometimes known as Herzberg's Two Factor Theory.) Published in his famous article 'One More Time: How do You Motivate Employees', the conclusions he drew were extraordinarily influential, and still form the bedrock of good motivational practice nearly half a century later.

Motivation-Hygiene Theory

Herzberg's findings revealed that certain characteristics of a job are consistently related to job satisfaction, while different factors are associated with job dissatisfaction. These are:

Factors for Satisfaction	Factors for Dissatisfaction
Achievement	Company Policies
Recognition	Supervision
The work itself	Relationship with Supervisor and Peers
Responsibility	Work conditions
Advancement	Salary
Growth	Status
	Security

The conclusion he drew is that job satisfaction and job dissatisfaction are not opposites.

- The opposite of Satisfaction is No Satisfaction.
- The opposite of Dissatisfaction is No Dissatisfaction.

Remedying the causes of dissatisfaction will not create satisfaction. Nor will adding the factors of job satisfaction eliminate job dissatisfaction. If you have a hostile work environment, giving someone a promotion will not make him or her satisfied. If you create a healthy work environment but do not provide members of your team with any of the satisfaction factors, the work they're doing will still not be satisfying.

According to Herzberg, the factors leading to job satisfaction are 'separate and distinct from those that lead to job dissatisfaction.' Therefore, if you set about eliminating dissatisfying job factors you may create peace, but not necessarily enhance performance. This placates your workforce instead of actually motivating them to improve performance.

The characteristics associated with job dissatisfaction are called hygiene factors. When these have been adequately, people will not be dissatisfied nor will they be satisfied. If you want to motivate your team, you then have to focus on satisfaction factors like achievement, recognition, and responsibility.

Note:
Despite its wide acceptance, Herzberg's theory has its detractors. Some say its methodology does not address the notion that when things are going well people tend to look at the things they enjoy about their job. When things are going badly, however, they tend to blame external factors.

Another common criticism is the fact that the theory assumes a strong correlation between job satisfaction and productivity. Herzberg's methodology did not address this relationship, therefore this assumption needs to be correct for his findings to have practical relevance.

To apply Herzberg's theory, you need to adopt a two stage process to motivate people. Firstly, you need eliminate the dissatisfactions they're experiencing and, secondly, you need to help them find satisfaction.

Step One: Eliminate Job Dissatisfaction

Herzberg called the causes of dissatisfaction 'hygiene factors'. To get rid of them, you need to:

- Fix poor and obstructive company policies.
- Provide effective, supportive and non-intrusive supervision.
- Create and support a culture of respect and dignity for all team members.
- Ensure that wages are competitive.
- Build job status by providing meaningful work for all positions.
- Provide job security.

All of these actions help you eliminate job dissatisfaction in your organization. And there's no point trying to motivate people until these issues are out of the way!

You can't stop there, though. Remember, just because someone is not dissatisfied, it doesn't mean he or she is satisfied either! Now you have to turn your attention to building job satisfaction.

Step Two: Create Conditions for Job Satisfaction

To create satisfaction, Herzberg says you need to address the motivating factors associated with work. He called this 'job enrichment'. His premise was that every job should be examined to determine how it could be made better and more satisfying to the person doing the work. Things to consider include:

- Providing opportunities for achievement.
- Recognizing workers' contributions.
- Creating work that is rewarding and that matches the skills and abilities of the worker.
- Giving as much responsibility to each team member as possible.
- Providing opportunities to advance in the company through internal promotions.
- Offering training and development opportunities, so that people can pursue the positions they want within the company.

Tip 1:
Here we're approaching the subject of motivation in a very general way. In reality, you'll need 'different strokes for different folks' – in other words, different people will perceive different issues, and will be motivated by different things. Make sure you talk with your people regularly on a one-to-one basis to find out what matters to them.

Tip 2:
Herzberg's theory is largely responsible for the practice of allowing people greater responsibility for planning and controlling their work, as a means of increasing motivation and satisfaction. To learn more about this, see the Mind Tools article on job enrichment.

Key Points

The relationship between motivation and job satisfaction is not overly complex. The problem is that many employers look at the hygiene factors as ways to motivate when in fact, beyond the very short term, they do very little to motivate.

Perhaps managers like to use this approach because they think people are more financially motivated than, perhaps, they are, or perhaps it just takes less management effort to raise wages than it does to reevaluate company policy, and redesign jobs for maximum satisfaction.

When you're seeking to motivate people, firstly get rid of the things that are annoying them about the company and the workplace. Make sure they're treated fairly, and with respect.

Once you've done this, look for ways in which you can help people grow within their jobs, give them opportunities for achievement, and praise that achievement wherever you find it.

Apply This to Your Life

If you lead a team, take a little time with each of the members of your team to check that they're happy, that they think they're being fairly and respectfully treated, and that they're not being affected by unnecessary bureaucracy.

You may be horrified by what you find once you start probing (bureaucracy, in particular, has a way of spreading), however you may be able to improve things quickly if you put your mind to it.

Then find out what they want from their jobs, do what you can to give this to them, and help them grow as individuals.

If you do this systematically, you'll be amazed by the impact this has on motivation!

1.15 Adams' Equity Theory

Balancing employee inputs and outputs

Adams' Equity Theory calls for a fair balance to be struck between an employee's inputs (hard work, skill level, tolerance, enthusiasm, etc.) and an employee's outputs (salary, benefits, intangibles such as recognition, etc.). According to the theory, finding this fair balance serves to ensure a strong and productive relationship is achieved with the employee, with the overall result being contented, motivated employees.

The Theory Summarized

The Adams' Equity Theory is named for John Stacey Adams, a workplace and behavioral psychologist, who developed this job motivation theory in 1963.

Much like many of the more prevalent theories of motivation (theories by Maslow's Hierarchy of Needs, Herzberg's Theory, etc.), the Adams' Equity Theory acknowledges that subtle and variable factors affect an employee's assessment and perception of their relationship with their work and their employer.

The theory is built-on the belief that employees become de-motivated, both in relation to their job and their employer, if they feel as though their inputs are greater than the outputs. Employees can be expected to respond to this is different ways, including de-motivation (generally to the extent the employee perceives the disparity between the inputs and the outputs exist), reduced effort, becoming disgruntled, or, in more extreme cases, perhaps even disruptive.

How to Apply the Adams' Equity Theory

It is important to also consider the Adams' Equity Theory factors when striving to improve an employee's job satisfaction, motivation level, etc., and what can be done to promote higher levels of each.

To do this, consider the balance or imbalance that currently exists between your employee's inputs and outputs, as follows:

Inputs typically include:

- Effort
- Loyalty
- Hard Work
- Commitment
- Skill
- Ability
- Adaptability
- Flexibility
- Tolerance
- Determination
- Enthusiasm
- Trust in superiors
- Support of colleagues
- Personal sacrifice

Outputs typically include:

- Financial rewards (salary, benefits, perks, etc.)
- Intangibles that typically include:
    - Recognition
    - Reputation
    - Responsibility
    - Sense of Achievement
    - Praise
    - Stimulus
    - Sense of Advancement/Growth
    - Job Security

While obviously many of these points can't be quantified and perfectly compared, the theory argues that managers should seek to find a fair balance between the inputs that an employee gives, and the outputs received.

And according to the theory, employees should be content where they perceive these to be in balance.

Tip:
Frederick Herzberg's Motivation/Hygiene Theory, which is similar to this. While Adams' Equity Theory obviously has a strong element of truth to it, it's probably fair to say that Herzberg's Motivation/Hygiene Theory has greater motivational significance.

Key Points

Much like the five levels of needs determined by Maslow and the two factors of motivation as classified by Herzberg (intrinsic and extrinsic), the Adams' Equity Theory of motivation states that positive outcomes and high levels of motivation can be expected only when employees perceive their treatment to be fair. An employee's perception of this may include many factors (see outputs above). The idea behind Adams' Equity Theory is to strike a healthy balance here, with outputs on one side of the scale; inputs on the other – both weighing in a way that seems reasonably equal.

If the balance lies too far in favor of the employer, some employees may work to bring balance between inputs and outputs on their own, by asking for more compensation or recognition. Others will be demotivated, and still others will seek alternative employment.

1.16 Avoiding Micromanagement

Helping team members excel – on their own

You've assigned an important task to a talented employee, and given him a deadline. Now, do you let him do his work and simply touch base with him at pre-defined points along the way – or do you keep dropping by his desk and sending e-mails to check his progress?

If it's the latter, you might be a micromanager. Or, if *you're* the harried worker trying to make a deadline with a boss hovering at your shoulder, you might have a micromanager on your hands – someone who just can't let go of tiny details.

Micromanagers take perfectly positive attributes – an attention to detail and a hands-on attitude – to the extreme. Either because they're control-obsessed, or because they feel driven to push everyone around them to success, micromanagers risk disempowering their colleagues. They ruin their colleagues' confidence, hurt their performance, and frustrate them to the point where they quit.

Luckily, though, there are ways to identify these overzealous tendencies in yourself – and get rid of them before they do more damage. And if you work for a micromanager, there are strategies you can use to convince him or her to accept your independence.

First, though, how do you spot the signs of micromanagement? Where is the line between being an *involved* manager, and an over-involved manager who's driving his team mad?

Signs of micromanagement

What follows are some signs that you might be a micromanager – or have one on your hands. In general, micromanagers:

- Resist delegating.
- Immerse themselves in overseeing the projects of others.
- Start by correcting tiny details instead of looking at the big picture.
- Take back delegated work before it is finished if they find a mistake in it.
- Discourage others from making decisions without consulting them.

What's wrong with micromanaging?

If you are getting results by micromanaging and keeping your nose in everyone's business, why not carry on?

Micromanagers often affirm the value of their approach with a simple experiment: They give an employee an assignment, and then disappear until the deadline. Is this employee likely to excel when given free rein?

Possibly – if the worker has exceptional confidence in his abilities. Under micromanagement, however, most workers become timid and tentative – possibly even paralyzed. 'No matter what I do,' such a worker might think to himself, 'It won't be good enough.' Then one of two things will happen: Either the worker will ask the manager for guidance before the deadline, or he will forge ahead, but come up with an inadequate result.

In either case, the micromanager will interpret the result of his experiment as proof that, without his constant intervention, his people will flounder or fail.

But do these results *verify* the value of micromanagement – or *condemn* it? A truly effective manager sets up those around him to succeed. Micromanagers, on the other hand, prevent employees from making – and taking responsibility for – their own decisions. But it's precisely the process of making decisions, and living with the consequences, that causes people to grow and improve.

Good managers *empower* their employees to do well by giving opportunities to excel; Bad managers *disempower* their employees by hoarding those opportunities. And a disempowered employee is an ineffective one – one who requires a lot of time and energy from his supervisor.

It's that time and energy, multiplied across a whole team of timid, cowed workers, that amounts to a serious and self-defeating drain on a manager's time. It's extremely difficult, if not impossible, to keep up with analysis, planning, communication with other teams, and the other 'big-picture' tasks of managing, when you are sweating the details of the next sales presentation.

Escaping Micromanagement

So now you've identified micro-managerial tendencies and seen why they're bad. What can you do if you know you're exhibiting such behaviors – or are being subjected to them by a supervisor?

From the micromanager's perspective, the best way to build healthier relationships with employees may be the most direct: Talk to them.

It might take several conversations to convince them that you're serious about change. Getting frank feedback from employees is the hard part. Once you've done that, as executive coach Marshall Goldsmith recommends in his book *What Got You Here Won't Get You There*, it's time to apologize and change. This means giving your employees the leeway – and encouragement – to succeed. Focus first on the ones with the most potential, and learn to delegate effectively to them. Read our article on delegation for more about this.

And if you're not sure what you *should* be doing with all the free time, once you stop micromanaging, read our article on Team Management Skills for more information.

Tip:
Part of being a good manager, one often lost on those of the micro variety, is listening. Managers fail to listen when they forget their employees have important insights – and people who don't feel listened to become disengaged.

As for the micromanaged, well, things are a bit more complicated. Likely as not, you're being held back in your professional development – and probably not making the progress in your career that you could be if you enjoyed workplace independence.

But there's a certain amount that you can do to improve the situation:

- Help your boss to delegate to you more effectively by prompting him to give you all the information you will need up front, and to set interim review points along the way.
- Volunteer to take on work or projects that you're confident you'll be good at. This will start to increase his confidence in you – and his delegation skills.
- Make sure that you communicate progress to your boss regularly, to discourage him from seeking information just because he hasn't had any for a while.
- Concentrate on helping your boss to change one micromanagement habit at a time. Remember that he's only human too, and is allowed to make mistakes!
- Read our article on Working with Powerful People for further advice on how to manage upwards.

Key Points

Micromanagement restricts the ability of micromanaged people to develop and grow, and it also limits what the micromanager's team can achieve, because everything has to go through him or her.

When a boss is reluctant to delegate, focuses on details ahead of the big picture and discourages his staff from taking the initiative, there's every chance that he's sliding towards micromanagement.

The first step in avoiding the micromanagement trap (or getting out of it once you're there) is to recognize the danger signs by talking to your staff or boss. If you're micromanaged, help your boss see there is a better way of working. And if you are a micromanager, work hard on those delegation skills and learn to trust your staff to develop and deliver.

1.17 Conflict Resolution

Resolving conflict rationally and effectively

In many cases, conflict in the workplace just seems to be a fact of life. We've all seen situations where different people with different goals and needs have come into conflict. And we've all seen the often-intense personal animosity that can result.

The fact that conflict exists, however, is not necessarily a bad thing: As long as it is resolved effectively, it can lead to personal and professional growth.

In many cases, effective conflict resolution skills can make the difference between positive and negative outcomes.

The good news is that by resolving conflict successfully, you can solve many of the problems that it has brought to the surface, as well as getting benefits that you might not at first expect:

- **Increased understanding:** The discussion needed to resolve conflict expands people's awareness of the situation, giving them an insight into how they can achieve their own goals without undermining those of other people.
- **Increased group cohesion:** When conflict is resolved effectively, team members can develop stronger mutual respect, and a renewed faith in their ability to work together.
- **Improved self-knowledge:** Conflict pushes individuals to examine their goals in close detail, helping them understand the things that are most important to them, sharpening their focus, and enhancing their effectiveness.

However, if conflict is not handled effectively, the results can be damaging. Conflicting goals can quickly turn into personal dislike. Teamwork breaks down. Talent is wasted as people disengage

from their work. And it's easy to end up in a vicious downward spiral of negativity and recrimination.

If you're to keep your team or organization working effectively, you need to stop this downward spiral as soon as you can. To do this, it helps to understand two of the theories that lie behind effective conflict resolution techniques:

Understanding the Theory: Conflict Styles

In the 1970s Kenneth Thomas and Ralph Kilmann identified five main styles of dealing with conflict that vary in their degrees of cooperativeness and assertiveness. They argued that people typically have a preferred conflict resolution style. However they also noted that different styles were most useful in different situations. The Thomas-Kilmann Conflict Mode Instrument (TKI) helps you to identify which style you tend towards when conflict arises.

Thomas and Kilmann's styles are:

Competitive: People who tend towards a competitive style take a firm stand, and know what they want. They usually operate from a position of power, drawn from things like position, rank, expertise, or persuasive ability. This style can be useful when there is an emergency and a decision needs to be make fast; when the decision is unpopular; or when defending against someone who is trying to exploit the situation selfishly. However it can leave people feeling bruised, unsatisfied and resentful when used in less urgent situations.

Collaborative: People tending towards a collaborative style try to meet the needs of all people involved. These people can be highly assertive but unlike the competitor, they cooperate effectively and acknowledge that everyone is important. This style is useful when a you need to bring together a variety of viewpoints to get the best solution; when there have been previous conflicts in the group; or when the situation is too important for a simple trade-off.

Compromising: People who prefer a compromising style try to find a solution that will at least partially satisfy everyone. Everyone is expected to give up something, and the compromiser him- or herself also expects to relinquish something. Compromise is useful when the cost of conflict is higher than the cost of losing ground, when equal strength opponents are at a standstill and when there is a deadline looming.

Accommodating: This style indicates a willingness to meet the needs of others at the expense of the person's own needs. The accommodator often knows when to give in to others, but can be persuaded to surrender a position even when it is not warranted. This person is not assertive but is highly cooperative. Accommodation is appropriate when the issues matter more to the other party, when peace is more valuable than winning, or when you want to be in a position to collect on this 'favor' you gave. However people may not return favors, and overall this approach is unlikely to give the best outcomes.

Avoiding: People tending towards this style seek to evade the conflict entirely. This style is typified by delegating controversial decisions, accepting default decisions, and not wanting to hurt anyone's feelings. It can be appropriate when victory is impossible, when the controversy is trivial, or when someone else is in a better position to solve the problem. However in many situations this is a weak and ineffective approach to take.

Once you understand the different styles, you can use them to think about the most appropriate approach (or mixture of approaches) for the situation you're in. You can also think about your own instinctive approach, and learn how you need to change this if necessary.

Ideally you can adopt an approach that meets the situation, resolves the problem, respects people's legitimate interests, and mends damaged working relationships.

Understanding the Theory: The 'Interest-Based Relational Approach'

The second theory is commonly referred to as the 'Interest-Based Relational (IBR) Approach'. This conflict resolution strategy respects individual differences while helping people avoid becoming too entrenched in a fixed position.

In resolving conflict using this approach, you follow these rules:

- **Make sure that good relationships are the first priority:** As far as possible, make sure that you treat the other calmly and that you try to build mutual respect. Do your best to be courteous to one-another and remain constructive under pressure.
- **Keep people and problems separate:** Recognize that in many cases the other person is not just 'being difficult' – real and valid differences can lie behind conflictive positions. By separating the problem from the person, real issues can be debated without damaging working relationships.
- **Pay attention to the interests that are being presented:** By listening carefully you'll most-likely understand why the person is adopting his or her position.
- **Listen first; talk second:** To solve a problem effectively you have to understand where the other person is coming from before defending your own position.
- **Set out the 'Facts':** Agree and establish the objective, observable elements that will have an impact on the decision.
- **Explore options together:** Be open to the idea that a third position may exist, and that you can get to this idea jointly.

By following these rules, you can often keep contentious discussions positive and constructive. This helps to prevent the antagonism and dislike which so-often causes conflict to spin out of control.

Using the Tool: A Conflict Resolution Process

Based on these approaches, a starting point for dealing with conflict is to identify the overriding conflict style employed by yourself, your team or your organization.

Over time, people's conflict management styles tend to mesh, and a 'right' way to solve conflict emerges. It's good to recognize when this style can be used effectively, however make sure that people understand that different styles may suit different situations.

Look at the circumstances, and think about the style that may be appropriate.

Then use the process below to resolve the conflict:

Step One: Set the Scene

If appropriate to the situation, agree the rules of the IBR Approach (or at least consider using the approach yourself.) Make sure that people understand that the conflict may be a mutual problem, which may be best resolved through discussion and negotiation rather than through raw aggression.

If you are involved in the conflict, emphasize the fact that you are presenting your perception of the problem. Use active listening skills to ensure you hear and understand other's positions and perceptions.

- Restate.
- Paraphrase.
- Summarize.

And make sure that when you talk, you're using an adult, assertive approach rather than a submissive or aggressive style.

Step Two: Gather Information

Here you are trying to get to the underlying interests, needs, and concerns. Ask for the other person's viewpoint and confirm that you respect his or her opinion and need his or her cooperation to solve the problem.

Try to understand his or her motivations and goals, and see how your actions may be affecting these.

Also, try to understand the conflict in objective terms: Is it affecting work performance? damaging the delivery to the client? disrupting team work? hampering decision-making? or so on. Be sure to focus on work issues and leave personalities out of the discussion.

- Listen with empathy and see the conflict from the other person's point of view.
- Identify issues clearly and concisely.
- Use 'I' statements.
- Remain flexible.
- Clarify feelings .

Step Three: Agree the Problem

This sounds like an obvious step, but often different underlying needs, interests and goals can cause people to perceive problems very differently. You'll need to agree the problems that you are trying to solve before you'll find a mutually acceptable solution.

Sometimes different people will see different but interlocking problems – if you can't reach a common perception of the problem, then at the very least, you need to understand what the other person sees as the problem.

Step Four: Brainstorm Possible Solutions

If everyone is going to feel satisfied with the resolution, it will help if everyone has had fair input in generating solutions. Brainstorm possible solutions, and be open to all ideas, including ones you never considered before.

Step Five: Negotiate a Solution

By this stage, the conflict may be resolved: Both sides may better understand the position of the other, and a mutually satisfactory solution may be clear to all.

However you may also have uncovered real differences between your positions. This is where a technique like win-win negotiation can be useful to find a solution that, at least to some extent, satisfies everyone.

There are three guiding principles here: Be Calm, Be Patient, Have Respect...

Key Points

Conflict in the workplace can be incredibly destructive to good teamwork. Managed in the wrong way, real and legitimate differences between people can quickly spiral out of control, resulting in situations where co-operation breaks down and the team's mission is threatened. This is particularly the case where the wrong approaches to conflict resolution are used.

To calm these situations down, it helps to take a positive approach to conflict resolution, where discussion is courteous and non-confrontational, and the focus is on issues rather than on individuals. If this is done, then, as long as people listen carefully and explore facts, issues and possible solutions properly, conflict can often be resolved effectively.

Section 2: Problem Solving

- Appreciation - Extracting maximum information from facts
- 5 Whys - Getting quickly to the root of a problem.
- Cause & Effect Diagrams - Identifying likely causes of problems
- Affinity Diagrams - Organizing ideas into common themes
- Appreciative Inquiry - Solving problems by looking at what's going right
- Flow Charts - Understanding process flows
- Risk Analysis and Risk Management
- SWOT - Analyzing your strengths, weaknesses, opportunities and threats
- PEST Analysis - Understanding 'big picture' forces of change
- The Marketing Mix and the 4 Ps - Understanding how to position your market offering
- The Ansoff Matrix - Understanding the different risks of different options
- The Boston Matrix - Focusing effort to give the greatest returns
- Porter's Five Forces - Understanding the balance of power in a situation
- Core Competence Analysis - Get ahead. Stay ahead.
- USP Analysis - Finding your competitive edge
- Critical Success Factors - Identifying the things that really matter for success
- The Greiner Curve - Surviving the crises that come with growth
- The McKinsey 7S Framework - Ensuring all parts of your organization work in harmony

2. Introduction to Problem Solving Techniques

The skills you'll learn in this section of Mind Tools help you solve complicated business problems.

These techniques help you conduct a rigorous analysis of the problems you face, by helping you look at them in a structured and methodical way.

As such, these skills give you a good starting point in business problem solving (and other problem solving situations), where other people would just feel helpless and intimidated by the situation.

In the next pages, we look at the following tools:

- Extracting maximum information from facts - Appreciation.
- Quickly getting to the root of a problem – 5 Whys.
- Identifying possible causes of problems – Cause & Effect Diagrams.
- Organizing ideas into common themes – Affinity Diagrams.
- Solving problems by looking at what's going right – Appreciative Inquiry.
- Understanding how a process works – Flow Charts.
- Understanding the way factors affect one-another – Systems Diagrams.
- Methods of Risk Analysis.
- Analyzing Strengths, Weaknesses, Opportunities and Threats – SWOT Analysis.
- Understanding the big picture – PEST Analysis.
- Understanding how to position your market offering – The Marketing Mix and the 4 Ps.
- Understanding the different risks of different options – The Ansoff Matrix.
- Focusing effort to give the greatest returns – The Boston Matrix.
- Understanding where the power lies – Porter's Five Forces.
- Get ahead. Stay ahead – Core Competence Analysis.
- Crafting your competitive edge – USP Analysis.
- Identifying the things that really matter for success – Critical Success Factors.
- Making sure all parts of your organization work in harmony – The McKinsey 7Ss.
- Surviving the crises that come with growth – The Greiner Curve.

The first half of the section covers general approaches to problem solving.

Appreciation is a useful technique for extracting good information from dry facts. Cause & Effect Diagrams are useful for making sure that you have considered all factors relating to a problem. Affinity Diagrams help you organize disparate items into related groups, while Systems Diagrams are hugely powerful tools for understanding how factors interact in complex situations. Finally in this group, Risk Analysis provides a formal framework for identifying the risks you face, and helps you to work out a strategy for controlling them.

The second half of this section looks at business strategy techniques: techniques that help you understand your business and its environment, so that you can identify the best way forward.

SWOT Analysis helps you to work out a survival and success strategy in a competitive environment. PEST Analysis and Porters Five Forces help you understand the business environment you operate in. The Boston Matrix, Core Competence Analysis and USP Analysis help you build a competitive edge. And the articles on Critical Success Factors, The McKinsey 7 Ss and the Greiner Curve help you focus on the things that matter in complex business situations.

2.1 Appreciation

Extracting maximum information from facts

Appreciation is a very simple but powerful technique for extracting the maximum amount of information from a simple fact.

How to Use the Tool

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

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.

2.2 5 Whys

Quickly getting to the root of a problem

The 5 Whys is a simple problem-solving technique that helps users to get to the root of the problem quickly. Made popular in the 1970s by the Toyota Production System, the 5 Whys strategy involves looking at any problem and asking: 'Why?' and 'What caused this problem?'

Very often, the answer to the first 'why' will prompt another 'why' and the answer to the second 'why' will prompt another and so on; hence the name the 5 Whys strategy.

Benefits of the 5 Whys include:

- It helps to quickly determine the root cause of a problem
- It is easy to learn and apply

How to Use the Tool

When looking to solve a problem, start at the end result and work backward (toward the root cause), continually asking: 'Why?' This will need to be repeated over and over until the root cause of the problem becomes apparent.

Tip:
The 5 Whys technique is a simple technique that can help you quickly get to the root of a problem. But that is all it is, and the more complex things get, the more likely it is to lead you down a false trail. if it doesn't quickly give you an answer that's obviously right, then you may need more sophisticated technique problem solving techniques like those found in our problem solving section.

Example

Following is an example of the 5 Whys analysis as an effective problem-solving technique:

1. *Why is our client, Hinson Corp., unhappy?* Because we did not deliver our services when we said we would.
2. *Why were we unable to meet the agreed-upon timeline or schedule for delivery?* The job took much longer than we thought it would.
3. *Why did it take so much longer?* Because we underestimated the complexity of the job.
4. *Why did we underestimate the complexity of the job?* Because we made a quick estimate of the time needed to complete it, and did not list the individual stages needed to complete the project.
5. *Why didn't we do this?* Because we were running behind on other projects. We clearly need to review our time estimation and specification procedures.

Key Points

The 5 Whys strategy is an easy and often-effective tool for uncovering the root of a problem. Because it is so elementary in nature, it can be adapted quickly and applied to most any problem. Bear in mind, however, that if it doesn't prompt an intuitive answer, other problem-solving techniques may need to be applied.

2.3 Cause and Effect Diagrams

Identifying the likely causes of problems

Related variants: Fish or Fishbone Diagrams, and Ishikawa Diagrams

Cause and 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.

Cause and Effect Diagrams are also known as Fishbone Diagrams, because a completed diagram can look like the skeleton of a fish.

How to Use the Tool

Follow these steps to solve a problem with a Cause and 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 arrangement, looking like the head and spine of a fish, 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 2, 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.

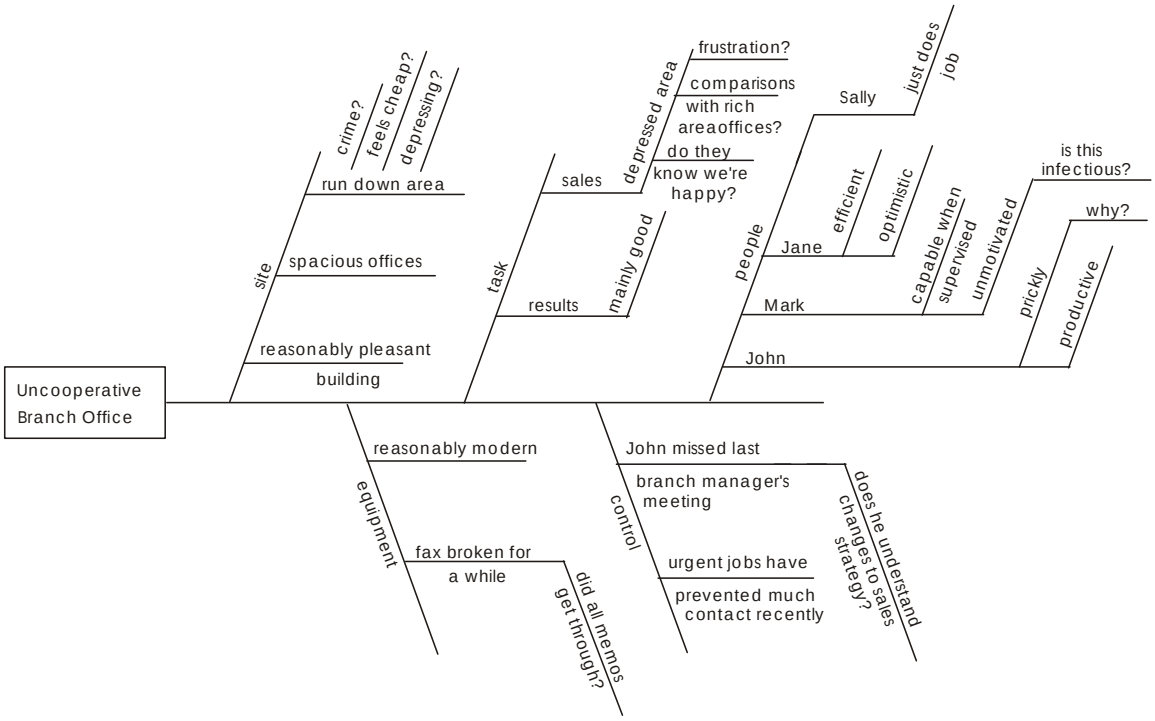
4. *Analyze your diagram:*

   By this stage you should have a diagram showing all the possible causes of your problem that you can think of. 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.

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, 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 analysis (or Fishbone Analysis) provides 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.

2.4 Affinity Diagrams

Organizing ideas into common themes

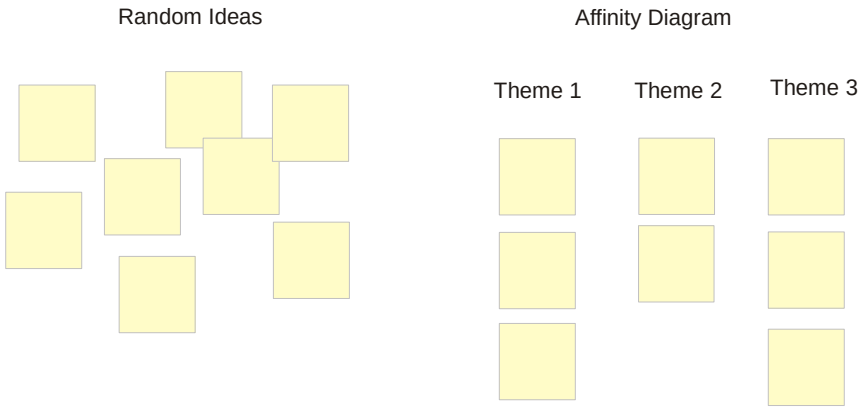
Is it ever a bad thing to have too many ideas?

Probably not, but if you've ever experienced information overload or struggled to know where to begin with a wealth of data you've been given, you may have wondered how you can use all of these ideas effectively. When there's lots of 'stuff' coming at you, it is hard to sort through everything and organize the information in a way that makes sense and helps you make decisions.

Whether you're brainstorming ideas, trying to solve a problem or analyzing a situation, when you are dealing with lots of information from a variety of sources, you can end up spending a huge amount of time trying to assimilate all the little bits and pieces. Rather than letting the disjointed information get the better of you, you can use an affinity diagram to help you organize it.

Also called the KJ method, after its developer Kawakita Jiro (a Japanese anthropologist) an affinity diagram helps to synthesize large amounts of data by finding relationships between ideas. The information is then gradually structured from the bottom up into meaningful groups. From there you can clearly 'see' what you have, and then begin your analysis or come to a decision.

Figure 1



Affinity diagrams can be used to:

- Draw out common themes from a large amount of information.
- Discover previously unseen connections between various ideas or information.
- Brainstorm root causes and solutions to a problem.

Because many decision-making exercises begin with brainstorming, this is one of the most common applications of affinity diagrams. After a brainstorming session there are usually pages of ideas. These won't have been censored or edited in any way, many of them will be very similar, and many will also be closely related to others in a variety of ways. What an affinity diagram does is start to group the ideas into themes.

From the chaos of the randomly generated ideas comes an insight into the common threads that link groups of them together. From there the solution or best idea often emerges quite naturally. This is why affinity diagrams are so powerful and why the Japanese Union of Scientists and Engineers consider them one of the 'seven management tools.'

Affinity diagrams are not the domain of brainstorming alone though. They can be used in any situation where:

- The solution is not readily apparent.
- You want to reach a consensus or decision and have a lot of variables to consider, concepts to discuss, ideas to connect, or opinions to incorporate.
- There is a large volume of information to sort through.

Here is a step-by-step guide to using affinity diagrams along with a simple example to show how the process works.

How to Use the Tool

1. Describe the problem or issue:

Figure 2

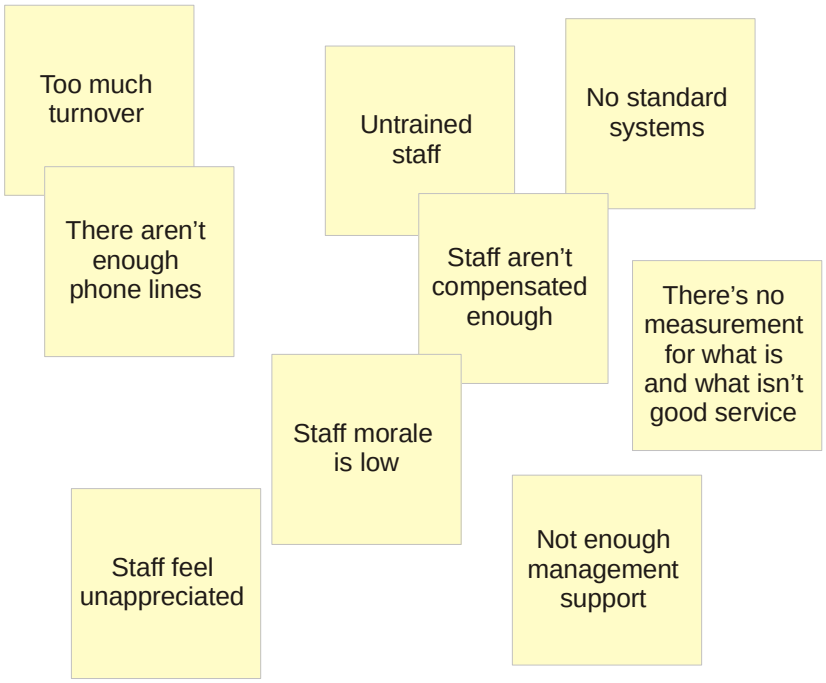
Customer Service is sub-standard.

2. Generate ideas by brainstorming. Write each idea on a separate sticky note and put these on a wall or flip chart. Remember to:

   - Emphasize volume.
   - Suspend judgment.
   - Piggyback on other ideas.

Figure 3

Why is customer service sub-standard?



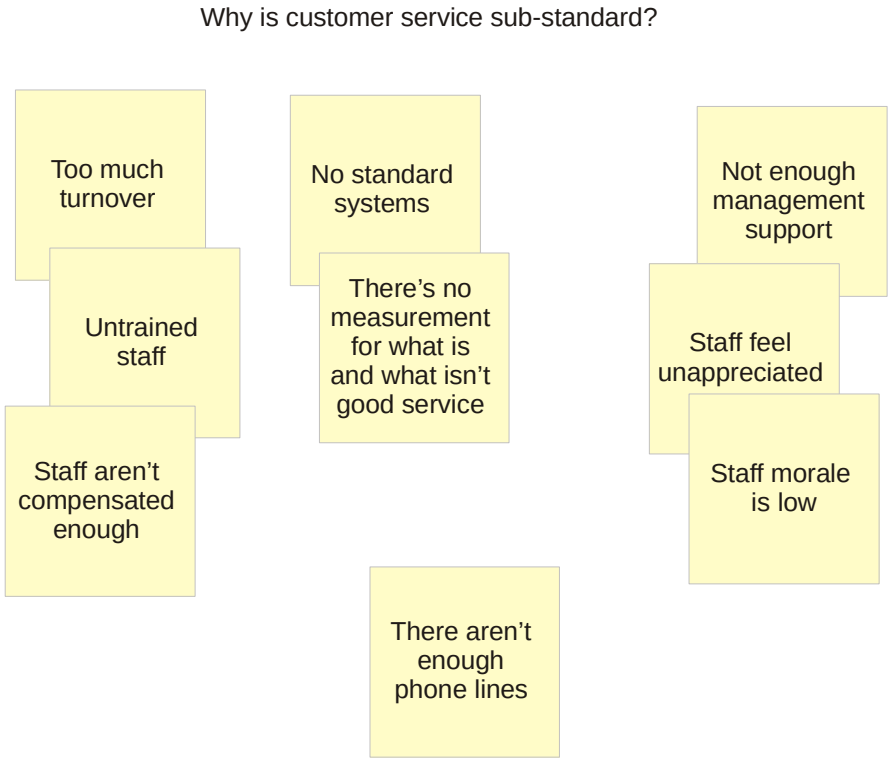
3. Sort ideas into natural themes by asking:

   - What ideas are similar?
   - Is this idea connected to any of the others?

   If you're working in a team:

   - Separate into smaller groups of 3 to 4 people.
   - Sort the ideas IN SILENCE so that no one is influenced by anyone else's comments.
   - Keep moving the cards around until consensus is reached.

Figure 4



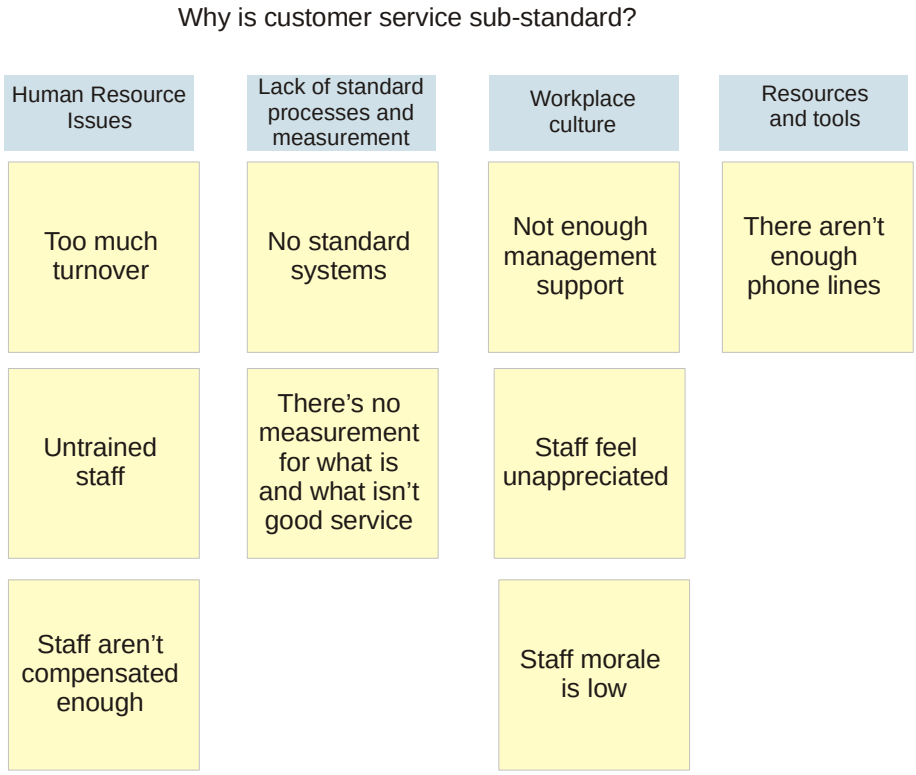
4. Create total group consensus:

   - Discuss the shared meaning of each of the sorted groups.
   - Continue until consensus is reached.
   - If some ideas do not fit into any theme, separate them as 'stand-alone' ideas.
   - If some ideas fit into more than one theme, create a duplicate card and put it in the proper group.
   - Try to limit the total number of themes to between five and nine.

5. Create theme cards (also called affinity cards or header cards):

   - Create a short 3-5 word description for the relationship.
   - If you're working in a group, do this together, out loud.
   - Write this theme/header on a blank card and place at the top of the group it describes.
   - Create a 'super-headers' where necessary to group themes.
   - Use a 'sub-header' card where necessary as well.

Figure 5



6. Continue to group the themes/headers until you have reached the broadest, but still meaningful, categories possible:

    - Draw lines connecting the super-headers, themes/headers, and sub-headers.
    - You'll end up with a hierarchical structure that shows, at a glance, where the relationships are.

Tip:
Grouping ideas under headings, and then grouping headings under super-headers in an affinity diagram is a practical way of 'chunking' information generated in brainstorming sessions, during process mapping, or even a planning exercise. Click here for more information on Chunking.

Key Points

Affinity diagrams are great tools for assimilating and understanding large amounts of information. When you work through the process of creating relationships and working backward from detailed information to broad themes, you get an insight you would not otherwise find.

The next time you are confronting a large amount of information or number of ideas and you feel overwhelmed at first glance, use the affinity diagram approach to discover all the hidden linkages. And when you cannot see the forest for the trees, an affinity diagram may be exactly what you need to get back in focus.

2.5 Appreciative Inquiry

Solving problems by looking at what's going right

Imagine that your organization's order book is full, and you're desperate to expand your business – but you just can't find the staff you need. What's worse, cash is tight, your recruitment budget is stretched to breaking point, and you strongly suspect that some of the approaches you're using just aren't working.

One approach here is to focus on the things that aren't working, and think about how you can fix them. This is the conventional approach to problem-solving. In many cases it's the right one to use. However in others, all it does is bring you up to the same bland level as everyone else.

Another approach is to shift to a positive perspective, look at the things that are working, and build on them. In some situations this can be very powerful because, by focusing on positives, you can build the unique strengths which bring real success.

This is the premise behind 'Appreciative Inquiry', a method of problem solving that was pioneered by David Cooperrider of Case Western Reserve University in the mid 1980s.

To understand the basis of Appreciative Inquiry it is useful to look at the meaning of the two words in context.

- *Appreciation* means to recognize and value the contributions or attributes of things and people around us.
- *Inquiry* means to explore and discover, in the spirit of seeking to better understand, and being open to new possibilities.

When combined, this means that by appreciating what is good and valuable in the present situation, we can discover and learn about ways to effect positive change for the future.

Using Appreciative Inquiry: The 4D Approach

To apply Appreciative Inquiry to a problem solving situation, it's important to focus on positives. A positive energy approach helps you build on your strengths, just as conventional problem-solving can help you manage or eliminate your weaknesses.

The first step of the process is to identify and describe the problem you're trying to solve. From there you go on to look at the issue in four phases: **Discovery, Dream, Design and Deliver**.

Tip 1:
Appreciative Inquiry is often explained using four Ds: 'Discovery', 'Dream', 'Design' and 'Deliver'/'Destiny'. We like to put a fifth D ('Define') in as the first step.

This approach is described in the five steps below.

1. 'Define' the Problem

Before you can analyze a situation, you need to define what it is you are looking at.

And, just as your decision to look at the positives will move you in a positive direction, defining your topic positively will help you look at its positive aspects. So, rather than seeking 'Ways to Fix Recruitment Problems', for example, you'll choose 'Ways to Accelerate Recruitment.' This subtle change in wording can have huge implications for what you focus on.

Also, make sure that your topic does not unduly constrain you: You want to explore many possibilities and avenues for change so keep your topic broad.

2. 'Discovery' Phase

Here you need to look for the best of what has happened in the past, and what is currently working well. Involve as many people as sensibly possible, and design your questions to get people talking and telling stories about what they find is most valuable (or appreciated), and what works particularly well.

Using the example from the first stage, a good way to do this would be to get new recruits to interview one another, focusing on getting to the core of what they liked about the job before they joined, and what they've enjoyed about the organization since joining. In this situation, the following might be good discovery questions:

- When you think back to when you decided to join the company, what was the thing that most attracted you?
- Tell me a story about a time when you were very enthusiastic about your work.
- What do you think is most important for success at the company?
- Tell me about the time you felt proudest about the company.

Another approach to solving this problem could be to look at the different approaches you use to recruit people, and identify the ones that bring the greatest volume of good recruits.

When you've gathered enough raw information, you need to analyze the data and identify the factors that most contributed to the team or organization's past successes. What is most valued? What did people find most motivating or fun? What instills the greatest pride? And so on.

3. 'Dream' Phase

In this phase, you and your team dream of 'what might be'. Think about how you can take the positives you identified in the Discovery phase, and reinforce them to build real strengths.

The way forward may be obvious from the results of the Discovery Phase. If it's not, a useful approach is to bring a diverse group of stakeholders together and brainstorm creative and innovative ideas of what the organization and team could accomplish.

In our example, you might choose to enhance and build the good points that everyone likes about the organization, and use this as a strong message to attract potential candidates during the recruitment process. You may also stop doing the things that aren't working, and use the money saved to reinforce the things that are.

Once you have agreed upon your dream or vision, you can take it to the Design phase.

4. 'Design' Phase

Building on the Dream, this phase looks at the practicalities needed to support the vision. Here you start to drill down the types of systems, processes, and strategies that will enable the dream to be realized.

5. 'Deliver' Phase

Sometimes called the Destiny phase, the last of the Ds is the implementation phase and it requires a great deal of planning and preparation. The key to successful delivery is ensuring that the Dream (vision) is the focal point. While the various parts of the team will typically have their own processes to complete, the overall result is a raft of changes that occur simultaneously throughout the organization, that all serve to support and sustain the dream.

Tip 2:
The real strength of this technique comes from steps 1 and 2. Steps 3 to 5 are just standard implementation steps. If you have your own preferred approach for implementation, use this.

Tip 3:
In this article, we're looking at Appreciative Inquiry as a problem-solving technique. You can also use it powerfully either as an organizational strategy tool or for personal development. In these contexts, you can simply focus on what you do well, and divert your efforts towards this, and away from the things you're not good at.

Key Points

When faced with your next challenge or problem, take a step back and look at if from the standpoint of what is good and is currently working well. This positive perspective brings about a whole new set of positive solutions you and your team may not have previously discovered. Use this process to get your organization looking at itself in unique and positive ways.

The Deliver phase of the cycle is not so much an end but a place to start to re-evaluate and continue the process of Appreciative Inquiry to continuously improve. Once you embrace the idea of positive change you can apply the cycle over and over again to various aspects of your team or organization, and enjoy the positive outcomes that positive thinking brings.

2.6 Flow Charts

Understanding and communicating how a process works

Related variants: Process Maps and Process Flow Diagrams

Flow charts are easy-to-understand diagrams showing how steps in a process fit together. This makes them useful tools for communicating how processes work, and for clearly documenting how a particular job is done. Furthermore, the act of mapping a process out in flow chart format helps you clarify your understanding of the process, and helps you think about where the process can be improved.

A flow chart can therefore be used to:

- Define and analyze processes.
- Build a step-by-step picture of the process for analysis, discussion, or communication.
- Define, standardize or find areas for improvement in a process.

Also, by conveying the information or processes in a step-by-step flow, you can then concentrate more intently on each individual step, without feeling overwhelmed by the bigger picture.

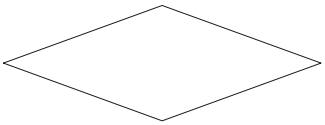
How to Use the Tool

Most flow charts are made up of three main types of symbol:

- Elongated circles, which signify the start or end of a process.

- Rectangles, which show instructions or actions.

- Diamonds, which show decisions that must be made



Within each symbol, write down what the symbol represents. This could be the start or finish of the process, the action to be taken, or the decision to be made.

Symbols are connected one to the other by arrows, showing the flow of the process.

Tip:
There are many other flowchart symbols that can also be used. However, remember that an important use of flow charts is in communication: If you use obscure symbols that only part of your audience understands, there's a good chance that your communication will fail. As ever, keep things simple!

To draw the flow chart, brainstorm process tasks, and list them in the order they occur. Ask questions such as 'What really happens next in the process?' and 'Does a decision need to be made before the next step?' or 'What approvals are required before moving on to the next task?'

Start the flow chart by drawing the elongated circle shape, and labeling it 'Start'.

Then move to the first action or question, and draw a rectangle or diamond appropriately. Write the action or question down, and draw an arrow from the start symbol to this shape.

Work through your whole process, showing actions and decisions appropriately in the order they occur, and linking these together using arrows to show the flow of the process. Where a decision needs to be made, draw arrows leaving the decision diamond for each possible outcome, and label them with the outcome. And remember to show the end of the process using an elongated circle labeled 'Finish'.

Finally, challenge your flow chart. Work from step to step asking yourself if you have correctly represented the sequence of actions and decisions involved in the process.

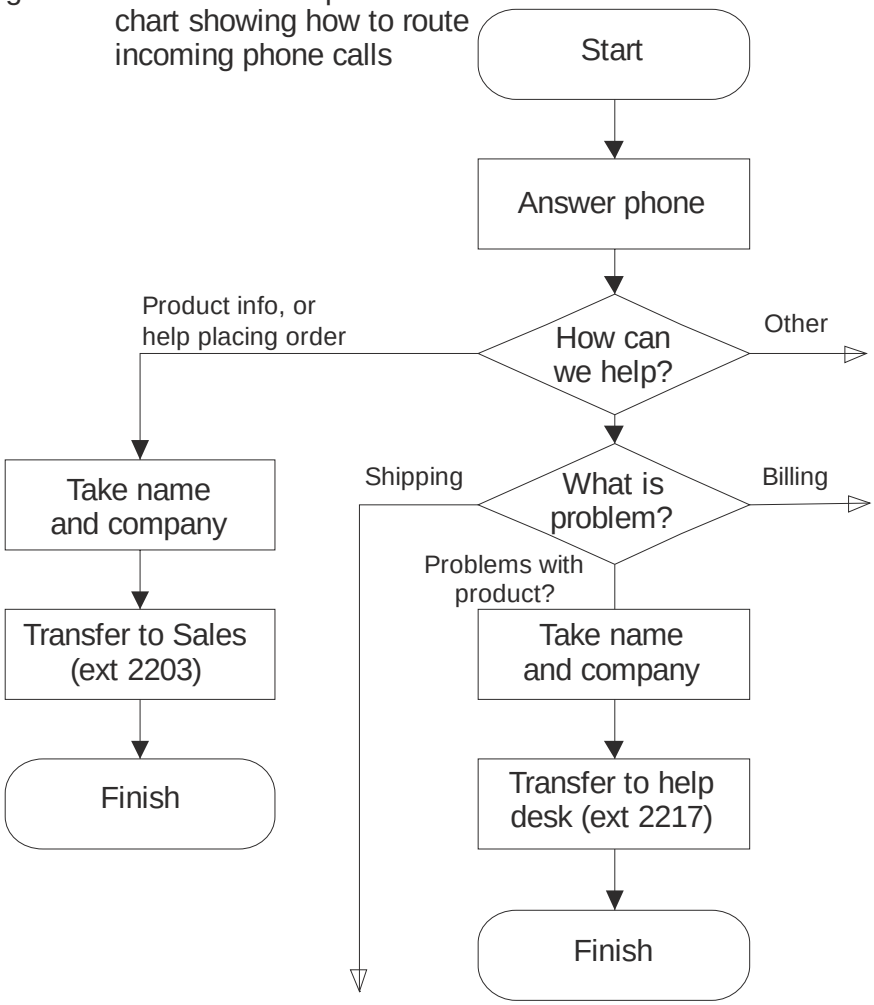
And then (if you're looking to improve the process) look at the steps identified and think about whether work is duplicated, whether other steps should be involved, and whether the right people are doing the right jobs.

Tip:
Flow charts can quickly become so complicated that you can't show them on one piece of paper. This is where you can use 'connectors' (shown as numbered circles) where the flow moves off one page, and where it moves onto another. By using the same number for the off-page connector and the on-page connector, you show that the flow is moving from one page to the next.

Example

The example below shows part of a simple flow chart which helps receptionists route incoming phone calls to the correct department in a company:

Figure 1: Part of an example flow chart showing how to route incoming phone calls



Key Points

Flow charts are simple diagrams that map out a process so that it can easily be communicated to other people.

To draw a flowchart, brainstorm the tasks and decisions made during a process, and write them down in order.

Then map these out in flow chart format using appropriate symbols for the start and end of a process, for actions to be taken and for decisions to be made.

Finally, challenge your flow chart to make sure that it's an accurate representation of the process, and that that it represents the most efficient way of doing the job.

2.7 Risk Analysis and Risk Management

Evaluating and managing the risks you face

Almost everything we do in today's business world involves a risk of some kind: customer habits change, new competitors appear, factors outside your control could delay your project. But formal risk analysis and risk management can help you to assess these risks and decide what actions to take to minimize disruptions to your plans. They 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:

risk = probability of event x cost of event

Doing this allows you to compare risks objectively. We use this approach formally in decision making with Decision Trees.

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.
- **Operational** – from disruption to supplies and operations, loss of access to essential assets, failures in distribution, etc.
- **Reputational** – from loss of business partner or employee confidence, or damage to reputation in the market.
- **Procedural** – from failures of accountability, internal systems and controls, organization, fraud, 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.
- **Technical** – from advances in technology, technical failure, etc.
- **Natural –** threats from weather, natural disaster, accident, disease, etc.
- **Political –** from changes in tax regimes, public opinion, government policy, foreign influence, etc.
- **Others –** Porter's Five Forces analysis may help you identify other risks.

This analysis of threat is important because it is so easy to overlook important threats. One way of trying to capture them all is to use a number of different 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 analyze risks to any part of those.
- See if you can see any vulnerabilities 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 make your best estimate of the probability of the event occurring, and to multiply this by the amount it will cost you to set things right if it happens. This gives you a value for the risk.

3. Managing Risk:

Once you have worked out the value of risks you face, you can start to look at ways of managing them. When you are doing this, it is important to choose cost effective approaches – in most cases, there is no point in spending more to eliminating a risk than the cost of the event if it occurs. Often, 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 if it happens. A good contingency plan will allow you to take action immediately, with the minimum of project control if you find yourself in a crisis management situation. Contingency plans also form a key part of Business Continuity Planning (BCP) or Business Continuity management (BCM).

- *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. This can also include insuring the risk: Here you pay someone else to carry part of the risk – this is particularly important where the risk is so great as to threaten your or your organization's solvency.

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 and crisis prevention. Here the emphasis is on cost effectiveness. Risk management involves adapting the use of existing resources, contingency planning and good use of new resources.

2.8 SWOT Analysis

Worksheet

Discover new opportunities. Manage and eliminate threats.

SWOT Analysis is a powerful technique for understanding your Strengths and Weaknesses, and for looking at the Opportunities and Threats you face.

Used in a business context, it helps you carve a sustainable niche in your market. Used in a personal context, it helps you develop your career in a way that takes best advantage of your talents, abilities and opportunities. Click here for Business SWOT Analysis, here for Personal SWOT Analysis.

Business SWOT Analysis

What makes SWOT particularly powerful is that, with a little thought, it can help you uncover opportunities that you are well placed to exploit. And by understanding the weaknesses of your business, you can manage and eliminate threats that would otherwise catch you unawares.

More than this, by looking at yourself and your competitors using the SWOT framework, you can start to craft a strategy that helps you distinguish yourself from your competitors, so that you can compete successfully in your market.

How to Use the Tool

Start by taking a copy of our free SWOT Template from your *Worksheets and Templates Supplement* or downloading a copy here.

To carry out a SWOT Analysis, answer the following questions:

Strengths:

- What advantages does your company have?
- What do you do better than anyone else?
- What unique or lowest-cost resources do you have access to?
- What do people in your market see as your strengths?
- What factors mean that you 'get the sale'?

Consider this from an internal perspective, and from the point of view of your customers and people in your market. Be realistic: It's far too easy to fall prey to 'not invented here syndrome'. (If you are having any difficulty with this, try writing down a list of your characteristics. Some of these will hopefully be strengths!)

In looking at your strengths, think about them in relation to your competitors – for example, if all your competitors provide high quality products, then a high quality production process is not a strength in the market, it is a necessity.

Weaknesses:

- What could you improve?
- What should you avoid?
- What are people in your market likely to see as weaknesses?
- What factors lose you sales?

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.

A useful approach for looking at opportunities is to look at your strengths and ask yourself whether these open up any opportunities.

Alternatively, look at your weaknesses and ask yourself whether you could create opportunities by eliminating them.

Threats:

- What obstacles do you face?
- What is your competition doing that you should be worried about?
- 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?
- Could any of your weaknesses seriously threaten your business?

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.

Strengths and **weaknesses** are often internal to your organization. **Opportunities** and **threats** often relate to external factors. For this reason the SWOT Analysis is sometimes called Internal-External Analysis and the SWOT Matrix is sometimes called an IE Matrix Analysis Tool.

You can also apply SWOT Analysis to your competitors. As you do this, you'll start to see how and where you should compete against them.

Tip:
SWOT can be used in two ways – as a simple icebreaker helping people get together and 'kick off' strategy formulation, or in a more sophisticated way as a serious strategy tool. If you're using it as a serious tool, make sure you're rigorous in the way you apply it:

- Only accept precise, verifiable statements ('Cost advantage of US$10/ton in sourcing raw material x', rather than 'Good value for money').
- Ruthlessly prune long lists of factors, and prioritize factors so that you spend your time thinking about the most significant factors.
- Make sure that options generated are carried through to later stages in the strategy formation process.
- Apply it at the right level – for example, at product or product line level, rather than at the much vaguer whole company level.
- Supplement it with other option-generation tools – none is likely to be completely comprehensive.

Example

A start-up small consultancy business might draw up the following SWOT matrix:

Strengths:

- We can respond very quickly as we have no red tape, no need for higher management approval, etc.
- We can give really good customer care, as the current small amount of work means we have plenty of time to devote to customers.
- Our lead consultant has strong reputation within the market.
- We can change direction quickly if our approach isn't 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 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 may therefore decide to specialize 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.

You can see this analysis in diagram format in figure 1 below.

Figure 1: Small Consultancy SWOT Analysis

Key Points

SWOT Analysis is a simple but powerful framework for analyzing your company's Strengths and Weaknesses, and the Opportunities and Threats you face. This helps you to focus on your strengths, minimize threats, and take the greatest possible advantage of opportunities available to you.

2.9 PEST Analysis

Worksheet

Understanding 'big picture' forces of change

Related variants: PESTLE, PESTEL, PESTLIED, STEEPLE and SLEPT Analysis

PEST Analysis is a simple, useful and widely-used tool that helps you understand the 'big picture' of your **P**olitical, **E**conomic, **S**ocio-Cultural and **T**echnological environment. As such, it is used by business leaders worldwide to build their vision of the future.

It is important for these reasons:

- First, by making effective use of PEST Analysis, you ensure that what you are doing is aligned positively with the powerful forces of change that are affecting our world. By taking

advantage of change, you are much more likely to be successful than if your activities oppose it.

- Second, good use of PEST Analysis helps you avoid taking action that is doomed to failure from the outset, for reasons beyond your control.

- Third, PEST is useful when you start operating in a new country or region. Use of PEST helps you break free of unconscious assumptions, and helps you quickly adapt to the realities of the new environment.

How to Use the Tool

PEST is a simple mnemonic standing for Political, Economic, Socio-Cultural and Technological.

To use this tool, follow this three stage process:

1. Brainstorm the relevant factors that apply to you.
2. Identify the information that applies to these factors.
3. Draw conclusions from this information.

Download our free worksheet here, or get a copy from your *Worksheets and Templates Supplement* to record your analysis.

Tip:
The important point is to move from the second step to the third step: it is sterile just to describe factors without thinking through what they mean. However, be careful not to assume that your analysis is perfect: use it as a starting point, and test your conclusions against the reality you experience.

The following factors may help as a starting point for brainstorming (but make sure you include other factors that may be appropriate to your situation):

Political:

- Government type and stability.
- Freedom of press, rule of law and levels of bureaucracy and corruption.
- Regulation and de-regulation trends.
- Social and employment legislation.
- Tax policy, and trade and tariff controls.
- Environmental and consumer-protection legislation.
- Likely changes in the political environment.

Economic:

- Stage of business cycle.
- Current and project economic growth, inflation and interest rates.
- Unemployment and labor supply.
- Labor costs.
- Levels of disposable income and income distribution.
- Impact of globalization.
- Likely impact of technological or other change on the economy.
- Likely changes in the economic environment.

Socio-Cultural:

- Population growth rate and age profile.
- Population health, education and social mobility, and attitudes to these.
- Population employment patterns, job market freedom and attitudes to work.
- Press attitudes, public opinion, social attitudes and social taboos
- Lifestyle choices and attitudes to these.
- Socio-Cultural changes.

Technological Environment:

- Impact of emerging technologies.
- Impact of Internet, reduction in communications costs and increased remote working.
- Research and Development activity.
- Impact of technology transfer.

Figure 1 below shows this in diagrammatic format:

Figure 1: PEST Analysis in Diagrammatic Format

Other forms of PEST – PESTLE, PESTLIED, STEEPLE and SLEPT:

Some people prefer to use different flavors of PEST Analysis, using other factors for different situations. The variants are:

PESTLE/PESTEL: Political, Economic, Sociological, Technological, Legal, Environmental

PESTLIED: Political, Economic, Social, Technological, Legal, International, Environmental, Demographic

STEEPLE: Social/Demographic, Technological, Economic, Environmental, Political, Legal, Ethical

SLEPT: Social, Legal, Economic, Political, Technological

Choose the flavor that most suits you!

Example

We're going to avoid giving an example here, because of the huge potential for causing offense: few societies seem perfect to outsiders, and there are few things as irritating as having an outsider criticize one's own country...

However, a broad principle is that things that make activity more difficult for people or organizations raise the cost of doing business: business is either stopped altogether, or costs more as people spend time and money circumventing difficulties. The higher the cost of doing business in a region, the more project profitability is squeezed or eliminated. And given that businesspeople normally have at least some level of intelligence, businesses and projects that could otherwise operate are never launched – meaning that less economic activity takes place. (The lower the amount of economic activity, the poorer and less capable societies tend to be.)

Another broad principle is wherever there is rapid or major change in an area, there are likely to be new opportunities and threats that arise. Smart people and companies will take advantage of the opportunities and manage the threats.

And do remember that few situations are perfect: it is up to us to make the most of the situation in which we find ourselves.

Key Points

PEST Analysis is a useful tool for understanding the 'big picture' of the environment in which you are operating, and the opportunities and threats that lie within it. By understanding your environment, you can take advantage of the opportunities and minimize the threats.

PEST is a mnemonic standing for Political, Economic, Social and Technological. These headings are used firstly to brainstorm the characteristics of a country or region and, from this, draw conclusions as to the significant forces of change operating within it.

This provides the context within which more detailed planning can take place to take full advantage of the opportunities that present themselves.

2.10 The Marketing Mix and 4 Ps

Understanding how to position your market offering

What is marketing? The definition that many marketers learn as they start out in the industry is:

Putting the right product in the right place, at the right price, at the right time.

It's simple! You just need to create a product that a particularly group of people want, put it on sale some place that those same people visit regularly, and price it at a level which matches the value they feel they get out of it; and do all that at a time they want to buy. Then you've got it made!

There's a lot of truth in this idea. However, a lot of hard work needs to go into finding out what customers want, and identifying where they do their shopping. Then you need to figure out how to produce the item at a price that represents value to them, and get it all to come together at the critical time.

But if you get just one element wrong, it can spell disaster. You could be left promoting a car with amazing fuel-economy in a country where fuel is very cheap; or publishing a textbook after the start of the new school year, or selling an item at a price that's too high – or too low – to attract the people you're targeting.

The marketing mix is a good place to start when you are thinking through your plans for a product or service, and it helps you avoid these kinds of mistake.

Understanding the Tool

The marketing mix and the 4 Ps of marketing are often used as synonyms for each other. In fact, they are not necessarily the same thing.

'Marketing mix' is a general phrase used to describe the different kinds of choices organizations have to make in the whole process of bringing a product or service to market. The 4 Ps is one way – probably the best-known way – of defining the marketing mix, and was first expressed in 1960 by E J McCarthy.

The 4Ps are:

- Product (or Service)
- Place
- Price
- Promotion

A good way to understand the 4 Ps is by the questions that you need to ask to define you marketing mix. Here are some questions that will help you understand and define each of the four elements:

Product/Service

- What does the customer want from the product/service? What needs does it satisfy?
- What features does it have to meet these needs?
    - Are there any features you've missed out?
    - Are you including costly features that the customer won't actually use?
- How and where will the customer use it?
- What does it look like? How will customers experience it?
- What size(s), color(s), and so on, should it be?

- What is it to be called?
- How is it branded?
- How is it differentiated versus your competitors?
- What is the most it can cost to provide, and still be sold sufficiently profitably? (See also Price, below).

Place

- Where do buyers look for your product or service?
- If they look in a store, what kind? A specialist boutique or in a supermarket, or both? Or online? Or direct, via a catalogue?
- How can you access the right distribution channels?
- Do you need to use a sales force? Or attend trade fairs? Or make online submissions? Or send samples to catalogue companies?
- What do you competitors do, and how can you learn from that and/or differentiate?

Price

- What is the value of the product or service to the buyer?
- Are there established price points for products or services in this area?
- Is the customer price sensitive? Will a small decrease in price gain you extra market share? Or will a small increase be indiscernible, and so gain you extra profit margin?
- What discounts should be offered to trade customers, or to other specific segments of your market?
- How will your price compare with your competitors?

Promotion

- Where and when can you get across your marketing messages to your target market?
- Will you reach your audience by advertising in the press, or on TV, or radio, or on billboards? By using direct marketing mailshot? Through PR? On the Internet?
- When is the best time to promote? Is there seasonality in the market? Are there any wider environmental issues that suggest or dictate the timing of your market launch, or the timing of subsequent promotions?
- How do your competitors do their promotions? And how does that influence your choice of promotional activity?

The 4Ps model is just one of many marketing mix lists that have been developed over the years. And, whilst the questions we have listed above are key, they are just a subset of the detailed probing that may be required to optimize your marketing mix.

Amongst the other marketing mix models have been developed over the years is Boom and Bitner's 7Ps, sometimes called the extended marketing mix, which include the first 4 Ps, plus people, processes and physical layout decisions.

Another marketing mix approach is Lauterborn's 4Cs, which presents the elements of the marketing mix from the buyer's, rather than the seller's, perspective. It is made up of Customer needs and wants (the equivalent of product), Cost (price), Convenience (place) and Communication (promotion). In this article, we focus on the 4Ps model as it is the most well-recognized, and contains the core elements of a good marketing mix.

Using the 4Ps Marketing Mix Model

The marketing mix model can be used to help you decide how to take a new offer to market. It can also be used to test your existing marketing strategy. Whether you are considering a new or existing offer, follow the steps below help you define and improve your marketing mix.

1. Start by identifying the product or service that you want to analyze.

2. Now go through and answers the 4Ps questions – as defined in detail above.

3. Try asking 'why' and 'what if' questions too, to challenge your offer. For example, ask ***why*** your target audience needs a particular feature. What if you drop your price by 5%? What if you offer more colors? Why sell through wholesalers rather than direct channels? What if you improve PR rather than rely on TV advertising?

Tip:
Check through your answers to make sure they are based on sound knowledge and facts. If there are doubts about your assumptions, identify any market research, or facts and figures that you may need to gather.

4. Once you have a well-defined marketing mix, try 'testing' the overall offer from the customer's perspective, by asking customer-focused questions:
    1. Does it meet their needs? (product)
    2. Will they find it where they shop? (place)
    3. Will they consider it's priced favorably? (price)
    4. And will the marketing communications reach them? (promotion)

5. Keep on asking questions and making changes to your mix until you are satisfied that you have optimized your marketing mix, given the information and facts and figures you have available.

6. Review you marketing mix regularly, as some elements will need to change as the product or service, and its market, grow, mature and adapt in an ever-changing competitive environment.

Key Points

The marketing mix helps you define the marketing elements for successfully positioning your market offer.

One of the best known models is the Four Ps, which helps you define your marketing options in terms of product, place, price and promotion. Use the model when you are planning a new venture, or evaluating an existing offer, to optimize the impact with your target market.

2.11 The Ansoff Matrix

Worksheet

Understanding the risks of different options

Also known as the Product/Market Expansion Grid

For a whole variety of reasons, there are times when as an individual or in business you want or need to expand or change your field or market. In business, you might need to achieve economies

of scale, make more money for investors, or gain national or even global recognition of their brand. As an individual, you may want to change company, or even career.

Having decided that you want to grow your business or career, you'll have hundreds of ideas about things you could do. For your business, this means new products, new markets, new channels, or new marketing campaigns. For your career, it means new skills, new roles, and even new industries.

That's great! But which ones should you choose? And why?

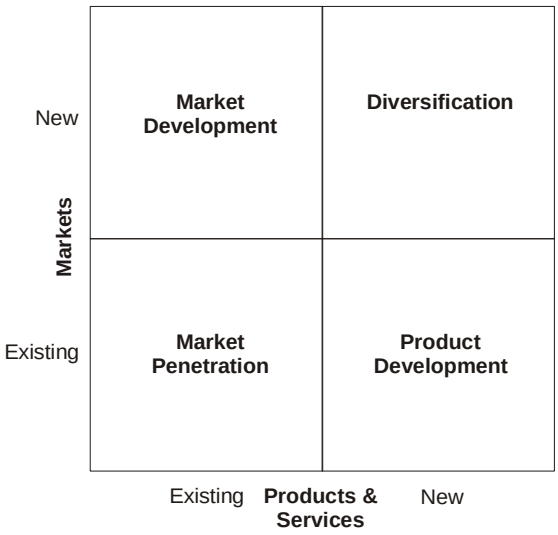
Using a strategic approach, such as the Ansoff Model or Matrix, helps you evaluate your options and choose the one that suits your situation best, and gives you the best return on the potentially considerable investment that you'll need to make.

Understanding the Tool

The Ansoff Matrix was first published in the Harvard Business Review in 1957, and has given generations of marketers and small business leaders a quick and simple way to develop a strategic approach to growth.

Sometimes called the Product/Market Expansion Grid, it shows four growth options for business formed by matching up existing and new products and services with existing and new markets, as shown in Figure 1 below.

Figure 1: The Ansoff Matrix - Business



The Matrix essentially shows the risk that a particular strategy will expose you to, the idea being that each time you move into a new quadrant (horizontally or vertically) you increase risk.

The Corporate Ansoff Matrix

Looking at it from a business perspective, staying with your existing product in your existing market is a low risk option: You know the product works, and the market holds few surprises for you.

However, you expose yourself to a whole new level of risk either moving into a new market with an existing product, or developing a new product for an existing market. The market may turn out to have radically different needs and dynamics than you thought, or the new product may just not work or sell.

And by moving two quadrants and targeting a new market with a new product, you increase your risk to yet another level!

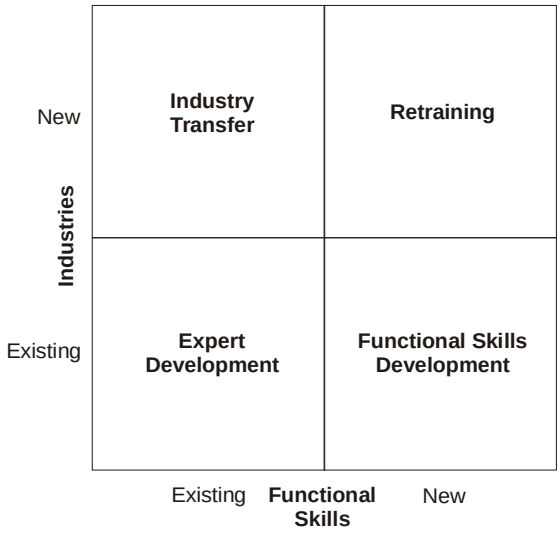
Personal Ansoff

Looking at it from a personal perspective, just staying where you are is (usually!) a low risk option.

Switching to a new role in the same company, or changing to a similar job with a company in the same industry is a higher risk option. And switching to a new role in a new industry has an even higher level of risk.

This is shown in figure 2, below.

Figure 2: The Ansoff Matrix - Career



Tip 1:
Interpret this according to your circumstances. For example, an accountant may find it easy to switch from one industry to another. But a salesman doing this might lose contacts that would take a while to rebuild.

Tip 2:
Don't be too scared by risk – if you manage risk correctly (for example, by researching carefully, making contingency plans, arranging insurance, and suchlike) and 'calculate' it well, then it can be well worth taking quite large risks.

How to Use the Tool

Use of the tool is straightforward:

1. Start by downloading either our free Corporate Ansoff or Personal Ansoff worksheet or get a copy of the one you want from your Worksheets and Templates Supplement. Then plot the approaches you're considering on the matrix. The table below shows how you might classify different approaches.

Market Development	**Diversification**
Here, you're targeting new markets, or new areas of the market. You're trying to sell more of the same things to different people. Here you might: • Target different geographical markets at home or abroad • Use different sales channels, such as online or direct sales if you are currently selling through the trade • Target different groups of people, perhaps different age groups, genders or demographic profiles from your normal customers.	This strategy is risky: There's often little scope for using existing expertise or achieving economies of scale, because you are trying to sell completely different products or services to different customers Its main advantage is that, should one business suffer from adverse circumstances, the other is unlikely to be affected.
Market Penetration	**Product Development**
With this approach, you're trying to sell more of the same things to the same people. Here you might: • Advertise, to encourage more people within your existing market to choose your product, or to use more of it • Introduce a loyalty scheme • Launch price or other special offer promotions • Increase your sales force activities, or • Buy a competitor company (particularly in mature markets)	Here, you're selling more things to the same people. Here you might: • Extend your product by producing different variants, or packaging existing products it in new ways • Develop related products or services (for example, a domestic plumbing company might add a tiling service – after all, if they're plumbing in a new kitchen, most likely tiling will be needed!) • In a service industry, increase your time to market, customer service levels, or quality.

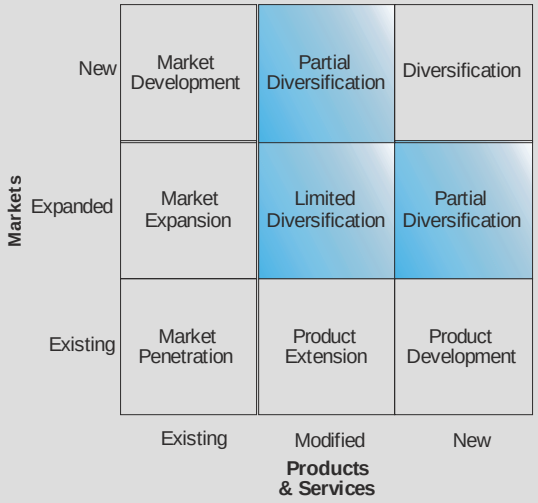
2. Manage risk appropriately. For example, if you're switching from one quadrant to another, make sure:

   - That you research the move carefully.
   - That you build the capabilities needed to succeed in the new quadrant.
   - That you've got plenty of resources to cover a possible thin period while you're developing and learning how to sell the new product, or are learning what makes the new market tick.
   - That you have firstly thought through what you have to do if things don't work out, and that failure won't 'break' you.

Tip:
Some marketers use a nine-box grid for a more sophisticated analysis. This adds 'modified' products between existing and new ones (for example, a different flavor of your existing pasta sauce rather than launching a soup), and 'expanded' markets between existing and new ones (for example, opening another store in a nearby town, rather than going into online sales).

This is useful as it shows the difference between product extension and true product development, and also between market expansion and venturing into genuinely new markets (see Figure 3). However, be careful of the three 'options' in blue, as they involve trying to do two things at once without the one benefit of a true diversification strategy (escaping a downturn in one product market).

Figure 3: The 9-Box Grid



2.12 The Boston Matrix

Worksheet

Focusing effort to give the greatest returns

Also called the BCG Matrix, the Growth-Share Matrix and Portfolio Analysis

If you enjoy visual representations and vivid descriptions of your business then you'll love the Boston Matrix!

Also called the BCG Matrix, it provides a useful way of looking at the opportunities open to you, and helps you analyze which segments of your business are performing well – and which ones aren't. That way, you can decide on the most appropriate investment strategy for your business in the future, and where best to allocate your resources.

Understanding the Model

Market Share and Market Growth

To understand the Boston Matrix you need to understand how market share and market growth interrelate.

Market share is the percentage of the total market that is being serviced by your company, measured either in revenue terms or unit volume terms. The higher your market share, the higher proportion of the market you control.

The Boston Matrix assumes that if you enjoy a high market share you will normally be making money (this assumption is based on the idea that you will have been in the market long enough to have learned how to be profitable, and will be enjoying scale economies that give you an advantage).

The question it asks is, "Should you be investing your resources into that product line just because it is making you money?" The answer is, "not necessarily."

This is where market growth comes into play. Market growth is used as a measure of a market's attractiveness. Markets experiencing high growth are ones where the total market is expanding, which should provide the opportunity for businesses to make more money, even if their market share remains stable.

By contrast, competition in low growth markets is often bitter, and while you might have high market share now, what will the situation look like in a few months or a few years? This makes low growth markets less attractive.

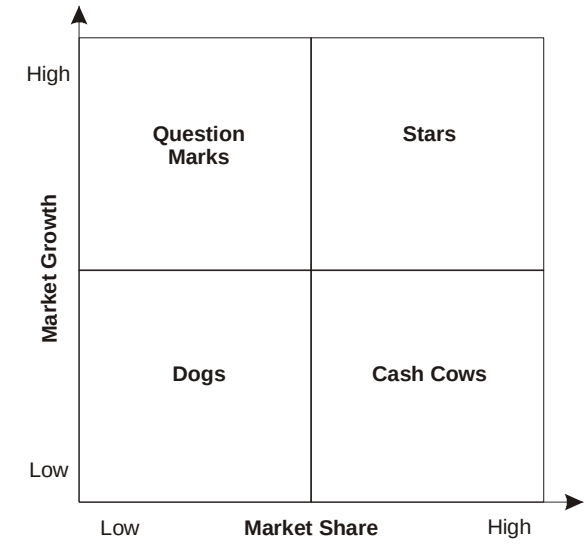
Note:
The origin of the Boston Matrix lies with the Boston Consulting Group in the early 1970s. It was devised as a clear and simple method for helping corporations decide which parts of their business they should allocate their available cash to. Today, this is as important as ever because of the limited availability of credit.

However, the Boston Matrix is also a good tool for thinking about where to apply other finite resources: people, time and equipment.

The Matrix Itself

The Boston Matrix categorizes opportunities into four groups, shown on axes of Market Growth and Market Share:

Figure 1: The Boston Matrix



These groups are explained below:

Dogs: Low Market Share / Low Market Growth

In these areas, your market presence is weak, so it's going to take a lot of hard work to get noticed. Also, you won't enjoy the scale economies of the larger players, so it's going to be difficult to make a profit.

Cash Cows: High Market Share / Low Market Growth

Here, you're well-established, so it's easier to get attention and exploit new opportunities. However it's only worth expending a certain amount of effort, because the market isn't growing and your opportunities are limited.

Stars: High Market Share / High Market Growth

Here you're well established, and growth is exciting! There should be some strong opportunities here, and you should work hard to realize them.

Question Marks (Problem Child): Low Market Share / High Market Growth

These are the opportunities no one knows what to do with. They aren't generating much revenue right now because you don't have a large market share. But, they are in high growth markets so the potential to make money is there.

Question Marks might become Stars and eventual Cash Cows, but they could just as easily absorb effort with little return. These opportunities need serious thought as to whether increased investment is warranted.

How to Use the Tool

To use the Boston Matrix to look at your opportunities, first download our free worksheet, or take a copy from your *Worksheets and Templates Supplement* and then use the following steps:

Step One: Plot your opportunities in terms of their relative market presence, and market growth on the blank matrix provided on the worksheet.

Step Two: Classify them into one of the four categories. If a product seems to fall right on one of the lines, take a real hard look at the situation and rely on past performance to help you decide which side you will place it.

Tip:
Be careful about these lines – there's nothing magical about them or their position. There may be very little real difference between a Problem Child with a market share of 49%, and a Star with a market share of 51%. It's also not necessarily true that the line should run through the 50% position. As ever, use your common sense.

Step Three: Determine what you will do with each product/product line. There are typically four different strategies to apply:

- *Build Market Share:* Make further investments (for example, to maintain Star status, or turn a Question Mark into a Star)
- *Hold:* Maintain the status quo (do nothing)
- *Harvest:* Reduce the investment (enjoy positive cash flow and maximize profits from a Star or Cash Cow)

- *Divest:* For example, get rid of the Dogs, and use the capital to invest in Stars and some Question Marks.

Tip 1:
From a personal perspective, you can evaluate the opportunities open to you by substituting the dimension of Market Share with one of Professional Skills. Plot the options open to you on the personal version of the BCG Matrix, and take action appropriately.

Tip 2:
A similar (and equally powerful) tool is the Action Priority Matrix, which helps you pick projects which legitimately give you the quickest and highest value returns. By using the BCG Matrix and Action Priority Matrix together, you get the best of both worlds!

Key Points

The Boston Matrix is an effective tool for quickly assessing the options open to you, both on a corporate and personal basis.

With its easily understood classification into Dogs, Cash Cows, Question Marks, and Stars, it helps you quickly and simply screen the opportunities open to you – and identify where best to invest the money, time, and effort you have available.

2.13 Porter's Five Forces

Worksheet

Assessing the balance of power in a business situation

The Porter's 5 Forces tool is a simple but powerful tool for understanding where power lies in a business situation. This is useful, because it helps you understand both the strength of your current competitive position, and the strength of a position you're looking to move into.

With a clear understanding of where power lies, you can take fair advantage of a situation of strength, improve a situation of weakness, and avoid taking wrong steps. This makes it an important part of your planning toolkit.

Conventionally, the tool is used to identify whether new products, services or businesses have the potential to be profitable. However it can be very illuminating when used to understand the balance of power in other situations too.

How to Use the Tool

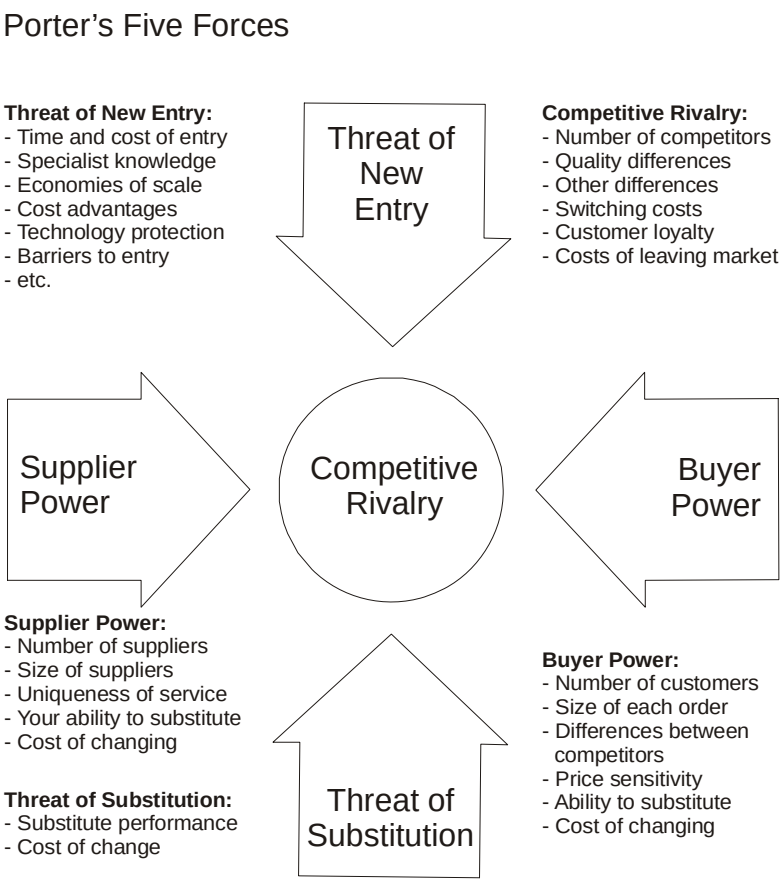
Five Forces Analysis assumes that there are five important forces that determine competitive power in a situation. These are:

1. **Supplier Power:** Here you assess how easy it is for suppliers to drive up prices. This is driven by the number of suppliers of each key input, the uniqueness of their product or service, their strength and control over you, the cost of switching from one to another, and so on. The fewer the supplier choices you have, and the more you need suppliers' help, the more powerful your suppliers are.
2. **Buyer Power:** Here you ask yourself how easy it is for buyers to drive prices down. Again, this is driven by the number of buyers, the importance of each individual buyer to your business, the cost to them of switching from your products and services to those of someone else, and so on. If you deal with few, powerful buyers, they are often able to dictate terms to you.

3. **Competitive Rivalry:** What is important here is the number and capability of your competitors – if you have many competitors, and they offer equally attractive products and services, then you'll most likely have little power in the situation. If suppliers and buyers don't get a good deal from you, they'll go elsewhere. On the other hand, if no-one else can do what you do, then you can often have tremendous strength.
4. **Threat of Substitution:** This is affected by the ability of your customers to find a different way of doing what you do – for example, if you supply a unique software product that automates an important process, people may substitute by doing the process manually or by outsourcing it. If substitution is easy and substitution is viable, then this weakens your power.
5. **Threat of New Entry:** Power is also affected by the ability of people to enter your market. If it costs little in time or money to enter your market and compete effectively, if there are few economies of scale in place, or if you have little protection for your key technologies, then new competitors can quickly enter your market and weaken your position. If you have strong and durable barriers to entry, then you can preserve a favorable position and take fair advantage of it.

These forces can be neatly brought together in a diagram like the one below:

To use the tool to understand your situation, look at each of these forces one-by-one and write your observations on our free worksheet which you can download here, or get from your *Worksheets and Templates Supplement*.



Brainstorm the relevant factors for your market or situation, and then check against the factors listed for the force in the diagram above.

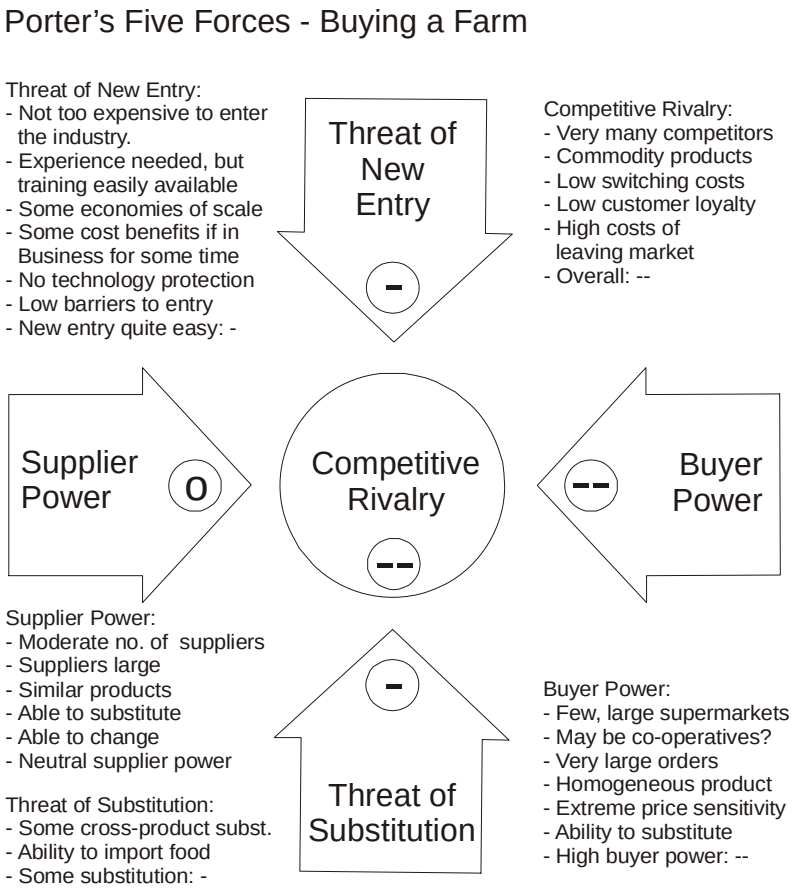
Then download our free worksheet, mark the key factors on the diagram, and summarize the size and scale of the force on the diagram. An easy way of doing this is to use, for example, a single '+' sign for a force moderately in your favor, or '--' for a force strongly against you (you can see this in the example below).

Then look at the situation you find using this analysis and think through how it affects you. Bear in mind that few situations are perfect; however use environmental scanning as a framework for thinking through what you could change to increase your power with respect to each force.

This tool was created by Harvard Business School professor, Michael Porter, to analyze the attractiveness and likely-profitability of an industry. Since publication, it has become one of the most important business strategy tools. The classic article which introduces it is 'How Competitive Forces Shape Strategy' in Harvard Business Review 57, March – April 1979, pages 86-93.

Example

Martin Johnson is deciding whether to switch career and become a farmer – he's always loved the countryside, and wants to switch to a career where he's his own boss. He creates the following Five Forces Analysis as he thinks the situation through:



This worries him:

- The **threat of new entry** is quite high: if anyone looks as if they're making a sustained profit, new competitors can come into the industry easily, reducing profits.
- **Competitive rivalry** is extremely high: if someone raises prices, they'll be quickly undercut. Intense competition puts strong downward pressure on prices.
- **Buyer Power** is strong, again implying strong downward pressure on prices.
- There is some **threat of substitution**.

Unless he is able to find some way of changing this situation, this looks like a very tough industry to survive in. Maybe he'll need to specialize in a sector of the market that's protected from some of these forces, or find a related business that's in a stronger position.

Key Points

Porter's Five Forces Analysis is an important tool for assessing the potential for profitability in an industry. With a little adaptation, it is also useful as a way of assessing the balance of power in more general situations.

It works by looking at the strength of five important forces that affect competition:

- Supplier Power: The power of suppliers to drive up the prices of your inputs.
- Buyer Power: The power of your customers to drive down your prices.

- Competitive Rivalry: The strength of competition in the industry.
- The Threat of Substitution: The extent to which different products and services can be used in place of your own.
- The Threat of New Entry: The ease with which new competitors can enter the market if they see that you are making good profits (and then drive your prices down).

By thinking through how each force affects you, and by identifying the strength and direction of each force, you can quickly assess the strength of the position and your ability to make a sustained profit in the industry.

You can then look at how you can affect each of the forces to move the balance of power more in your favor.

2.14 Core Competence Analysis

Get ahead. Stay ahead.

The idea of the 'core competence' is one of the most important business ideas that has shaped our world. It is one of the key ideas that lies behind the current wave of outsourcing, as businesses concentrate their efforts on things they do well, and outsource as much as they can of everything else.

In this article we explain the idea and help you use it, on both **corporate** and **personal** levels. And by doing so, we show you how you can get ahead of your competition – and stay ahead.

By using the idea, you can make the very most of the opportunities open to you:

- You can focus your efforts so that you develop a unique level of expertise in areas that really matter to your customers. Because of this, you'll command the rewards that come with this expertise.
- You can learn to develop your own skills in a way that complements your company's core competences. By building the skills and abilities that your company most values, you'll win respect and be more likely to get the career advancement that you want.

Explaining Core Competences: The Value of Uniqueness

The starting point for understanding core competences is understanding that businesses must have something that customers uniquely value if they're to make good profits.

'Me too' businesses (with nothing unique to distinguish them from their competition) are doomed to compete on price: The only thing they can do to make themselves the customer's top choice is drop price. And as other 'me too' businesses do the same, profit margins become thinner and thinner.

This is why there's such an emphasis on building and selling USPs (Unique Selling Points) in business: If you're able to offer something uniquely good, customers will want to choose your products and will be willing to pay more for them.

The question, though, is where this uniqueness comes from, and how it can be sustained.

In their key 1990 paper The Core Competence of the Corporation, C.K.Prahalad and Gary Hamel argue that 'Core Competences' are some of the most important sources of uniqueness: These are the things that a company can do uniquely well, and that no-one else can copy quickly enough to affect competition.

Prahalad and Hamel used examples of slow-growing and now-forgotten corporations that failed to recognize and capitalize on their strengths. They compared them with star performers of the 1980s (such as NEC, Canon and Honda), which had a very clear idea of what they were good at, and which grew very fast.

Because these companies were focused on their core competences, and continually worked to build and reinforce them, their products were more advanced than those of their competitors, and customers were prepared to pay more for them. And as they switched effort away from areas where they were weak, and further focused on areas of strength, their products built up more and more of a market lead.

Now you'll probably find this an attractive idea, and it's often easy to think about a whole range of things that a company does that it can do well. However, Hamel and Prahalad give three tests to see whether they are true core competences:

1. **Relevance:** Firstly, the competence must give your customer something that strongly influences him or her to choose your product or service. If it does not, then it has no effect on your competitive position and is not a core competence.

2. **Difficulty of Imitation:** Secondly, the core competence should be difficult to imitate. This allows you to provide products that are better than those of your competition. And because you're continually working to improve this competence, ir means that you can sustain your competitive position.

3. **Breadth of Application:** Thirdly, it should be something that opens up a good number of potential markets. If it only opens up a few small, niche markets, then success in these markets will not be enough to sustain significant growth.

An Example You might consider strong industry knowledge and expertise to be a core competence in serving your industry. However, if your competitors have equivalent expertise, then this is not a core competence. All it does is make it more difficult for new competitors to enter the market. More than this, it's unlikely to help you much in moving into new markets, which will have established experts already. (Test 1: Yes. Test 2: No. Test 3: Probably not.)

Using This in Your Business and Career

To identify your core competences, use the following steps:

1. Brainstorm the factors that are important to your clients.

   If you're doing this on behalf of your company, identify the factors that influence people's purchase decisions when they're buying products or services like yours (make sure that you move beyond just product or service features and include all decision-making points.)

   If you're doing this for yourself, brainstorm the factors (for example) that people use in assessing you for annual performance reviews or promotion, or for new roles you want.

   Then dig into these factors, and identify the competences that lie behind them. As a corporate example, if customers value small products (e.g. cell phones), then the competence they value may be ‘component integration and miniaturization’.

2. Brainstorm your existing competences and the things you do well.

3. For the list of your own competences, screen them against the tests of Relevance, Difficulty of Imitation and Breadth of Application, and see if any of the competences you've listed are core competences.

4. For the list of factors that are important to clients, screen them using these tests to see if you could develop these as core competences.

5. Review the two screened lists, and think about them:

    - If you've identified core competences that you already have, then great! Work on them and make sure that you build them as far as sensibly possible;
    - If you have no core competences, then look at ones that you could develop, and work to build those; or
    - If you have no core competences and it doesn't look as if you can build any that customers would value, then either you need another way of being unique in your market (see our USP Analysis article), or you need to consider finding another environment that better suits your competences.

6. Think of the most time-consuming and costly things that you do either as an individual or a company.

    If any of these things do not contribute to a core competence, ask yourself if you can outsource them effectively, clearing down time so that you can focus on core competences.

    For example, as an individual, are you still doing your own cleaning, ironing and decorating? As a small business, are you doing you own HR and payroll? As a bigger business, are you manufacturing non-core product components, or performing non-core activities?

Tip 1:
As with all brainstorming, you'll get better results if you involve other (carefully-chosen) people.

Tip 2:
On a personal basis and in the short term, it might be difficult to come up with truly unique core competences. However, keep this idea in mind and work to develop unique core competences.

Tip 3:
You may find it quite difficult to find any true core competences in your business. If you've got a successful business that's sustainably outperforming rivals, then maybe something else is fuelling your success (our article on USP Analysis may help you spot this).

However, if you're working very hard, and you're still finding it difficult to make a profit, then you need to think carefully about crafting a unique competitive position.

This may involve developing core competences that are relevant, real and sustainable.

Tip 4:
As ever, if you're going to put more effort into some areas, you're going to have to put less effort into others. You only have a finite amount of time, and if you try to do too much, you'll do little really well.

2.15 USP Analysis

Worksheet

The Unique Selling Proposition: Crafting your competitive edge

For years, business trainers have stressed the importance of 'USPs' (Unique Selling Propositions). Your USP is the unique thing that you can offer that your competitors can't. It's your 'Competitive Edge'. It's the reason that customers buy from you and you alone.

USPs have helped many companies succeed. And they can help you too when you're marketing yourself (when seeking a promotion, finding a new job or just making sure you get the recognition you deserve.) If you don't have a USP, you're condemned to a struggle for survival – that way lies hard work and little reward.

However, USPs are often extremely difficult to find. And as soon as one company establishes a successful USP in a market, competitors rush to copy it.

This tool helps you find your USP. And it then helps you think about how you'll defend it.

How to Use the Tool

Download our free worksheet, or take a copy from your *Templates and Worksheets Supplement* to record your analysis, and then follow these four steps:

1. Understand the Characteristics that Customers Value:

First, brainstorm what customers value about your product or services and those of your competitors. Move beyond the basics common to all suppliers in the industry, and look at the criteria customers use to decide which product or service to buy.

As with all brainstorming, by involving knowledgeable people in the process, you'll improve the range of characteristics you'll identify. So talk to sales people, customer service teams and, most importantly, talk to customers themselves.

2. Rank Yourself and Your Competitors By These Criteria:

Now identify your top competitors. Being as objective as you can, score yourself and each of your competitors out of 10 for each characteristic. Where possible, base your scores on objective data. Where you can't, do your best to see things from a customer's perspective and make your best guess.

3. Identify Where You Rank Well:

Now, plot these points on a graph. This helps you spot different competitors' strengths and weaknesses.

And from this, develop a simple, easily communicated statement of your USP.

Tip:
When you identify your USP, make sure it's something that really matters to potential customers. There's no point in being the best in industry for something they don't care about.

4. Preserve Your USP (and Use It!):

The final step is to make sure you can defend your USP. You can be sure that as soon as you start promote a USP, your competitors will do what they can to neutralize it: If you've got the best

website, they'll bring in a better web designer. If you've got a great new feature in your product, you'll see it in theirs next year.

If you've established a USP, it makes sense to invest to defend it – that way, competitors will struggle to keep up: By the time they've improved, you've already moved to the next stage.

And once you've established a USP, make sure the market knows about it!

Example

Dan Jackson, the new CEO of LPC Office Supplies, was worried. He was confused by the situation he'd inherited, and felt that the company was drifting. Part of this, he felt, was that the company had no distinctive market position. He decided to use USP Analysis to find one.

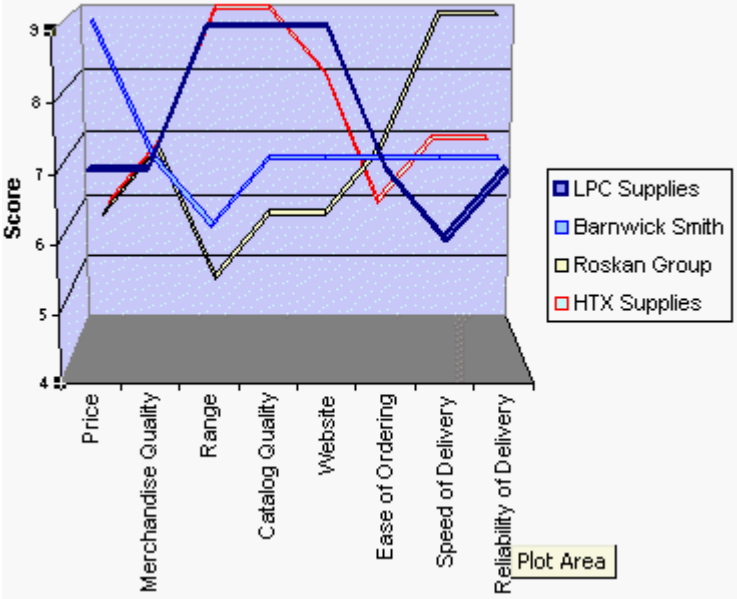
After talking to the company's biggest customers, Dan has identified the following criteria as important:

- Price.
- Quality of merchandise.
- Range.
- Catalog quality.
- Website appearance and navigation.
- Ease of ordering.
- Speed of delivery.
- Reliability of delivery.

He then ranks LPC and its competitors using the criteria he had identified. Some criteria he assesses objectively, and on others he relies on instinct, market reputation and salespeople's reports. This gives him the table below:

	LPC Supplies	Barnwick Smith	Roskan Group	HTX Supplies
Price	7	9	6	6
Quality	7	7	7	7
Range	9	6	5	9
Catalog Quality	9	7	6	9
Website	9	7	6	8
Ease of Ordering	7	7	7	6
Speed of Delivery	6	7	9	7
Reliability	7	7	9	7

Using these rankings, Dan plots this graph:



As he does, different industry USPs start to become plain. Barnwick Smith seems to operate a 'pile 'em high and sell 'em cheap' policy. The Roskan Group seems to focus on fast, reliable delivery, possibly of urgent, essential materials.

Looking at these, Dan is sure that LPC can compete effectively against these competitors by emphasizing the breadth of its range and the quality of its catalog. However, HTX Supplies is more problematic: Curves are quite close. Even here, though, LPC seems to have better customer service and a better website. A USP of 'The easy way to buy everything you need!' seems to work well.

Dan decides to invest in LPC's website and its customer service systems, with a view to opening up a clear gap between itself and HTX. And he then launches a marketing campaign stressing LPC's USP.

Key Points

USP Analysis is a useful way of understanding how people are competing in your industry. And it's essential for identifying your USP, so that you know what to build upon and emphasize to your prospects.

USP Analysis is a four stage process:

1. First, you list the decision criteria (explicit and hidden) that customers of your industry use in making purchase decisions.
2. Second, you rank yourself and your competitors by these criteria.
3. Third, you look at where you rank well, and craft a USP from this.
4. Finally, you look at how you will defend and build your USP as competition evolves.

2.16 Critical Success Factors

Identifying the things that really matter for success

So many important matters can compete for your attention in business that it's often difficult to see the 'wood for the trees'. What's more, it can be extremely difficult to get everyone in the team pulling in the same direction and focusing on the true essentials.

That's where Critical Success Factors (CSFs) can help. CSFs are the essential areas of activity that must be performed well if you are to achieve the mission, objectives or goals for your business or project.

By identifying your Critical Success Factors, you can create a common point of reference to help you direct and measure the success of your business or project.

As a common point of reference, CSFs help everyone in the team to know exactly what's most important. And this helps people perform their own work in the right context and so pull together towards the same overall aims.

The idea of CSFs was first presented by D. Ronald Daniel in the 1960s. It was then built on and popularized a decade later by John F. Rockart, of MIT's Sloan School of Management, and has since been used extensively to help businesses implement their strategies and projects.

Inevitably, the CSF concept has evolved, and you may have seen it implemented in different ways. This article provides a simple definition and approach based on Rockart's original ideas.

Rockart defined CSFs as:

'The limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organization. They are the few key areas where things must go right for the business to flourish. If results in these areas are not adequate, the organization's efforts for the period will be less than desired.'

He also concluded that CSFs are '*areas of activity that should receive constant and careful attention from management.*'

Critical Success Factors are strongly related to the mission and strategic goals of your business or project. Whereas the mission and goals focus on the aims and what is to be achieved, Critical Success Factors focus on the most important areas and get to the very heart of both what is to be achieved and how you will achieve it.

Using the Tool: An Example

CSFs are best understood by example. Consider a produce store 'Farm Fresh Produce', whose mission is:

'To become the number one produce store in Main Street by selling the highest quality, freshest farm produce, from farm to customer in under 24 hours on 75% of our range and with 98% customer satisfaction.'

(For more on this example, and how to develop your mission statement, see our article on Vision Statements and Mission Statements.)

The strategic objectives of Farm Fresh are to:

- Gain market share locally of 25%.
- Achieve fresh supplies of 'farm to customer' in 24 hours for 75% of products.
- Sustain a customer satisfaction rate of 98%.

- Expand product range to attract more customers.
- Have sufficient store space to accommodate the range of products that customers want.

In order to identify possible CSFs, we must examine the mission and objectives and see which areas of the business need attention so that they can be achieved. We can start by brainstorming what the Critical Success Factors might be (these are the 'Candidate' CSFs.)

Objective	Candidate Critical Success Factors
Gain market share locally of 25%	Increase competitiveness versus other local stores Attract new customers
Achieve fresh supplies from 'farm to customer' in 24 hours for 75% of products	Sustain successful relationships with local suppliers
Sustain a customer satisfaction rate of 98%	Retain staff and keep up customer-focused training
Expand product range to attract more customers	Source new products locally
Extend store space to accommodate new products and customers	Secure financing for expansion Manage building work and any disruption to the business

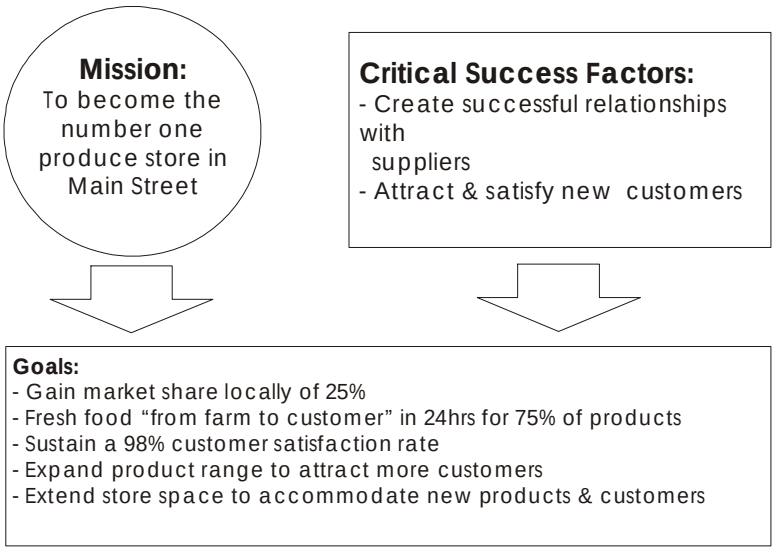
Once you have a list of Candidate CSFs, it's time to consider what is absolutely essential and so identify the truly Critical Success Factors.

And this is certainly the case for Farm Fresh Produce. One CSF that we identify from the candidate list is 'Sustain successful relationships with local suppliers.' This is absolutely essential to ensure freshness and to source new products.

Another CSF is to attract new customers. Without new customers, the store will be unable to expand to increase market share.

A third CSF is financing for expansion. The store's objectives cannot be met without the funds to invest in expanding the store space.

Figure 1: Critical Success Factors, Missions & Goals



Tip: How Many CSFs?
Whilst there is no hard and fast rule, it's useful to limit the number of CSFs to five or fewer absolute essentials. This helps you maintain the impact of your CSFs, and so give good direction and prioritization to other elements of your business or project strategy.

Using the Tool: Summary Steps

In reality, identifying your CSFs is a very iterative process. Your mission, strategic goals and CSFs are intrinsically linked and each will be refined as you develop them.

Here are the summary steps that, used iteratively, will help you identify the CSFs for your business or project:

Step One: Establish your business's or project's mission and strategic goals (click here for help doing this.)

Step Two: For each strategic goal, ask yourself 'what area of business or project activity is essential to achieve this goal?' The answers to the question are your candidate CSFs.

Tip:
To make sure you consider all types of possible CSFs, you can use Rockart's CSF types as a checklist.

- Industry – these factors result from specific industry characteristics. These are the things that the organization must do to remain competitive.
- Environmental – these factors result from macro-environmental influences on an organization. Things like the business climate, the economy, competitors, and technological advancements are included in this category.
- Strategic – these factors result from the specific competitive strategy chosen by the organization. The way in which the company chooses to position themselves, market themselves, whether they are high volume low cost or low volume high cost producers, etc.

Temporal – these factors result from the organization's internal forces. Specific barriers, challenges, directions, and influences will determine these CSFs.

Step Three: Evaluate the list of candidate CSFs to find the absolute essential elements for achieving success – these are your Criticial Success Factors.

As you identify and evaluate candidate CSFs, you may uncover some new strategic objectives or more detailed objectives. So you may need to define your mission, objectives and CSFs iteratively.

Step Four: Identify how you will monitor and measure each of the CSFs.

Step Five: Communicate your CSFs along with the other important elements of your business or project's strategy.

Step Six: Keep monitoring and reevaluating your CSFs to ensure you keep moving towards your aims. Indeed, whilst CSFs are sometimes less tangible than measurable goals, it is useful to identify as specifically as possible how you can measure or monitor each one.

Key Points

Critical Success Factors are the areas of your business or project that are absolutely essential to it success. By identifying and communicating these CSFs, you can help ensure your business or project is well-focused and avoid wasting effort and resources on less important areas. By making CSFs explicit, and communicating them with everyone involved, you can help keep the business and project on track towards common aims and goals.

2.17 The McKinsey 7S Framework

Ensuring that all parts of your organization work in harmony

How do you go about analyzing how well your organization is positioned to achieve its intended objective? This is a question that has been asked for many years, and there are many different answers. Some approaches look at internal factors, others look at external ones, some combine these perspectives, and others look for congruence between various aspects of the organization being studied. Ultimately, the issue comes down to which factors to study.

While some models of organizational effectiveness go in and out of fashion, one that has persisted is the McKinsey 7S framework. Developed in the early 1980s by Tom Peters and Robert Waterman, two consultants working at the McKinsey & Company consulting firm, the basic

premise of the model is that there are seven internal aspects of an organization that need to be aligned if it is to be successful.

The 7S model can be used in a wide variety of situations where an alignment perspective is useful, for example to help you:

- Improve the performance of a company.
- Examine the likely effects of future changes within a company.
- Align departments and processes during a merger or acquisition.
- Determine how best to implement a proposed strategy.

The McKinsey 7S model can be applied to elements of a team or a project as well. The alignment issues apply, regardless of how you decide to define the scope of the areas you study.

The Seven Elements

The McKinsey 7S model involves seven interdependent factors which are categorized as either 'hard' or 'soft' elements:

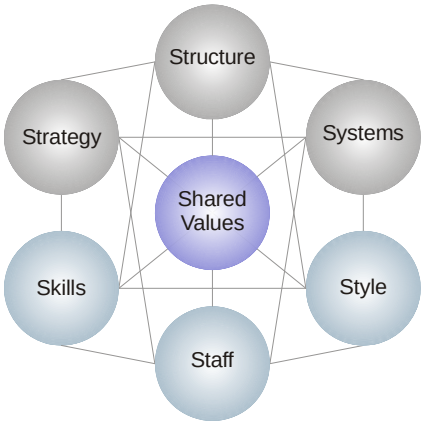
Hard Elements	Soft Elements
Strategy Structure Systems	Shared Values Skills Style Staff

'Hard' elements are easier to define or identify and management can directly influence them: These are strategy statements; organization charts and reporting lines; and formal processes and IT systems.

'Soft' elements, on the other hand, can be more difficult to describe, and are less tangible and more influenced by culture. However, these soft elements are as important as the hard elements if the organization is going to be successful.

The way the model is presented in Figure 1 below depicts the interdependency of the elements and indicates how a change in one affects all the others.

Figure 1: The McKinsey 7S Model



Let's look at each of the elements specifically:

- **Strategy:** the plan devised to maintain and build competitive advantage over the competition.
- **Structure:** the way the organization is structured and who reports to whom.
- **Systems:** the daily activities and procedures that staff members engage in to get the job done.
- **Shared Values:** called 'superordinate goals' when the model was first developed, these are the core values of the company that are evidenced in the corporate culture and the general work ethic.
- **Style:** the style of leadership adopted.
- **Staff:** the employees and their general capabilities.
- **Skills:** the actual skills and competencies of the employees working for the company.

Placing Shared Values in the middle of the model emphasizes that these values are central to the development of all the other critical elements. The company's structure, strategy, systems, style, staff and skills all stem from why the organization was originally created, and what it stands for. The original vision of the company was formed from the values of the creators. As the values change, so do all the other elements.

How to Use the Model

Now you know what the model covers, how can you use it?

The model is based on the theory that, for an organization to perform well, these seven elements need to be aligned and mutually reinforcing. So, the model can be used to help identify what needs to be realigned to improve performance, or to maintain alignment (and performance) during other types of change.

Whatever the type of change – restructuring, new processes, organizational merger, new systems, change of leadership, and so on – the model can be used to understand how the organizational elements are interrelated, and so ensure that the wider impact of changes made in one area is taken into consideration.

You can use the 7S model to help analyze the current situation (Point A), a proposed future situation (Point B) and to identify gaps and inconsistencies between them. It's then a question of adjusting and tuning the elements of the 7S model to ensure that your organization works effectively and well once you reach the desired endpoint.

Sounds simple? Well, of course not: Changing your organization probably will not be simple at all! Whole books and methodologies are dedicated to analyzing organizational strategy, improving performance and managing change. The 7S model is a good framework to help you ask the right questions – but it won't give you all the answers. For that you'll need to bring together the right knowledge, skills and experience.

When it comes to asking the right questions, we've developed a Mind Tools checklist and a matrix to keep track of how the seven elements align with each other. Supplement these with your own questions, based on your organization's specific circumstances and accumulated wisdom.

7S Checklist Questions

Here are some of the questions that you'll need to explore to help you understand your situation in terms of the 7S framework. Use them to analyze your current (Point A) situation first, and then repeat the exercise for your proposed situation (Point B).

Strategy:

- What is our strategy?
- How to we intend to achieve our objectives?
- How do we deal with competitive pressure?
- How are changes in customer demands dealt with?
- How is strategy adjusted for environmental issues?

Structure:

- How is the company/team divided?
- What is the hierarchy?
- How do the various departments coordinate activities?
- How do the team members organize and align themselves?
- Is decision making and controlling centralized or decentralized? Is this as it should be, given what we're doing?
- Where are the lines of communication? Explicit and implicit?

Systems:

- What are the main systems that run the organization? Consider financial and HR systems as well as communications and document storage.
- Where are the controls and how are they monitored and evaluated?
- What internal rules and processes does the team use to keep on track?

Shared Values:

- What are the core values?
- What is the corporate/team culture?
- How strong are the values?
- What are the fundamental values that the company/team was built on?

Style:

- How participative is the management/leadership style?
- How effective is that leadership?
- Do employees/team members tend to be competitive or cooperative?
- Are there real teams functioning within the organization or are they just nominal groups?

Staff:

- What positions or specializations are represented within the team?
- What positions need to be filled?
- Are there gaps in required competencies?

Skills:

- What are the strongest skills represented within the company/team?
- Are there any skills gaps?
- What is the company/team known for doing well?
- Do the current employees/team members have the ability to do the job?
- How are skills monitored and assessed?

7S matrix questions

Using the information you have gathered, now examine where there are gaps and inconsistencies between elements. Remember you can use this to look at either your current or your desired organization.

Click here to download our McKinsey 7S Worksheet, or take a copy from your *Worksheets and Templates Supplement*. This contains a matrix that you can use to check off the alignment between each of the elements as you go through the following steps:

- Start with your Shared Values: Are they consistent with your structure, strategy, and systems? If not, what needs to change?
- Then look at the hard elements. How well does each one support the others? Identify where changes need to be made.
- Next look at the other soft elements. Do they support the desired hard elements? Do they support one another? If not, what needs to change?
- As you adjust and align the elements, you'll need to use an iterative (and often time consuming) process of making adjustments, and then re-analyzing how that impacts other elements and their alignment. The end result of better performance will be worth it.

Tip:
For similar approaches to this, see our articles on the Burke-Litwin Change Model, and the Congruence Model. You may also find our articles on the Change Curve, Impact Analysis and Lewin's Change Management Model useful.

Key Points

The McKinsey 7Ss model is one that can be applied to almost any organizational or team effectiveness issue. If something within your organization or team isn't working, chances are there is inconsistency between some of the elements identified by this classic model. Once these inconsistencies are revealed, you can work to align the internal elements to make sure they are all contributing to the shared goals and values.

The process of analyzing where you are right now in terms of these elements is worthwhile in and of itself. But by taking this analysis to the next level and determining the ultimate state for each of the factors, you can really move your organization or team forward.

2.18 Using the Greiner Curve

Surviving the crises that come with growth

Fast growing companies can often be chaotic places to work.

As workloads increase exponentially, approaches which have worked well in the past start failing. Teams and people get overwhelmed with work. Previously-effective managers start making mistakes as their span of control expands. And systems start to buckle under increased load.

While growth is fun when things are going well, when things go wrong, this chaos can be intensely stressful. More than this, these problems can be damaging (or even fatal) to the organization.

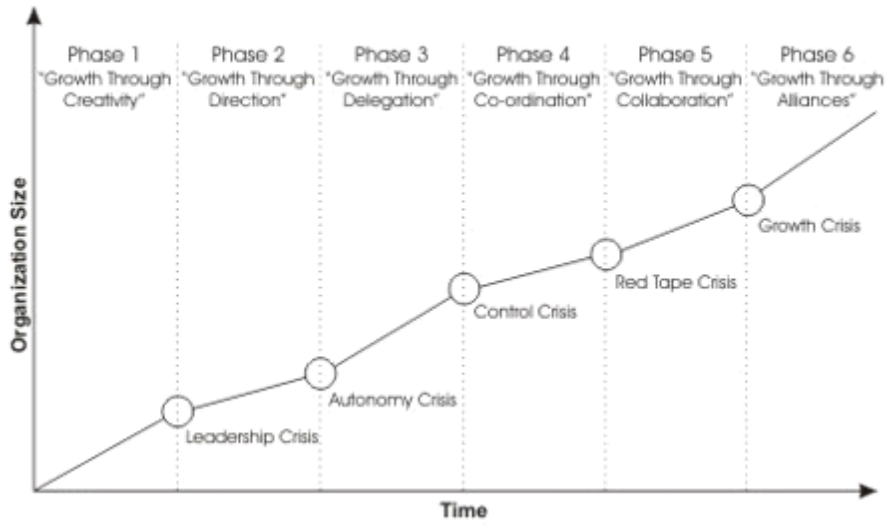
The 'Greiner Curve' is a useful way of thinking about the crises that organizations experience as they grow.

By understanding it, you can quickly understand the root cause of many of the problems you're likely to experience in a fast growing business. More than this, you can anticipate problems before they occur, so that you can meet them with pre-prepared solutions.

Understanding the Theory

Greiner's Growth Model describes phases that organizations go through as they grow. All kinds of organizations from design shops to manufacturers, construction companies to professional service firms experience these. Each growth phase is made up of a period of relatively stable growth, followed by a 'crisis' when major organizational change is needed if the company is to carry on growing.

Figure 1: The "Greiner Curve"



Dictionaries define the word 'crisis' as a 'turning point', but for many of us it has a negative meaning to do with panic. While companies certainly have to change at each of these points, if they properly plan for there is no need for panic and so we will call them 'transitions'.

Larry E. Greiner originally proposed this model in 1972 with five phases of growth. Later, he added a sixth phase (Harvard Business Review, May 1998). The six growth phases are described below:

Phase 1: Growth Through Creativity

Here, the entrepreneurs who founded the firm are busy creating products and opening up markets. There aren't many staff, so informal communication works fine, and rewards for long hours are probably through profit share or stock options. However, as more staff join, production expands and capital is injected, there's a need for more formal communication.

This phase ends with a Leadership Crisis, where professional management is needed. The founders may change their style and take on this role, but often someone new will be brought in.

Phase 2: Growth Through Direction

Growth continues in an environment of more formal communications, budgets and focus on separate activities like marketing and production. Incentive schemes replace stock as a financial reward.

However, there comes a point when the products and processes become so numerous that there are not enough hours in the day for one person to manage them all, and he or she can't possibly know as much about all these products or services as those lower down the hierarchy.

This phase ends with an **Autonomy Crisis:** New structures based on delegation are called for.

Phase 3: Growth Through Delegation

With mid-level managers freed up to react fast to opportunities for new products or in new markets, the organization continues to grow, with top management just monitoring and dealing with the big issues (perhaps starting to look at merger or acquisition opportunities). Many businesses flounder at this stage, as the manager whose directive approach solved the problems at the end of Phase 1 finds it hard to let go, yet the mid-level managers struggle with their new roles as leaders.

This phase ends with a **Control Crisis:** A much more sophisticated head office function is required, and the separate parts of the business need to work together.

Phase 4: Growth Through Coordination and Monitoring

Growth continues with the previously isolated business units re-organized into product groups or service practices. Investment finance is allocated centrally and managed according to Return on Investment (ROI) and not just profits. Incentives are shared through company-wide profit share schemes aligned to corporate goals. Eventually, though, work becomes submerged under increasing amounts of bureaucracy, and growth may become stifled.

This phase ends on a **Red-Tape Crisis:** A new culture and structure must be introduced.

Phase 5: Growth Through Collaboration

The formal controls of phases 2-4 are replaced by professional good sense as staff group and re-group flexibly in teams to deliver projects in a matrix structure supported by sophisticated information systems and team-based financial rewards.

This phase ends with a crisis of **Internal Growth:** Further growth can only come by developing partnerships with complementary organizations.

Phase 6: Growth Through Extra-Organizational Solutions

Greiner's recently added sixth phase suggests that growth may continue through merger, outsourcing, networks and other solutions involving other companies.

Growth rates will vary between and even within phases. The duration of each phase depends almost totally on the rate of growth of the market in which the organization operates. The longer a phase lasts, though, the harder it will be to implement a transition.

Tip:
This is a useful model, however not all businesses will go through these crises in this order. Use this as a starting point for thinking about business growth, and adapt it to your circumstances.

Using the Tool

The Greiner Growth Model helps you think about the growth for your organization, and therefore better plan for and cope with the next growth transitions. To apply the model, use the following steps:

1. Based on the descriptions above, think about where your organization is now.

2. Think about whether the organization is reaching the end of a stable period of growth, and nearing a 'crisis' or transition. Some of the signs of 'crisis' include:

    - People feel that managers and company procedures are getting in the way of them doing their jobs.
    - People feel that they are not fairly rewarded for the effort they put in.
    - People seem unhappy, and there is a higher staff turnover than usual.

3. Ask yourself what the transition will mean for you personally and your team. Will you have to:

    - Delegate more?
    - Take on more responsibilities?
    - Specialize more in a specific product or market?
    - Change the way you communicate with others?
    - Incentivize and reward you team differently?

    By thinking this through, you can start to plan and prepare yourself for the inevitable changes, and perhaps help other to do the same.

4. Plan and take preparatory actions that will make the transition as smooth as possible for you and your team.

5. Revisit Greiner's model for growth again every 6-12 months, and think about how the current stage of growth affects you and others around you.

Section 3: Decision Making

- Pareto Analysis - Choosing what to change
- Paired Comparison Analysis - Working out the relative importance of different options
- Grid Analysis - Making a choice taking into account many factors
- PMI - Weighing the pros and cons of a decision
- Force Field Analysis - Analyzing the pressures for and against change
- Six Thinking Hats - Looking at a decision from different perspectives
- Starbursting - Understanding options better by brainstorming questions
- Stepladder Technique - Making better group decisions
- Cost/Benefit Analysis - Seeing whether a decision makes financial sense
- Cash Flow Forecasting with Spreadsheets - Analyzing whether an idea is financially viable
- Decision Trees - Choosing by valuing different options

3. Introduction to Decision Making Skills

The techniques in this section 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.
- Making a selection when many factors must be taken into account – Grid Analysis.
- 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.
- Understanding options better by brainstorming questions – Starbursting.
- Making better group decisions – Stepladder Technique.
- Seeing whether a change is worth making – Cost/Benefit Analysis.
- Choosing between options by projecting likely outcomes – Decision Trees.

In this section we look at Decision Making tools in two stages. Firstly we will look at a set of good techniques that help you to select between different options, all of which seem promising. If you are suffering from decision paralysis, these tools will get you moving again.

The second set helps you to decide whether a course of action is worth following. These are very useful when you have to take a go/no-go decision. This part finishes by discussing Decision Trees, which are excellent Decision Making tools.

These techniques build on the tools discussed in the section on Problem Solving Tools, in that Decision Making follows on from an understanding of the situation. The section on Creativity Tools will help you to explore what alternatives that are open to you.

Do remember, though, that the tools in this chapter exist only to assist your intelligence and common sense. These are your most important assets in good Decision Making.

3.1 Pareto Analysis

Choosing the most important changes to make

Pareto analysis is a very 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*. Pareto analysis is a formal technique for finding the changes that will give the biggest benefits. It is useful where many possible courses of action are competing for your attention.

How to Use the Tool

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 would 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.

The options with the lowest scores will probably not even be worth bothering with – solving these problems may cost you more than the solutions are worth.

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:

1. Phones are only answered after many rings.
2. Staff seem distracted and under pressure.
3. Engineers do not appear to be well organized. They need second visits to bring extra parts. This means that customers have to take more holiday to be there a second time.
4. 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.
5. Staff members do not always seem to know what they are doing.
6. 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:

1. *Lack of staff training:* items 5 and 6: 51 complaints.
2. *Too few staff*: items 1, 2 and 4: 21 complaints.
3. *Poor organization and preparation:* item 3: 2 complaints.

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

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

*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. 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.

3.2 Paired Comparison Analysis

Working out the relative importance of different options

Paired Comparison Analysis helps you to work out the importance of a number of options relative to each other. It is particularly useful where 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 where there are conflicting demands on your resources.

It is also an ideal tool for comparing 'apples with oranges' – completely different options such as whether to invest in marketing, a new IT system or a new piece of machinery. These decisions are usually much harder than comparing three possible new IT systems, for example.

How to Use the Tool

To use the technique, first download our free worksheet or get a copy from your *Worksheets and Templates Supplement*. You can use this to compare each option with each other option, one-by-one. For each comparison, you will decide which of the two options is most important, and then assign a score to show how much more important it is.

Follow these steps to use the technique:

1. List the options you will compare. Assign a letter to each option.
2. Mark the options as row and column headings on the worksheet.
3. Note that the cells on the table where you will be comparing an option with itself have been blocked out – there will never be a difference in these cells!
4. The cells on the table where you will be duplicating a comparison are also blocked out.
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

As a simple example, an entrepreneur is looking at ways in which she can expand her business. She has limited resources, but also has the options she lists below:

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

Firstly she draws up the Paired Comparison Analysis table in Figure 1:

Figure 1: Example Paired Comparison Analysis Table (not filled in):

	Overseas Market (A)	Home Market (B)	Customer Service (C)	Quality (D)
Overseas Market (A)	Blocked Out (Step 3)			
Home Market (B)	Blocked Out (Step 4)	Blocked Out (Step 3)		
Customer Service (C)	Blocked Out (Step 4)	Blocked Out (Step 4)	Blocked Out (Step 3)	
Quality (D)	Blocked Out (Step 4)	Blocked Out (Step 4)	Blocked Out (Step 4)	Blocked Out (Step 3)

Then she compares options, writes down the letter of the most important option, and scores their difference in importance. An example of how she might do this is shown in figure 2:

Figure 2: Example Paired Comparison Analysis Table (filled in):

	Overseas Market (A)	Home Market (B)	Customer Service (C)	Quality (D)
Overseas Market (A)		A,2	C,1	A,1
Home Market (B)			C,1	B,1
Customer Service (C)				C,2
Quality (D)				

Finally she 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.

3.3 Grid Analysis

Making a choice where many factors must be considered

Grid Analysis (also known as Decision Matrix Analysis, Pugh Matrix Analysis or MAUT, which stands for Multi-Attribute Utility Theory) is a useful technique to use for making a decision.

It is particularly powerful where you have a number of good alternatives to choose from, and many different factors to take into account. This makes it a great technique to use in almost any important decision where there isn't a clear and obvious preferred option.

Being able to use Grid Analysis means that you can take decisions confidently and rationally, at a time when other people might be struggling to make a decision.

How to Use the Tool

The technique works by getting you to list your options as rows on a table, and the factors you need consider as columns. You then score each option/factor combination, weight this score, and add these scores up to give an overall score for the option.

While this sounds complex, in reality the technique is quite easy to use. Here's a step-by-step guide with an example.

Start by downloading our free worksheet or take a copy from your *Worksheets and Templates Supplement*, and then work through these steps:

1. The first step is to list all of your options as the row labels on the table, and list the factors that you need to consider as the column headings.

2. Next, work out the relative importance of the factors in your decision. Show these as numbers from, say, 0 to 5, where 0 means that the factor is absolutely unimportant in the final decision, and 5 means that it is very important. (It's perfectly acceptable to have factors with the same importance.) We will use these to weight your preferences by the importance of the factor.

   These values may be obvious. If they are not, then use a technique such as Paired Comparison Analysis to estimate them.

3. The next step is to work your way down the columns of your table, scoring each option for each of the factors in your decision. Score each option from 0 (poor) to 5 (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.

4. Now multiply each of your scores from step 3 by the values for relative importance you calculated in step 2. This will give you weighted scores for each option/factor combination.

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

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

His options are:

- An SUV/4x4, hard topped vehicle.
- A comfortable 'family car'.
- A station wagon/estate car.
- A convertible sports car.

Criteria that he wants to consider are:

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

Firstly he draws up the table shown in Figure 1, and scores each option by how well it satisfies each factor:

Figure 1: Example Grid Analysis Showing Unweighted Assessment of How Each Type of Car Satisfies Each Factor

Factors:	Cost	Board	Storage	Comfort	Fun	Look	Total
Weights:							
Sports Car	1	0	0	1	3	3	
SUV/4x4	0	3	2	2	1	1	
Family Car	2	2	1	3	0	0	
Station Wagon	2	3	3	3	0	1	

Next he decides the relative weights for each of the factors. He multiplies these by the scores already entered, and totals them. This is shown in Figure 2:

Figure 2: Example Grid Analysis Showing Weighted Assessment of How Each Type of Car Satisfies Each Factor

Factors:	Cost	Board	Storage	Comfort	Fun	Look	Total
Weights:	4	5	1	2	3	4	
Sports Car	4	0	0	2	9	12	**27**
SUV/4x4	0	15	2	4	3	4	**28**
Family Car	8	10	1	6	0	0	**25**
Station Wagon	8	15	3	6	0	4	**36**

This gives an interesting result: Despite its lack of fun, a station wagon may be the best choice.

If the wind-surfer still feels unhappy with the decision, maybe he has underestimated the importance of one of the factors. Perhaps he should give 'fun' a weight of 7, and buy an old station wagon to carry his board!

Key Points

Grid Analysis helps you to decide between several options, while taking many different factors into account.

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 5 (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.

Grid Analysis is the simplest form of Multiple Criteria Decision Analysis (MCDA), also known as Multiple Criteria Decision Aid or Multiple Criteria Decision Management (MCDM). Sophisticated MCDA is involves highly complex modeling of different potential scenarios and advanced mathematics.

3.4 PMI

Weighing the pros and cons of a decision

PMI stands for 'Plus/Minus/Interesting'. It is a valuable improvement to the 'weighing pros and cons' technique used for centuries.

PMI is an important Decision Making tool: The mind tools used so far in this section have focused on selecting a course of action from a range of options. Before you move straight to action on this course of action, it is important to check that it is going to improve the situation (it may actually be best to do nothing!) PMI is a useful tool for doing this.

How to Use the Tool

In the column underneath 'Plus', write down all the positive results of taking the action. Underneath 'Minus' write down all the negative effects. In the 'Interesting' column write down the implications and possible outcomes of taking the action, whether positive, negative, or uncertain.

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.

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	Interesting
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)	
+13	**-18**	**-1**

She scores the table as 13 (Plus) – 18 (Minus) – 1 (Interesting) = – 6

For her, the comforts of a settled rural existence outweigh the call of the 'bright lights' – it would be much better for her to live outside the city, but close enough to travel in if necessary.

PMI was codified by Edward de Bono in his book Serious Creativity.

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 Interesting. 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.

3.5 Force Field Analysis

Worksheet

Understanding the pressures for and against change

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.

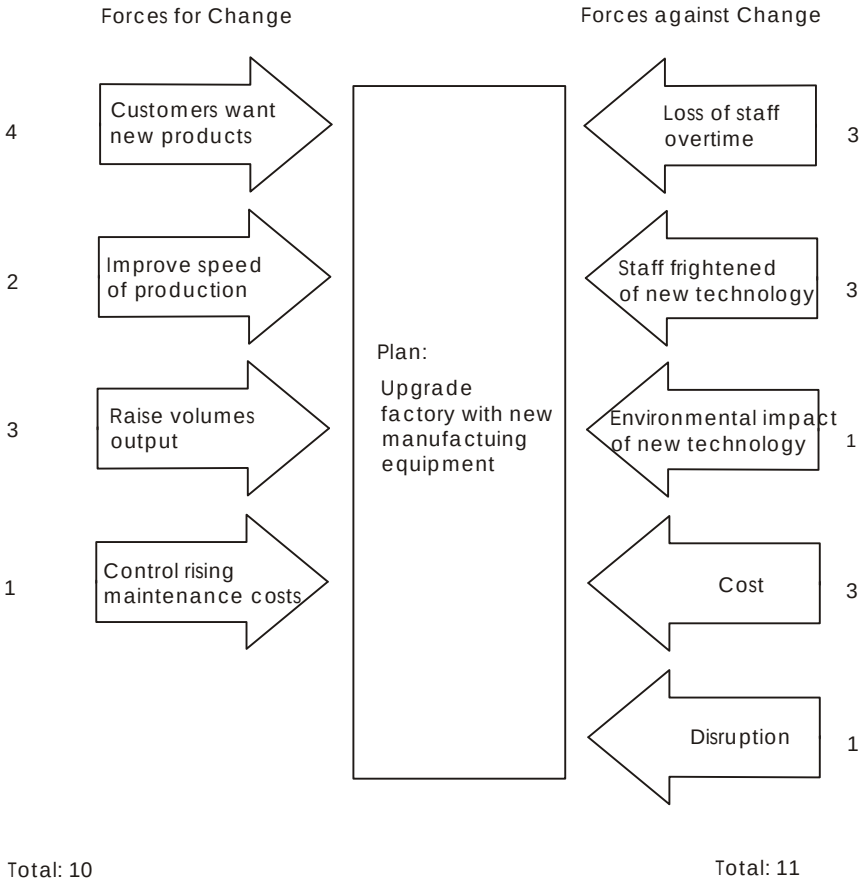
How to Use the Tool

To carry out a force field analysis, first download our free worksheet, or get a copy from your *Worksheets and Templates Supplement* and then use it to follow these steps:

1. Describe your plan or proposal for change in the middle.
2. List all forces for change in one column, and all forces against change in another column.
3. Assign a score to each force, from 1 (weak) to 5 (strong).

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:

Figure 1
Force Field Analysis Example



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)

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 a useful technique 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.

3.6 Six Thinking Hats

Looking at a decision from all points of view

'Six Thinking Hats' is a powerful technique that helps you look at important decisions from a number of different perspectives. It helps you make better decisions by pushing you to move outside your habitual ways of thinking. As such, it helps you understand the full complexity of a decision, and spot issues and opportunities which you might otherwise not notice.

Many successful people think from a very rational, positive viewpoint, and this is part of the reason that they are successful. Often, though, they may fail to look at problems from emotional, intuitive, creative or negative viewpoints. This can mean that they underestimate resistance to change, don't make creative leaps, and fail to make essential contingency plans.

Similarly, pessimists may be excessively defensive, and people used to a very logical approach to problem solving may fail to engage their creativity or listen to their intuition.

If you look at a problem using the Six Thinking Hats technique, then you'll use all of these approaches to develop your best solution. Your decisions and plans will mix ambition, skill in execution, sensitivity, creativity and good contingency planning.

This tool was created by Edward de Bono in his book *6 Thinking Hats*.

How to Use the Tool

To use Six Thinking Hats to improve the quality of your decision-making, look at the decision 'wearing' each of the thinking hats in turn.

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 analyze past trends, and try to extrapolate from historical data.

- **Red Hat:**
  Wearing the red hat, you look at the decision using intuition, gut reaction, and emotion. Also try to think how other people will react emotionally, and try to understand the intuitive responses of people who do not fully know your reasoning.

- **Black Hat:**
  When using black hat thinking, look at things pessimistically, cautiously and defensively. Try to see why ideas and approaches might not work. This is important because it highlights the weak points in a plan or course of action. It allows you to eliminate them, alter your approach, or prepare contingency plans to counter problems that arise.

  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 many successful people get so used to thinking positively that often they cannot see problems in advance, leaving 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, and spot the opportunities that arise from 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 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, and so on.

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

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

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 analyze 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, that 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 downturn', 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.

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. It also helps, for example, persistently pessimistic people to be positive and creative.

Plans developed using the '6 Thinking Hats' technique are sounder and more resilient than would otherwise be the case. This technique 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.

3.7 Starbursting

Understanding new ideas by brainstorming questions

When a colleague suggests a new product or idea, and you're trying to understand it and how it works, a typical response is to bombard the other person with questions. What features would it have? How much would it cost? Where would we market it? Who would be responsible for it? Who would buy it? Why would they buy it? And so on.

Asking questions like these is a valuable way of understanding the new idea, and of challenging it to ensure that all of the relevant aspects of it have been considered before any work begins on implementing it. To get the most out of this approach, it's important that the questions asked are systematic and comprehensive. After all, there would be no point identifying every feature and the

intended customers of a new product, and starting to manufacture it if you haven't asked how you would bring it to that market.

So it's worth going through a comprehensive, systematic questioning exercise every time you explore a new idea. The Starbursting technique is useful way of going about this.

Starbursting is a form of brainstorming that focuses on generating questions rather than answers. It can be used iteratively, with further layers of questioning about the answers to the initial set of questions. For example, a colleague suggests a new design of ice skating boot. One question you ask might be 'Who is the customer?' Answer: skaters. But you need to go further than this to ensure that you target your promotions accurately: 'What kind of skaters?' Answer: those who do a lot of jumping, who need extra support, and so on. This would help focus the marketing, for example to competition ice dancers and figure skaters, rather than ice rinks that buy boots to hire out to the general public.

How to Use the Tool

The best way to see the power of this simple but effective technique is to think of a product, challenge or issue to work on, and follow these steps:

Step 1 Download our free worksheet, or take a copy from your *Worksheets and Templates Supplement* and print it out or take a large sheet of paper, draw a large six-pointed star in the middle, and write your idea, product or challenge in the centre.

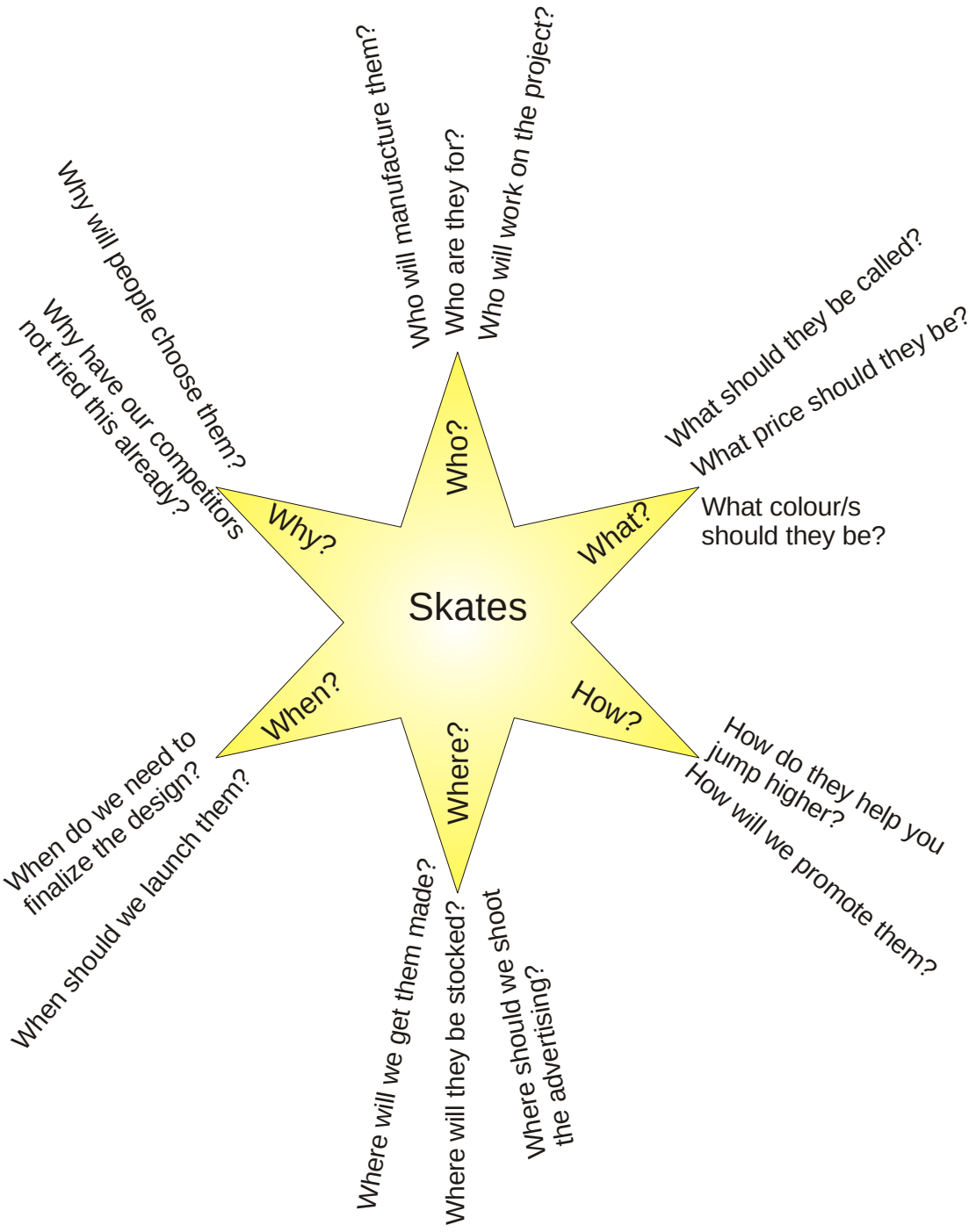
Step 2 Write the words Who, What, Why, Where, When and How at the tip of each point of the star.

Step 3 Brainstorm questions about the idea or product starting with each of these words. The questions radiate out from the central star. Don't try to answer any of the questions as you go along. Instead, concentrate on thinking up as many questions as you can.

Step 4 Depending on the scope of the exercise, you may want to have further starbursting sessions to explore the answers to these initial questions further.

Figure 1 below shows some of the questions you might generate in a short starbursting session on the skates mentioned above.

Figure 1: Starburst diagram for a new product



Key Points

Starbursting is a form of brainstorming that focuses on generating questions about an idea or challenge in a systemmatic, comprehensive way. It's a useful tool to support your problem solving or decision making processes by helping you to understand all aspects and options more fully.

3.8 Stepladder Technique

Making better group decisions

Making decisions within a group can often be challenging. When things go well, they can go very well. However, when things go wrong, you can end up mired in conflict. Some people may fight for recognition and position, others may be over-critical or disruptive, while others may sit quietly and not contribute anything to the overall effort. Because of this, groups can often spin out of control and make worse decisions than individuals working on their own.

When this happens, it's easy to see why some people throw their hands up in frustration and give up. However, when a group works in the right way, it really WORKS. Groups that function effectively together can outperform individuals and make much better decisions.

But how do you make your group effective? How do you get all the members to contribute and inspire one another to create great ideas and solutions?

The Stepladder Technique is a useful method for encouraging individual participation in group decision making.

What is the Stepladder Technique?

The Stepladder Technique is a simple tool that manages how members enter the decision-making group. Developed by Steven Rogelberg, Janet Barnes-Farrell and Charles Lowe in 1992, it encourages all members to contribute on an individual level BEFORE being influenced by anyone else. This results in a wider variety of ideas, it prevents people from 'hiding' within the group, and it helps people avoid being 'stepped on' or overpowered by stronger, louder group members.

All of this helps the group make better decisions.

How to Use the Tool

The Stepladder Technique has five basic steps. Here's how it works.

Step 1: Before getting together as a group, present the task or problem to all members. Give everyone sufficient time to think about what needs to be done and to form their own opinions on how to best accomplish the task or solve the problem.

Step 2: Form a core group of two members. Have them discuss the problem.

Step 3: Add a third group member to the core group. The third member presents ideas to the first two members BEFORE hearing the ideas that have already been discussed. After all three members have laid out their solutions and ideas, they discuss their options together.

Step 4: Repeat the same process by adding a fourth member, and so on, to the group. Allow time for discussion after each additional member has presented his or her ideas.

Step 5: Reach a final decision only after all members have been brought in and presented their ideas.

Tip 1 :
The Stepladder Technique is similar to the Delphi Method, another tool that's often used in groups to prevent Groupthink and to encourage participation. While both tools have the same objective, they differ in a few key ways:

- In the Delphi Method, an objective facilitator or leader manages the group. In the Stepladder Technique, all members are equal.
- The Delphi Method keeps members anonymous. The facilitator manages the flow of information, and members may have no idea who else is in the group. The Stepladder Technique involves face-to-face meetings, so everyone knows who the other members are.
- The Delphi Method is a lengthy process, while the Stepladder Technique is much quicker.

The Delphi Method is often used for major decisions that need input from a large number of people. The Stepladder Technique works best with smaller groups that make a wide range of decisions.

Tip 2:
Many groups can begin to lose their effectiveness and ability to make quality decisions if they have too many members. Keep your group small – four to six team members – to maximize effectiveness.

Key Points

The Stepladder Technique is a step-by-step approach to help ensure that all members of a group participate and are heard. The technique allows shy, quiet people to present their ideas before other group members can influence them, and it allows everyone to hear many different viewpoints before reaching a final decision.

3.9 Cost/Benefit Analysis

Evaluating quantitatively whether to follow a course of action

You may have been intensely creative in generating solutions to a problem, and rigorous in your selection of the best one available. However, 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 or cba is a relatively* simple and widely used technique for deciding whether to make a change. As its name suggests, you 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 time it takes for the benefits of a change to repay its costs. Many companies look for payback on projects over a specified period of time e.g. three years.

How to Use the Tool

In its simple form, cost-benefit analysis is carried out using only financial costs and financial benefits. For example, a simple cost benefit ratio for 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 building a cost benefit models is to try to put a financial value on 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 if 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 the cost benefit approach 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 an authority on the subject.

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 fulfilment and delivery staff.

His financial cost/benefit analysis is shown below:

Costs:

New computer equipment:

10 network-ready PCs with supporting software @ $2,450 each

- 1 server @ $3,500
- 3 printers @ $1,200 each
- Cabling & Installation @ $4,600
- Sales Support Software @ $15,000

Training costs:

- Computer introduction – 8 people @ $400 each
- Keyboard skills – 8 people @ $400 each
- Sales Support System – 12 people @ $700 each

Other costs:

- Lost time: 40 man days @ $200 / day
- Lost sales through disruption: estimate: $20,000
- Lost sales through inefficiency during first months: estimate: $20,000

Total cost: $114,000

Benefits:

- Tripling of mail shot capacity: estimate: $40,000 / year
- Ability to sustain telesales campaigns: estimate: $20,000 / year
- Improved efficiency and reliability of follow-up: estimate: $50,000 / year
- Improved customer service and retention: estimate: $30,000 / year
- Improved accuracy of customer information: estimate: $10,000 / year

- More ability to manage sales effort: $30,000 / year

Total Benefit: $180,000/year

Payback time: $114,000 / $180,000 = 0.63 of a year = approx. 8 months

Tip:
The payback time is often known as the break even point. Sometimes this is is more important than the overall benefit a project can deliver, for example because the organization has had to borrow to fund a new piece of machinery. The break even point can be found graphically by plotting costs and income on a graph of output quantity against $. Break even occurs at the point the two lines cross.

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, firstly work out how much the change will cost to make. Then calculate the benefit you will 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.

*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 Mind Tools.

3.10 Cash Flow Forecasting

Forecasting the viability of a financial decision

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 firstly analyse the system being forecasted with a system diagram. 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 the 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 1 (below) 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

  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

  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.

Cash Flow Forecasting is a relatively simple technique for checking the viability of a project. Cost/Benefit Analysis is another. These are good techniques for decisions involving relatively small amounts of money. Where large sums are involved (for example, in financial market transactions), project evaluation can become a complex and sophisticated art, which uses more formal techniques. The fundamentals of this are explained in Principles of Corporate Finance by Richard Brealey and Stewart Myers – this is something of an authority on the subject. The book is reviewed at the top of our right hand side bar.

Example

A motor home enthusiast has decided that he wants to set up a motor home 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:

Price of 6 berth vehicle for 1 week:			1,650			Number of vehicles on hire:		2				
Cash Movement	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Income:												
OPERATIONS												
Vehicle weeks hired out	1	-	2	6	5	7	9	9	6	3	2	1
RV Hire	1,650.00	0.00	3,300.00	9,900.00	8,250.00	11,550.00	14,850.00	14,850.00	9,900.00	4,950.00	3,300.00	1,650.00
Travel Insurance	0.00	0.00	125.00	250.00	625.00	875.00	1,125.00	1,125.00	750.00	375.00	250.00	125.00
Cancellation Insurance	0.00	0.00	37.50	75.00	187.50	262.50	337.50	337.50	225.00	112.50	75.00	37.50
Support Services	0.00	0.00	495.00	1,485.00	1,237.50	1,732.50	2,227.50	2,227.50	1,485.00	742.50	495.00	247.50
Total Income	**1,650.00**	**0.00**	**3,957.50**	**11,710.00**	**10,300.00**	**14,420.00**	**18,540.00**	**18,540.00**	**12,360.00**	**6,180.00**	**4,120.00**	**2,060.00**
Outgoings:												
OPERATIONS												
Salaries	2,205.00	2,205.00	2,205.00	2,205.00	2,205.00	2,205.00	2,205.00	2,205.00	2,205.00	2,205.00	2,205.00	2,205.00
Payroll Taxes	1,102.50	1,102.50	1,102.50	1,102.50	1,102.50	1,102.50	1,102.50	1,102.50	1,102.50	1,102.50	1,102.50	1,102.50
Office Expenses	160.00	160.00	160.00	160.00	160.00	160.00	160.00	160.00	160.00	160.00	160.00	160.00
Office Rental	330.00	330.00	330.00	330.00	330.00	330.00	330.00	330.00	330.00	330.00	330.00	330.00
Parking Lot 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	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00
Maintenance	100.00	100.00	225.40	476.20	413.50	538.90	664.30	664.30	476.20	288.10	225.40	162.70
Laundry & Cleaning	0.00	0.00	33.00	99.00	82.50	115.50	148.50	148.50	99.00	49.50	33.00	16.50
Insurance	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00
Brochures	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Advertising	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00
FINANCING												
Vehicle Purchase Loans	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00
Total Expenses	**8,377.50**	**7,477.50**	**7,635.90**	**7,952.70**	**7,873.50**	**8,031.90**	**8,190.30**	**8,190.30**	**7,952.70**	**7,715.10**	**7,635.90**	**7,556.70**
Monthly Total:	-6,727.50	-7,477.50	-3,678.40	3,757.30	2,426.50	6,388.10	10,349.70	10,349.70	4,407.30	-1,535.10	-3,515.90	-5,496.70
Running Total:	**-6,727.50**	**-14,205.00**	**-17,883.40**	**-14,126.10**	**-11,699.60**	**-5,311.50**	**5,038.20**	**15,387.90**	**19,795.20**	**18,260.10**	**14,744.20**	**9,247.50**

(Please note that these figures are provided for illustration only and are not necessarily indicative of the real figures for this type of business.)

Looking at these figures, the enthusiast is very worried – although the business scheme he wants to set up will return a small profit of just under $10,000 at the end of the year, he will be nearly $18,000 in the red at the end of March. Unless he has this amount of spare cash of his own and is prepared to tie it up in the venture, or he is willing to arrange a loan or overdraft facility (which will incur further costs), his proposed business model is not viable.

He may just have saved a lot of time, 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.

3.11 Decision Tree Analysis

Choosing between options by projecting likely outcomes

Decision Trees are useful tools for helping you to choose between several courses of action.

They provide a highly effective structure within which you can explore 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.

This makes them particularly useful for choosing between different strategies, projects or investment opportunities, particularly when your resources are limited.

How to Use the Tool

You start a Decision Tree with a decision that you need to make. Draw a small square to represent this on the left hand side of a large piece of paper, half way down the page.

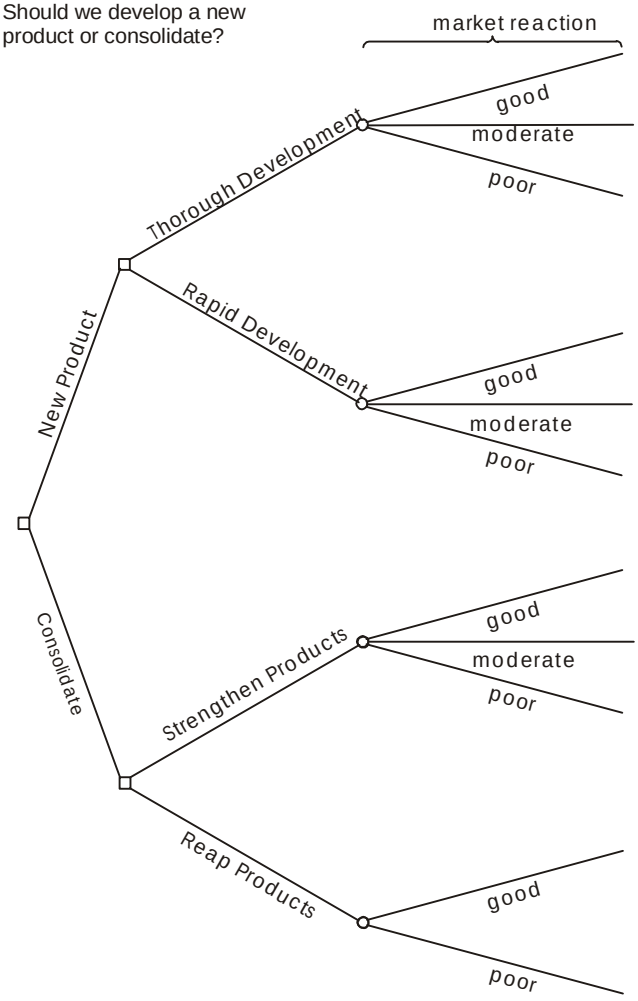
From this box draw out lines towards the right for each possible solution, and write a short description of the solution along the line. Keep the lines apart as far as possible so that you can expand your thoughts.

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.

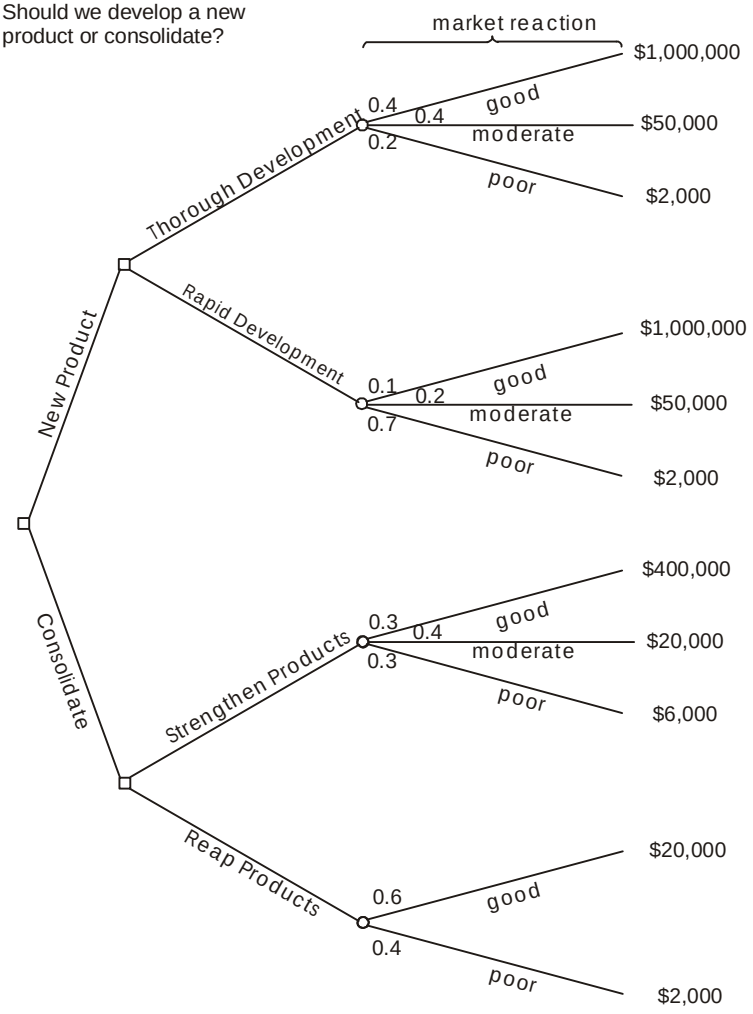
Evaluating Your Decision Tree

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. Make your best assessment of how much you think it would be worth to you if that outcome came about.

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

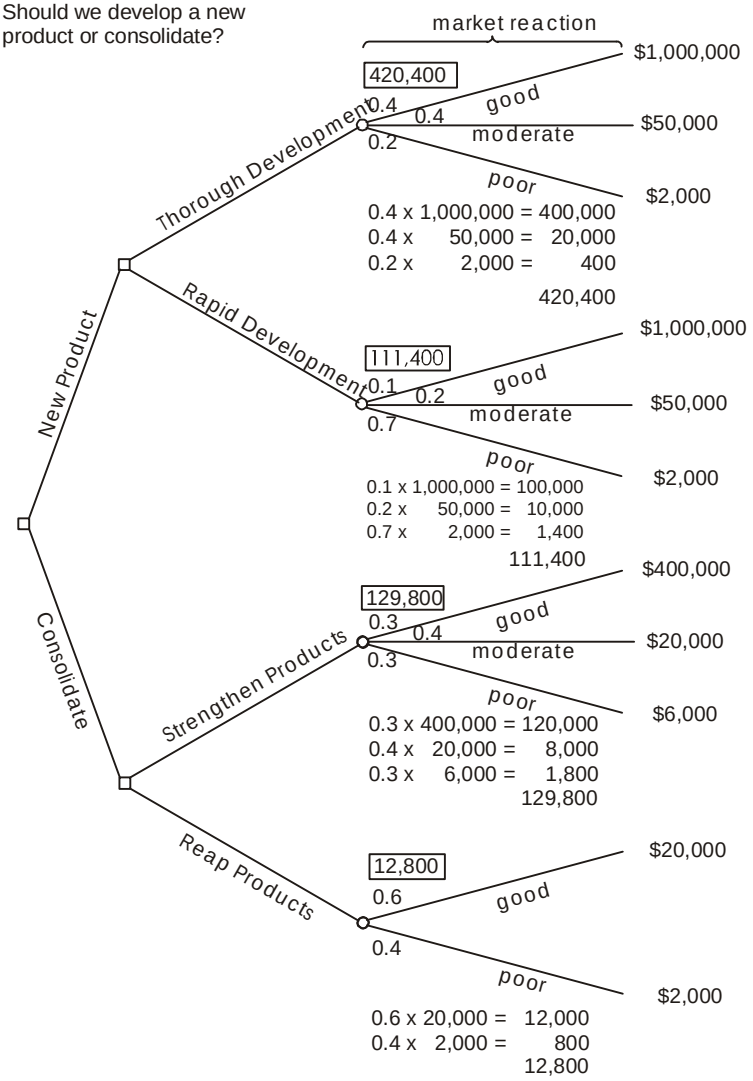
Where you are calculating the value of uncertain outcomes (circles on the diagram), do this by multiplying the value of the outcomes by their probability. The total for that node of the tree is the total of these values.

In the example in Figure 2, the value for 'new product, thorough development' is:

0.4 (probability good outcome) x $1,000,000 (value) =	$400,000
0.4 (probability moderate outcome) x £50,000 (value) =	$20,000
0.2 (probability poor outcome) x £2,000 (value) =	$400
+	**$420,400**

Figure 3 shows the calculation of uncertain outcome nodes:

Figure 3
Example Decision Tree:
Should we develop a new product or consolidate?



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

Calculating the Value of Decision Nodes

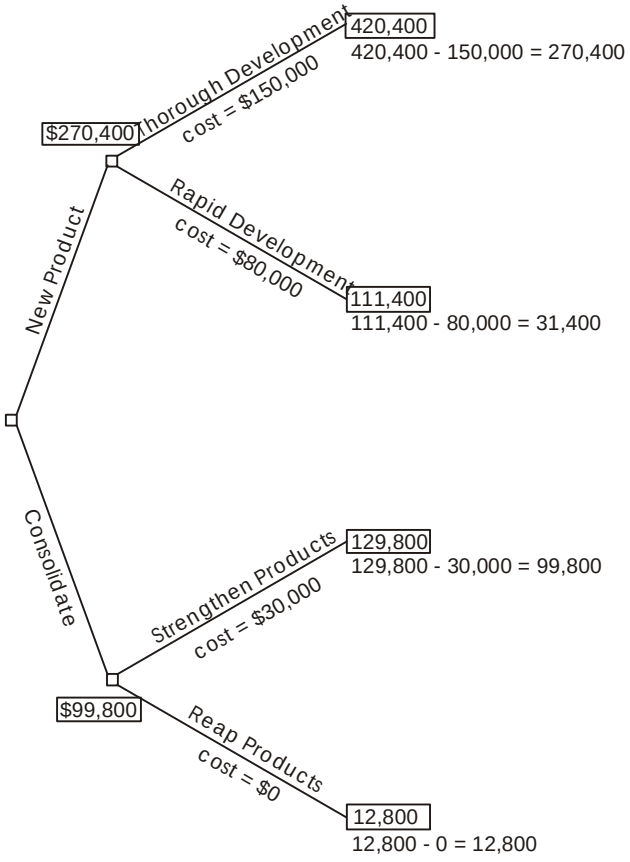
When you are evaluating a decision node, write down the cost of each option along each decision line. Then subtract the cost from the outcome value that you have already calculated. This will give you a value that represents the benefit of that decision.

Note that amounts already spent do not count for this analysis – these are 'sunk costs' and (despite the emotional cost) should not be factored into the decision.

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 $420,400. We estimate the future cost of this approach as $150,000. This gives a net benefit of $270,400.

The net benefit of 'new product, rapid development' was $31,400. 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.

And it's 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 analyze the possible consequences of a decision fully.
- 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.

Section 4: Project Management

- Estimating Time Accurately
- Risk/Impact Probability Chart – Learning to prioritize risks
- Scheduling Simple Projects
- Gantt Charts – Scheduling projects with dependent stages
- Critical Path Analysis and PERT – Scheduling complex projects
- Logframes and the Logical Framework Approach – Planning robust, coherent, successful projects
- The Planning Cycle – A planning process for middle-sized projects
- Planning Large Projects and Programs
- Kotter's 8-Step Change Model – Implementing change powerfully and successfully
- Stakeholder Analysis – Working out whose support you need
- Stakeholder Management – Communicating to win support for your projects
- Influence Maps – Uncovering where the power lies in your projects

4. Introduction to Project Management

Projects are one-off pieces of work that are completed within a fixed timescale. And they usually contain a great deal of risk, uncertainty, and complexity that needs to be managed.

There are a series of project management approaches and tools to help you reduce these risks, and create an effective platform to deliver the project objectives. These are designed to improve the project's overall success, and to capture the knowledge that's gained every time a project is completed.

Our project management section discusses some of the specific skills, approaches, and tools you'll need to run projects successfully. The tools are divided into the following categories:

- **Project Management Framework** – These tools and articles cover the fundamentals of setting your project up to succeed.
- **Scheduling** – Projects involve a huge number of tasks with multiple inter-dependencies. Learn the tools and techniques for planning what needs to be done, and when.
- **Scope Management** – Use these tools to define your project clearly, and to avoid the problem of 'scope creep'.
- **Building Support for Your Projects** – Engaging the right people in the right way, and at the right time, is critical to project success. These tools help you do this.
- **Communication** – Monitoring the progress of a project is vital for keeping it on track. These effective reporting tools will keep everyone involved in the project up to date.
- **Change Management** – Projects are, by nature, all about change. Many people find change hard to handle, which can disrupt successful implementation. The tools in this section will help you manage the important 'soft side' of projects.
- **Review** – Use these structured techniques to learn from each project, and to ensure that it delivers what it should.

Project Management Framework

- The Planning Cycle – A planning process for medium-sized projects.
- Plan-Do-Check-Act (PDCA) – Implementing new ideas in a controlled way (Also known as the Deming Cycle).
- Logframes, and the Logical Framework Approach – Planning robust, coherent, successful projects.
- Organization Design – Aligning organizational structure with business goals.
- Project Initiation Documents – Getting your project off to a great start.
- Request for Proposal (RFP) Documents – Getting better terms with a competitive bidding process.
- Risk Impact/Probability Chart – Learning to prioritize risks.
- Words Used in... Project and Program Management – A glossary of terms.

Scheduling

- Action Plans – Small-scale planning.
- Scheduling Simple Projects.
- Planning Large Projects and Programs.
- Estimating Time Accurately – A key to project success.
- Gantt Charts – Planning and scheduling more complex projects.
- Critical Path Analysis – Planning more complex projects.

Scope Management

- Business Requirements Analysis – Clearly agreeing what you're going to deliver.
- Work Breakdown Structures – Mapping out the work within a project.

Building Support for Your Projects

- Stakeholder Analysis – Winning support for your projects.
- Stakeholder Management – Planning stakeholder communication.
- Influence Maps – Uncovering where the power lies in your projects.

Communication

- Project Dashboards – Quickly communicating project progress.

Change Management

- Lewin's Change Management Model – Understanding the three stages of change.
- Kotter's 8-Step Change Model – Implementing change powerfully and successfully.

Review

- After Action Review (AAR) Process – Learning from your actions sooner rather than later.
- Post-Implementation Reviews – Making sure that what you delivered actually works.

4.1 Estimating Time Accurately

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 often 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. Time estimates are important inputs into the other techniques used to organize and structure medium and large sized projects (Gantt Charts and Critical Path Analysis). Both of these techniques reduce large projects down into a set of small projects.

How to Use the Tool

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-to-understand, 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. Simple techniques such as Drill-Down are useful for this.

Once you have a detailed list of all the tasks that you must achieve, 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.
- Breakdowns in equipment.
- Missed deliveries by suppliers.
- Interruptions.
- Quality control rejections.

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.

4.2 Risk Impact/Probability Chart

Learning to prioritize risks

Risk management is an important function in organizations today. Companies undertake increasingly complex and ambitious projects, and those projects must be executed successfully, in an uncertain and often risky environment.

As a responsible manager, you need to be aware of these risks. Does this mean that you should try to address each and every risk that your project might face? Probably not – in all but the most critical environments, this can be much too expensive, both in time and resources.

Instead, you need to prioritize risks. If you do this effectively, you can focus the majority of your time and effort on the most important risks.

The Risk Impact/Probability Chart provides a useful framework that helps you decide which risks need your attention.

How to Use the Tool

The Risk Impact/Probability Chart is based on the principle that a risk has two primary dimensions:

1. **Probability** – A risk is an event that 'may' occur. The probability of it occurring can range anywhere from just above 0% to just below 100%. (Note: It can't be exactly 100%, because then it would be a certainty, not a risk. And it can't be exactly 0%, or it wouldn't be a risk.)

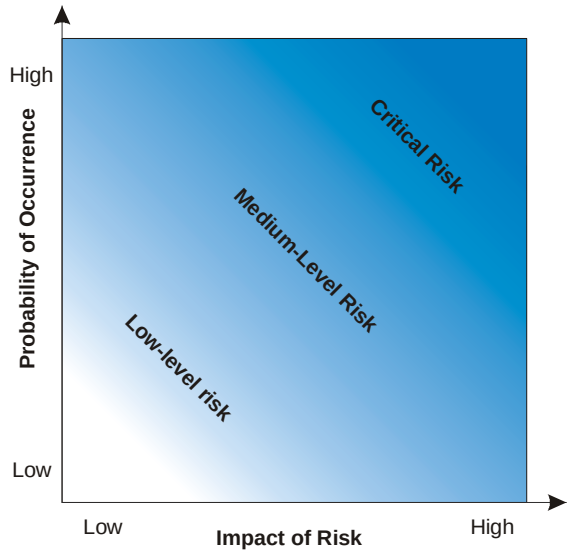
2. **Impact** – A risk, by its very nature, always has a negative impact. However, the size of the impact varies in terms of cost and impact on health, human life, or some other critical factor.

The chart allows you to rate potential risks on these two dimensions. The probability that a risk will occur is represented on one axis of the chart – and the impact of the risk, if it occurs, on the other.

You use these two measures to plot the risk on the chart. This gives you a quick, clear view of the priority that you need to give to each. You can then decide what resources you will allocate to managing that particular risk.

The basic form of the Risk Impact/Probability Chart is shown below.

Figure 1: The Risk Impact/Probability Chart



The corners of the chart have these characteristics:

- **Low impact/Low probability** – Risks in the bottom left corner are low level, and you can often ignore them.

- **Low impact/High probability** – Risks in the top left corner are of moderate importance – if these things happen, you can cope with them and move on. However, you should try to reduce the likelihood that they'll occur.
- **High impact/Low probability** – Risks in the bottom right corner are of high importance if they do occur, but they're very unlikely to happen. For these, however, you should do what you can to reduce the impact they'll have if they do occur, and you should have contingency plans in place just in case they do.
- **High impact/High probability** – Risks towards the top right corner are of critical importance. These are your top priorities, and are risks that you must pay close attention to.

Tip 1:
It's natural to want to turn this into a two-by-two matrix. The problem here is where the lines dividing the quadrants of the matrix lie. For example – should you ignore a 49% probability risk, which will cause a 49% of maximum loss? And why, in this example, should you pay maximum attention to a risk that has a 51% probability of occurring, with a loss of 51% of maximum loss?

Tip 2:
In some industries, you need to pay close attention to even very unlikely risks, where these risks involve injury or loss of human life, for example. Make sure you pay due attention to these risks.

To use the Risk Impact/Probability Chart, print this free worksheet or get a copy from your *Worksheets and Templates Supplement*, and then follow these steps:

1. List all of the likely risks that your project faces. Make the list as comprehensive as possible.

2. Assess the probability of each risk occurring, and assign it a rating. For example, you could use a scale of 1 to 10. Assign a score of 1 when a risk is extremely unlikely to occur, and use a score of 10 when the risk is extremely likely to occur.

3. Estimate the impact on the project if the risk occurs. Again, do this for each and every risk on your list. Using your 1-10 scale, assign it a 1 for little impact and a 10 for a huge, catastrophic impact.

4. Map out the ratings on the Risk Impact/Probability Chart.

5. Develop a response to each risk, according to its position in the chart. Remember, risks in the bottom left corner can often be ignored, while those in the top right corner need a great deal of time and attention. Read Risk Analysis and Risk Management for detailed strategies on developing a risk response plan.

Key Points

To successfully implement a project, you must identify and focus your attention on middle and high-priority risks – otherwise you risk spreading your efforts too thinly, and you'll waste resources on unnecessary risk management.

With the Risk Impact/Probability Chart, you map out each risk – and its position determines its priority. High-probability/high-impact risks are the most critical, and you should put a great deal of effort into managing these. The low-probability/high-impact risks and high-probability/low-impact risks are next in priority, though you may want to adopt different strategies for each.

Low-probability/low-impact risks can often be ignored.

4.3 Scheduling Simple Projects

Simple projects involve only one or a few people over a short time. Typically, simple 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.

How to Use the Tool

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.

It will often be enough to create a workback schedule, starting from the date by which the project must be completed, and listing all of the tasks in reverse order with due dates for each.

Whatever the size of your project, ensure that you have agreed its scope with its sponsor (the person who wants it done) before you start planning. This will help you to resist changes to its scope (known as 'scope creep'), which will seriously affect your plans, once you have started working.

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.

4.4 Gantt Charts

Planning and scheduling complex projects

Gantt Charts are important tools that help you plan and manage complex projects.

They help you work out the order in which tasks need to be carried out; allow you to identify the resources needed to complete the project, along with the times when these resources will be needed; help you work out the quickest possible time in which a project can be completed; and help you identify the 'critical path' for a project. This is the sequence of tasks that must be completed on time if you are to complete the project 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, they help you to pinpoint the remedial action necessary to put it back on schedule.

These are all essential activities if you are going to manage projects successfully.

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. As a shallow 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' or 'linear'.

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 nondependent or 'parallel' tasks.

How to Use the Tool

To plan a project using a Gantt Chart, follow these steps:

1. List all activities in the plan.

The first step is to list all of the tasks that need to be completed to deliver the project. For each task, show the earliest start date, estimated length of time it will take, and whether it is parallel or sequential. And if tasks are sequential, show which previous stage or stages they depend on.

You will end up with a task list like the one in figure 1. This example shows the task list for an example custom-written computer project. We will use this same example for both this section and the section on Critical Path Analysis and PERT. This will allow you to compare the results of the two approaches.

Figure 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.

Task	Possible start	Length	Type	Dependent on...
A. High level analysis	Week 0	1 week	Sequential	
B. Selection of hardware platform	Week 1	1 day	Sequential	A
C. Installation and commissioning of hardware	Week 1.2	2 weeks	Parallel	B
D. Detailed analysis of core modules	Week 1	2 weeks	Sequential	A
E. Detailed analysis of supporting modules	Week 3	2 weeks	Sequential	D
F. Programming of core modules	Week 3	2 weeks	Sequential	D
G. Programming of supporting modules	Week 5	3 weeks	Sequential	E
H. Quality assurance of core modules	Week 5	1 week	Sequential	F
I. Quality assurance of supporting modules	Week 8	1 week	Sequential	G
J. Core module training	Week 6	1 day	Parallel	C,H

Task	Possible start	Length	Type	Dependent on...
K. Development and QA of accounting reporting	Week 5	1 week	Parallel	E
L. Development and QA of management reporting	Week 5	1 week	Parallel	E
M. Development of Management Information System	Week 6	1 week	Sequential	L
N. Detailed training	Week 9	1 week	Sequential	I, J, K, M

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

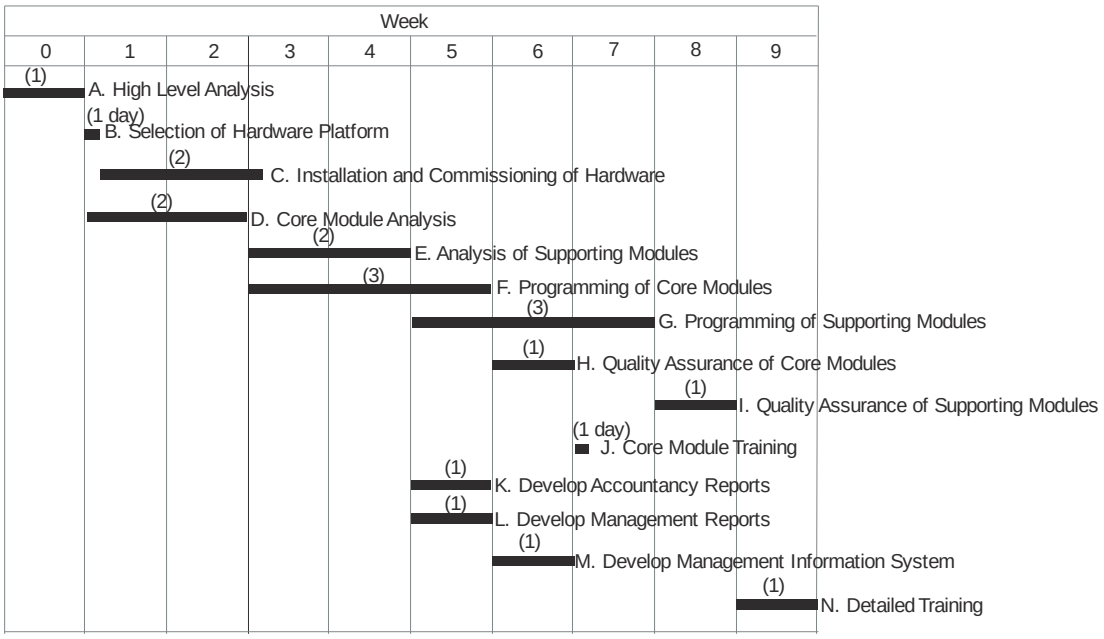
3. Plot the tasks onto the graph paper.

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.

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.

This will produce an untidy diagram like the one below:

Figure 2: Draft Gantt Chart: Example Computer Project



4. Schedule Activities.

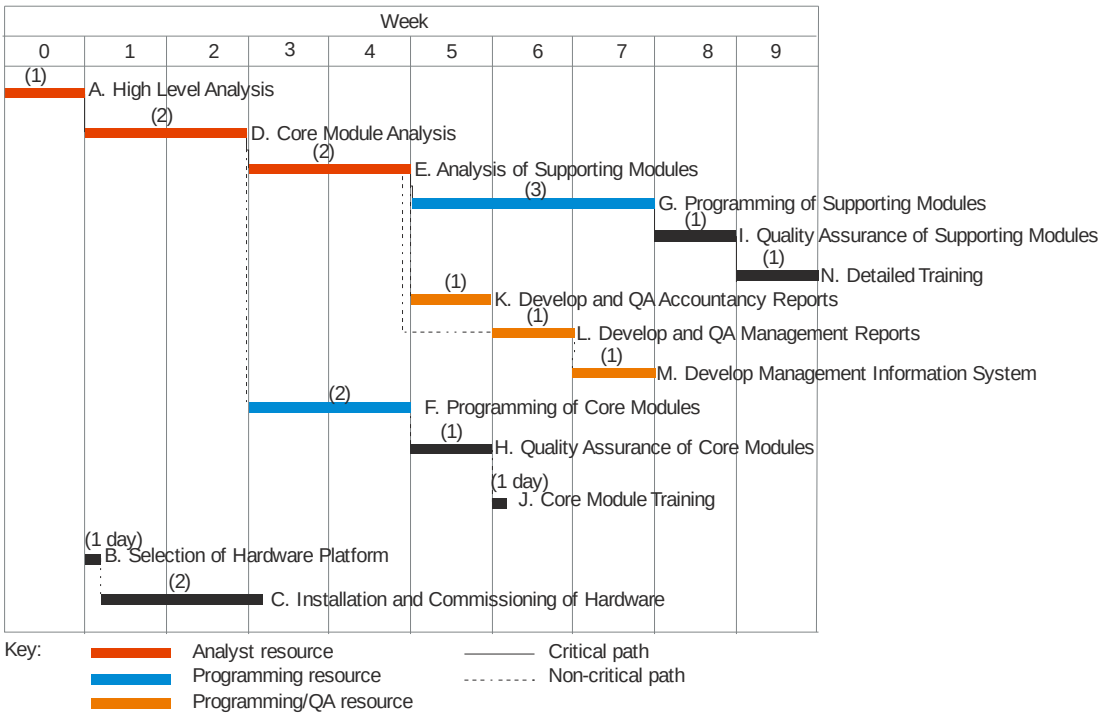
The last stage in this process is to prepare a final version of the Gantt Chart. This shows how the sets sequential activities link together, and the identifies critical path aftivities. At this stage you

also need to check the resourcing of the various activities. While scheduling, ensure that you make best use of the resources you have available, and do not over-commit resource.

You can also use color to represent the different resource types that you need to use such as programmers, or analysts.

A redrawn version of the example project is shown below:

Figure 3: 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 5 weeks starting week 4.
    - 1 programmer/QA expert for 3 weeks starting week 6. Note: Activities L and M have been moved back a week. This does not affect the critical path, but it does mean that a single programming/QA resource can carry out all three of activities K, L and M.
- Analysis, development and testing of supporting modules are essential activities that must be completed on time.
- Hardware installation and commissioning is not time-critical as long as it is completed before the Core Module Training starts.
- If all goes well, the project can be completed in 10 weeks.

While this section describes how to draw a Gantt Chart manually, in practice project managers tend to use software tools like Microsoft Project to create Gantt Charts. Not only do these ease the drawing of Gantt Charts, they also make modification of plans easier and provide facilities for monitoring progress against plans.

Key Points

Gantt charts are useful tools for planning and scheduling projects. They help you to assess how long a project will take to complete, determine the resources needed, and lay out the order in which tasks need to be carried out. They are useful in managing the dependencies between tasks.

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 particular point in time, and can therefore take remedial action to bring the project back on course if needed. This can be essential for the successful and profitable implementation of the project.

Most Project Managers use tools such as Microsoft Project to build and manage Gantt Charts. The software can also calculate resource histograms that correspond to the project activities.

4.5 Critical Path Analysis and PERT Charts

Planning and scheduling complex projects

Related variants: AOA or Activity-on-Arc or Activity-on-Arrow Diagrams

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

Within a project it is likely that you will display your final project plan as a Gantt Chart (using Microsoft Project or other software for projects of medium complexity or an excel spreadsheet for projects of low complexity).The benefit of using CPA within the planning process is to help you develop and test your plan to ensure that it is robust. Critical Path Analysis formally identifies tasks which must be completed on time for the whole project to be completed on time. It also identifies which tasks can be delayed if resource needs to be reallocated to catch up on missed or overrunning tasks. The disadvantage of CPA, if you use it as the technique by which your project plans are communicated and managed against, 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.

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.

How to Use the Tool

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.

Drawing a Critical Path Analysis Chart

Use the following steps to draw a CPA Chart:

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.

For the project example used here, you will end up with the same task list as explained in the article on Gantt Charts (we will use the same example as with Gantt Charts to compare the two techniques). The chart is repeated in Figure 1 below:

Figure 1. Task List: Planning a custom-written computer project

Task	Possible start	Length	Type	Dependent on...
A. High level analysis	Week 0	1 week	Sequential	
B. Selection of hardware platform	Week 1	1 day	Sequential	A
C. Installation and commissioning of hardware	Week 1.2	2 weeks	Parallel	B
D. Detailed analysis of core modules	Week 1	2 weeks	Sequential	A
E. Detailed analysis of supporting modules	Week 3	2 weeks	Sequential	D
F. Programming of core modules	Week 3	2 weeks	Sequential	D
G. Programming of supporting modules	Week 5	3 weeks	Sequential	E
H. Quality assurance of core modules	Week 5	1 week	Sequential	F
I. Quality assurance of supporting modules	Week 8	1 week	Sequential	G
J. Core module training	Week 6	1 day	Parallel	C,H
K. Development and QA of accounting reporting	Week 5	1 week	Parallel	E
L. Development and QA of management reporting	Week 5	1 week	Parallel	E
M. Development of Management Information System	Week 6	1 week	Sequential	L
N. Detailed training	Week 9	1 week	Sequential	I, J, K, M

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. The number shown in the left hand half of the circle allows you to identify each one easily. Circles are sometimes known as nodes.

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. Arrows are also sometimes called arcs.

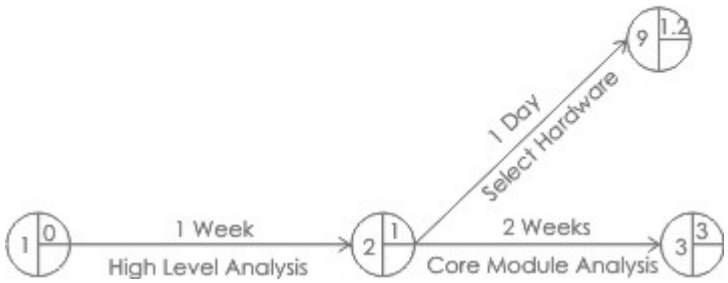
An example of a very simple diagram is shown below:

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.

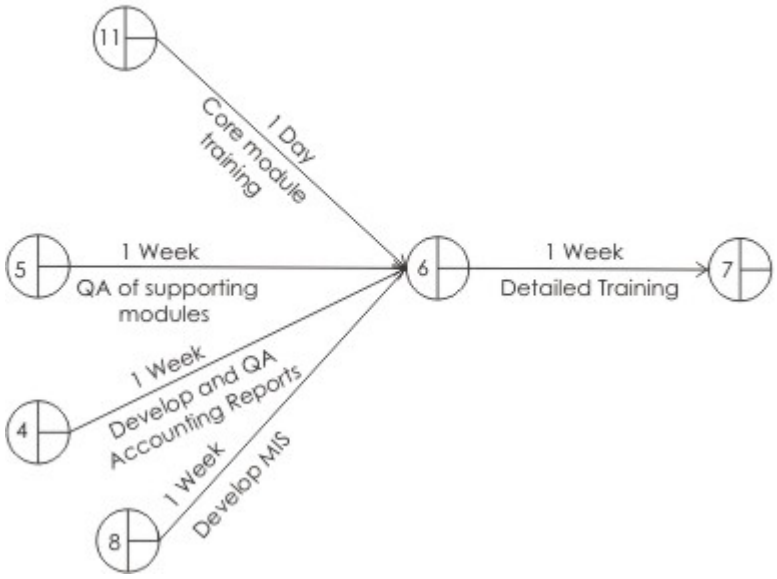


Here the activities of 'Select Hardware' and 'Core Module Analysis' cannot be started until 'High Level Analysis' has been completed. This diagram also brings out a number of other important points:

- 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 9.
- 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 a second number in the top, right hand quadrant of each circle. This shows the earliest start time for the following activity. It is conventional to start at 0. 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 (11 to 6, 5 to 6, 4 to 6, and 8 to 6) have been completed.



Here activity 6 to 7 cannot start until the other four activities (11 to 6, 5 to 6, 4 to 6, and 8 to 6) have been completed.

The full circle and arrow diagram for the computer project we are using as an example is given in Figure 5 on the next page.

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 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' – these activities must be managed very closely 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.

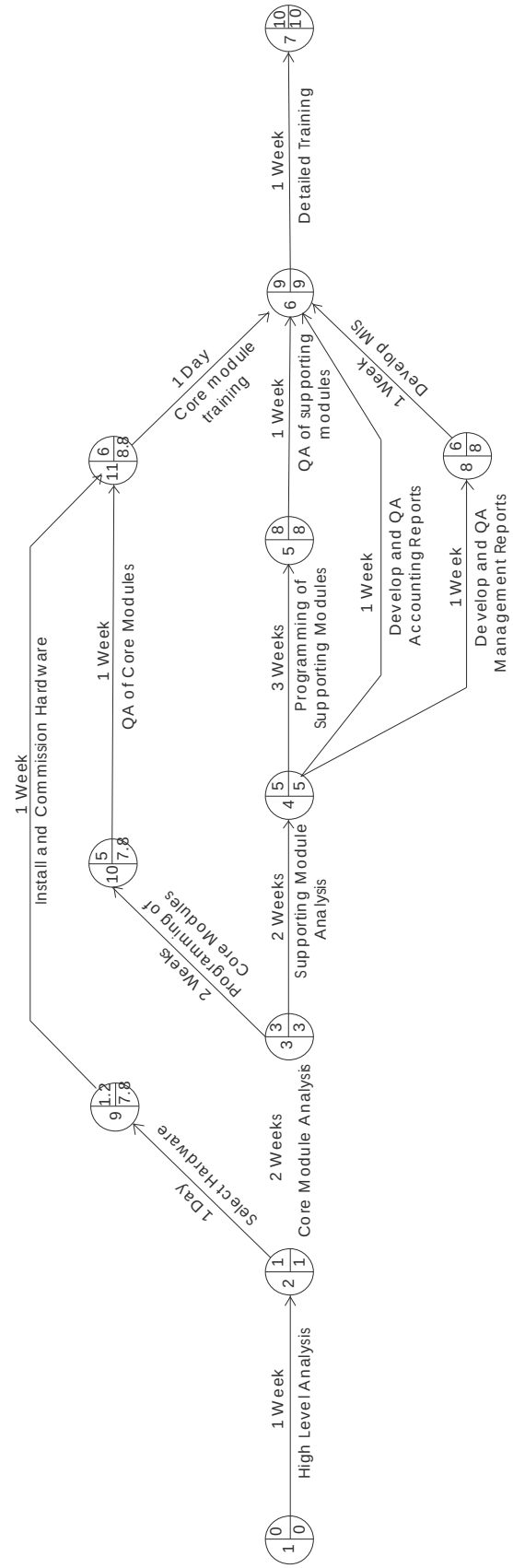


Figure 5: Critical Path Analysis for Example Computer Project

'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 re-plan your project.

You have a number of options and would need to assess the impact of each on the project's cost, quality and time required to complete it. For example, you could increase resource available for each project activity to bring down time spent on each but the impact of some of this would be insignificant and 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 5 in 8 weeks rather than 10 weeks. In this case you could look at using two analysts in activities 2 to 3 and 3 to 4. This would shorten the project by two weeks, but may raise the project cost – doubling resources at any stage may only improve productivity by, say, 50% as additional time may need to be spent getting the team members up to speed on what is required, coordinating tasks split between them, integrating their contributions etc.

In some situations, shortening the original critical path of a project can lead to a different series of activities becoming the critical path. For example, if activity 4 to 5 were reduced to 1 week, activities 4 to 8 and 8 to 6 would come onto the critical path.

As with Gantt Charts, in practice project managers use software tools like Microsoft Project to create CPA Charts. Not only do these ease make them easier to draw, they also make modification of plans easier and provide facilities for monitoring progress against plans.

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:

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

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.

4.6 Logframes, and the Logical Framework Approach

Planning robust, coherent, successful projects

In practice, even the best project managers can find it difficult to plan major projects without missing important activities, and without failing to spot all significant risks and issues. What's more, once you're immersed in the detail of project planning, it's hard to keep site of the big picture: What are you trying to achieve and why? What are the risks and assumptions? And how you can tell whether the project is a success once it's implemented?

The Logical Framework Approach is a useful technique for helping you do these things, thereby making your projects more robust and coherent – and more successful.

The Logical Framework Approach (LFA) was developed in the 1970s as a tool for strategic planning, using the ideas of Management by Objectives. It's a tool of choice used by development agencies and in the international donor community. Large aid organizations throughout the world use the LFA for planning, approving, evaluating and monitoring their projects. That said, this is a powerful and useful technique, and is one that richly deserves much wider application than in international development alone.

The Logical Framework Approach and the Logframe

The Logical Framework Approach elegantly weaves together top-down and bottom-up approaches to project management. It brings together the classical, top-down, 'waterfall approach' for identifying the activities in a project, with a rigorous bottom-up checking process to make sure that these activity lists are comprehensive. It then reinforces this with a rigorous risks and assumptions analysis, which is again thoroughly checked. And it concludes by identifying the controls needed to monitor and manage the project through to successful conclusion.

It does this within the framework of the Logframe Matrix, shown in figure 1 below. This cross-references seven key areas of the project to ensure that the key questions are asked:

- **Goal –** what results do we expect?
- **Purpose –** why are we doing this?
- **Outputs –** what are the deliverables?
- **Activities** – what will we do to deliver the outputs?
- **Indicators of Achievement –** how will we know we've been successful?
- **Means of Verification –** how will we check our reported results?
- **Risks and Assumptions** – what assumptions underlie the structure of our project and what is the risk they will not prevail?

The answers to these questions are put into a Logical Framework Matrix (Logframe) and become the output of the Logical Framework Analysis exercise. The Logframe is a four by four matrix, shown below:

Figure 1: The Logframe Matrix

Logframe Matrix			
Project Summary	**Indicators of Achievement**	**Means of Verification**	**Important Risks and Assumptions**
Goal:			
Purpose:			
Outputs:			
Activities:			

The process has significant value for any size of project. It helps identify the big picture and allows you to see how other items cascade down from it. As well, it helps flesh out the core assumptions that are used in the project development process.

Using a Logframe

Carry out the following steps in consultation with your stakeholders, after you've completed a thorough analysis of the situation. By involving stakeholders, you'll end up with a much more robust analysis of the project than you would on your own.

Step 1: Identifying Outputs and Activities (Project Summary, Column 1):

The first step is to brainstorm the outputs and activities required by the project, starting with the project goal. Do this in the Project Summary column (column 1) of the Logframe. Start by defining the Goal and Purpose of the project and, from these, identify the outputs and the activities required:

- **Goal:** What is the 'to be' state of the project? What are you trying to achieve?
- **Purpose:** What good will you do by achieving the goal? Who are the beneficiaries? What is the underlying motivation for starting the project in the first place?
- **Outputs:** What specific things will be delivered as a result of this project? In order for the project to be considered a success, what changes must be made, and what will the result be?

- **Activities:** What will actually be done in order to deliver the intended outputs? The Logframe is not intended as an implementation guide, so this section is typically presented in bullet point form.

Tip:
Don't underestimate the amount of time and work needed to complete this process properly! Manage people's expectations on this, and keep them focused on the task in hand. If people lose focus, you'll miss important activities, false assumptions, and risks.

Step 2: Verify the Vertical Logic

Next, we take a bottom-up approach to checking that this list of activities will deliver the desired results – after all, it's possible that activities have been missed, or that the actual results of these activities may not be the ones wanted. This checking process is an important part of making sure that your project plan is robust.

Column one shows a hierarchy of objectives, so it is important to check that actions identified deliver the results wanted. Check the logic in column one by using an if/then test as follows. Starting with your activities, ensure that:

- *IF you complete the activity, THEN the outputs will occur.*
- You want to make sure your activities and outputs are directly linked.
- *IF your outputs are achieved, THEN the purpose of your project will be satisfied.* Are the planned outputs closely tied to your purpose? Make sure the beneficiaries you identified in your purpose actually receive the beneficial outcome desired.
- *IF your purpose is satisfied, THEN the goal of the project is achieved.*
- Examine your purpose and goal to make sure that the purpose fully incorporates the intent within the goal.

If, in this step, you find that activities and outputs are missing or are wrong, add or adjust them appropriately. And bear in mind that if you identify issues with elements higher up in this hierarchy, you'll need to go back to Step 1 and identify appropriate outcomes and activities for those elements.

Step 3: Identify the Risks and Assumptions of your plan (Column 4)

We now cross over to the other side of the Logframe to identify risks associated with the project, and possible false assumptions that may undermine it.

There are any number of external factors that can throw projects off course. In the planning and design phase, it is prudent to identify the major assumptions you've used and the degree or risk associated with them.

For each of the points in the project's structure (Column 1), identify the assumptions you're making (which may or may not be correct), and look at the associated risks.

To define your assumptions, ask 'What actions or variables must exist for the project to start and proceed as planned?' Start at the bottom and work up.

- **Activity Assumptions:** What do you need to happen for your activities to be completed successfully? And what conditions and resources are you assuming will be in place?
- **Output Assumptions:** What factors outside of your control must be present to achieve the outputs you need?
- **Purpose Assumptions:** To achieve the purpose, what external factors do you need to have in place?

- **Goal Assumptions:** What are the necessary conditions for long-term viability of the project goal?

Clarify these assumptions with stakeholders immediately, if you can. If you can't, make sure you have early activities in place within your project plan to confirm that your assumptions are correct.

Next, repeat this process looking at risks (see our article on Risk Analysis.) Make sure you plan in all of the activities needed to manage or eliminate risk, and if risk can neither be managed or eliminated, make sure that it's clearly identified so that it can be evaluated in the next step.

Step 4: Verify the Logic of the Risks and Assumptions

Once you have identified assumptions and risks, you need to check them to determine:

- Whether your assumptions will link one level of the project to the next,
- Whether risks are too large.

First of all, check that your assumptions are logical using an if/and/then analysis. Start at the bottom and work up to ensure:

- *IF the activity is completed successfully, AND the assumptions underlying it are true, THEN the output will be delivered.*
- *IF the output is delivered, AND the assumptions underlying it are true, THEN the purpose will be achieved.*
- *IF the purpose is achieved, AND the assumptions underlying it are true, THEN the goal will be achieved.*

Then, check some additional points related to your risk and assumption analysis:

- Make sure you have identified as many assumptions and risks as possible. Have you talked to everyone involved? Have you looked at the project from all angles?
- Make sure your assumptions are stated specifically and are not too vague. You can't assess risk accurately if you are working with generalities.
- Do you have plans at each level to manage the risks you have identified?
- If the risks you're not able to manage are too high, consider redesigning the project or, if you still can't reduce these to sensible levels, reconsider the project's viability.

Again, where this process exposes issues with your Logframe, update it appropriately.

Step 5: Determine the Indicators of Achievement and Means of Verification

When you are satisfied with the structure of the Logframe so far, and are comfortable that you can manage the risks related to your assumptions, you can move on to think about how you will monitor progress towards success.

Performance indicators are the specific measures used to monitor this progress. Here are the criteria for a good indicator of achievement:

- **Valid** – it must measure the intended result.
- **Reliable** – the measure must be consistently attained over time.
- **Sensitive** – the measure should respond to changes, and should sufficiently-quickly identify if things are going wrong.
- **Simple** – the measure should be easy to collect or perform.
- **Useful** – it must help with decision making or provide information for future learning.

- **Affordable** – you need to be able to afford the financial and time costs involved in taking the measurement on a regular basis.

Using these criteria, for each goal, purpose, output and activity, indicate what will be used to determine whether it was successfully achieved. Also note who will be responsible for setting these targets.

Then indicate exactly how you will verify that achievement. What sources of data will you use? How will you collect the data? How often?

Make sure that appropriate activities are in place within your plan to set up and manage these monitoring systems.

An example logframe for a rowing club is shown on the next page:

Key Points

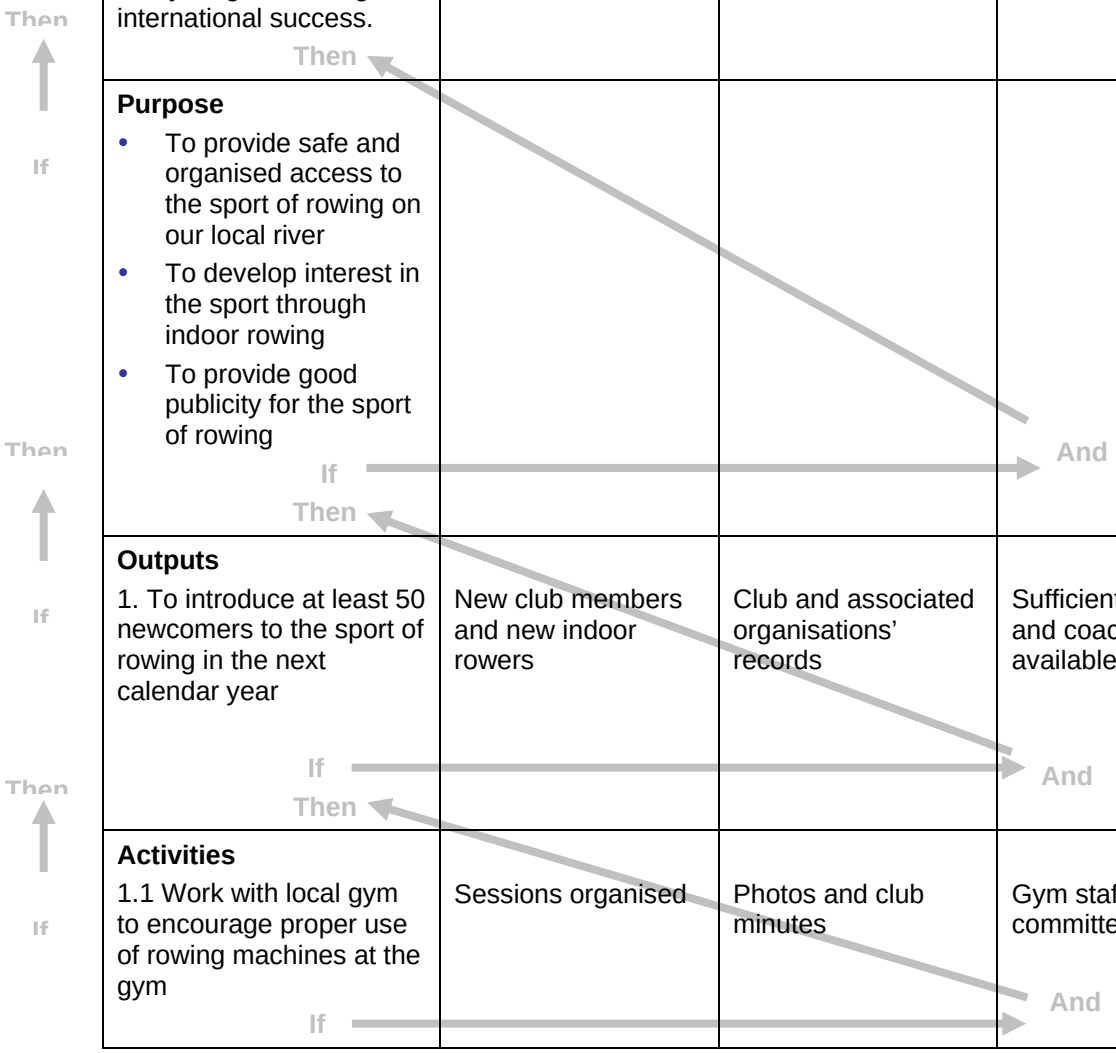
The Logical Framework Approach is a great technique for making sure that your project plan is robust and coherent. By using it, you significantly increase the likelihood that your project will be successful.

Firstly, it provides a useful framework for working through the design of your project with key stakeholders, making sure that you can take full advantage of their knowledge, insights and experience.

Secondly, it provides a useful process for testing and checking your project plan, making sure that it contains all the necessary activities, is based on sound assumptions, and fairly weighs and manages the risks inherent within the project.

Thirdly, it helps you ensure that appropriate control measures are embedded within the project, meaning that you can quickly identify where things are going wrong, and take appropriate corrective action.

Project Summary	Indicators of Achievement	Means of Verification	Important Risks and Assumptions
Goal To support our National Governing Body's aim to make rowing available to as many people as possible, keep those people involved, and strive for success in everything - including international success.			
Purpose • To provide safe and organised access to the sport of rowing on our local river • To develop interest in the sport through indoor rowing • To provide good publicity for the sport of rowing			
Outputs 1. To introduce at least 50 newcomers to the sport of rowing in the next calendar year	New club members and new indoor rowers	Club and associated organisations' records	Sufficient equipment and coaching available
Activities 1.1 Work with local gym to encourage proper use of rowing machines at the gym	Sessions organised	Photos and club minutes	Gym staff remain committed



4.7 Planning Large Projects and Programs

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 PRINCE2 (an increasingly widespread UK government standard which stands for '**PR**ojects **IN** **C**ontrolled **E**nvironments') or an equivalent, and need to apply an appropriate subset of these methodologies.

PRINCE2 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, establishes baseline costs, schedule and scope, and so on. In this, it embodies and codifies much of project management best practice.

This link takes you to the formal, authoritative, but very dry PRINCE 2 Manual (only available from Amazon.co.uk). PRINCE 2: A Practical Handbook is probably an easier way to understand the standard, and is available from Amazon.com.

Similarly, a range of different software tools can be applied. More advanced project management methodologies and supporting software tools are beyond the scope of Mind Tools – this is where sites like ITToolkit.com take over.

4.8 Kotter's 8-Step Change Model

Implementing change powerfully and successfully

Change is the only constant.
- Heraclitus, Greek philosopher

What was true more than two thousand years ago is just as true today. We live in a world where 'business as usual' IS change. New initiatives, project-based working, technology improvements, staying ahead of the competition – these things come together to drive ongoing changes to the way we work.

Whether you're considering a small change to one or two processes, or a systemwide change to an organization, it's common to feel uneasy and intimidated by the scale of the challenge.

You know that the change needs to happen, but you don't really know how to go about doing delivering it. Where do you start? Whom do you involve? How do you see it through to the end?

There are many theories about how to 'do' change. Many originate with leadership and change management guru, John Kotter. A professor at Harvard Business School and world-renowned change expert, Kotter introduced his eight-step change process in his 1995 book, *Leading Change*. We look at his eight steps for leading change below.

Step One: Create Urgency

For change to happen, it helps if the whole company really wants it. Develop a sense of urgency around the need for change. This may help you spark the initial motivation to get things moving.

This isn't simply a matter of showing people poor sales statistics or talking about increased competition. Open an honest and convincing dialogue about what's happening in the marketplace and with your competition. If many people start talking about the change you propose, the urgency can build and feed on itself.

What you can do:

- Identify potential threats, and develop scenarios showing what could happen in the future.
- Examine opportunities that should be, or could be, exploited.
- Start honest discussions, and give dynamic and convincing reasons to get people talking and thinking.
- Request support from customers, outside stakeholders and industry people to strengthen your argument.

Kotter suggests that for change to be successful, 75% of a company's management needs to 'buy into' the change. In other words, you have to really work hard on Step One, and spend significant time and energy building urgency, before moving onto the next steps. Don't panic and jump in too fast because you don't want to risk further short-term losses – if you act without proper preparation, you could be in for a very bumpy ride.

Step Two: Form a Powerful Coalition

Convince people that change is necessary. This often takes strong leadership and visible support from key people within your organization. Managing change isn't enough – you have to lead it.

You can find effective change leaders throughout your organization – they don't necessarily follow the traditional company hierarchy. To lead change, you need to bring together a coalition, or team, of influential people whose power comes from a variety of sources, including job title, status, expertise, and political importance.

Once formed, your 'change coalition' needs to work as a team, continuing to build urgency and momentum around the need for change.

What you can do:

- Identify the true leaders in your organization.
- Ask for an emotional commitment from these key people.
- Work on team building within your change coalition.
- Check your team for weak areas, and ensure that you have a good mix of people from different departments and different levels within your company.

Step Three: Create a Vision for Change

When you first start thinking about change, there will probably be many great ideas and solutions floating around. Link these concepts to an overall vision that people can grasp easily and remember.

A clear vision can help everyone understand why you're asking them to do something. When people see for themselves what you're trying to achieve, then the directives they're given tend to make more sense.

What you can do:

- Determine the values that are central to the change.
- Develop a short summary (one or two sentences) that captures what you 'see' as the future of your organization.
- Create a strategy to execute that vision.
- Ensure that your change coalition can describe the vision in five minutes or less.
- Practice your 'vision speech' often.

For more on creating visions, see the Mind Tools article on Mission Statements and Vision Statements

Step Four: Communicate the Vision

What you do with your vision after you create it will determine your success. Your message will probably have strong competition from other day-to-day communications within the company, so you need to communicate it frequently and powerfully, and embed it within everything that you do.

Don't just call special meetings to communicate your vision. Instead, talk about it every chance you get. Use the vision daily to make decisions and solve problems. When you keep it fresh on everyone's minds, they'll remember it and respond to it.

It's also important to 'walk the talk.' What you do is far more important – and believable – than what you say. Demonstrate the kind of behavior that you want from others.

What you can do:

- Talk often about your change vision.
- Openly and honestly address peoples' concerns and anxieties.
- Apply your vision to all aspects of operations – from training to performance reviews. Tie everything back to the vision.
- Lead by example.

Step Five: Remove Obstacles

If you follow these steps and reach this point in the change process, you've been talking about your vision and building buy-in from all levels of the organization. Hopefully, your staff wants to get busy and achieve the benefits that you've been promoting.

But is anyone resisting the change? And are there processes or structures that are getting in its way?

Put in place the structure for change, and continually check for barriers to it. Removing obstacles can empower the people you need to execute your vision, and it can help the change move forward.

What you can do:

- Identify, or hire, change leaders whose main roles are to deliver the change.
- Look at your organizational structure, job descriptions, and performance and compensation systems to ensure they're in line with your vision.
- Recognize and reward people for making change happen.
- Identify people who are resisting the change, and help them see what's needed.
- Take action to quickly remove barriers (human or otherwise).

Step Six: Create Short-term Wins

Nothing motivates more than success. Give your company a taste of victory early in the change process. Within a short time frame (this could be a month or a year, depending on the type of change), you'll want to have results that your staff can see. Without this, critics and negative thinkers might hurt your progress.

Create short-term targets – not just one long-term goal. You want each smaller target to be achievable, with little room for failure. Your change team may have to work very hard to come up with these targets, but each 'win' that you produce can further motivate the entire staff.

What you can do:

- Look for sure-fire projects that you can implement without help from any strong critics of the change.
- Don't choose early targets that are expensive. You want to be able to justify the investment in each project.
- Thoroughly analyze the potential pros and cons of your targets. If you don't succeed with an early goal, it can hurt your entire change initiative.
- Reward the people who help you meet the targets.

Step Seven: Build on the Change

Kotter argues that many change projects fail because victory is declared too early. Real change runs deep. Quick wins are only the beginning of what needs to be done to achieve long-term change.

Launching one new product using a new system is great. But if you can launch 10 products, that means the new system is working. To reach that 10th success, you need to keep looking for improvements.

Each success provides an opportunity to build on what went right and identify what you can improve.

What you can do:

- After every win, analyze what went right and what needs improving.
- Set goals to continue building on the momentum you've achieved.
- Learn about kaizen, the idea of continuous improvement.
- Keep ideas fresh by bringing in new change agents and leaders for your change coalition.

Step Eight: Anchor the Changes in Corporate Culture

Finally, to make any change stick, it should become part of the core of your organization. Your corporate culture often determines what gets done, so the values behind your vision must show in day-to-day work.

Make continuous efforts to ensure that the change is seen in every aspect of your organization. This will help give that change a solid place in your organization's culture.

It's also important that your company's leaders continue to support the change. This includes existing staff and new leaders who are brought in. If you lose the support of these people, you might end up back where you started.

What you can do:

- Talk about progress every chance you get. Tell success stories about the change process, and repeat other stories that you hear.
- Include the change ideals and values when hiring and training new staff.
- Publicly recognize key members of your original change coalition, and make sure the rest of the staff – new and old – remembers their contributions.

- Create plans to replace key leaders of change as they move on. This will help ensure that their legacy is not lost or forgotten.

Tip:
This is just one of the articles on change management on Mind Tools. See also our articles on Change Management, Lewin's Change Model, using the Change Curve, the Burke-Litwin Change Model and Overcoming Cultural Barriers to Change.

Key Points

You have to work hard to change an organization successfully. When you plan carefully and build the proper foundation, implementing change can be much easier, and you'll improve the chances of success. If you're too impatient, and if you expect too many results too soon, your plans for change are more likely to fail.

Create a sense of urgency, recruit powerful change leaders, build a vision and effectively communicate it, remove obstacles, create quick wins, and build on your momentum. If you do these things, you can help make the change part of your organizational culture. That's when you can declare a true victory. then sit back and enjoy the change that you envisioned so long ago.

4.9 Stakeholder Analysis

Template

Winning support for your projects

'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.'

– Rachel Thompson, Experienced Project Manager

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.

There are two major elements to Stakeholder Management: Stakeholder Analysis and Stakeholder Planning. Stakeholder Analysis is the technique used to identify the key people who have to be won over. You then use Stakeholder Planning to 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 often, you can ensure that they know what you are doing and fully 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

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 can work out how to win their support. You 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:

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		

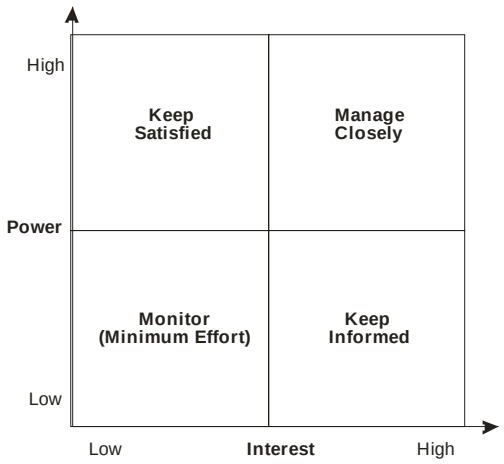
Remember that although stakeholders may be both organizations and people, ultimately you can only communicate with individual people. Make sure that you identify the correct individual stakeholders within a stakeholder organization.

2. Prioritizing 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 it. Some may be interested in what you are doing, others may not care.

Map out your stakeholders on a Power/Interest Grid on our free template (which you can also get from your *Worksheets and Templates* Supplement) as shown in figure 1, and classify them by their power over your work and by their interest in your work.

Figure 1: Power/Interest Grid for Stakeholder Prioritization



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 with, 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 people 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 or 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: Example Power/ Interest Grid with Stakeholders Marked

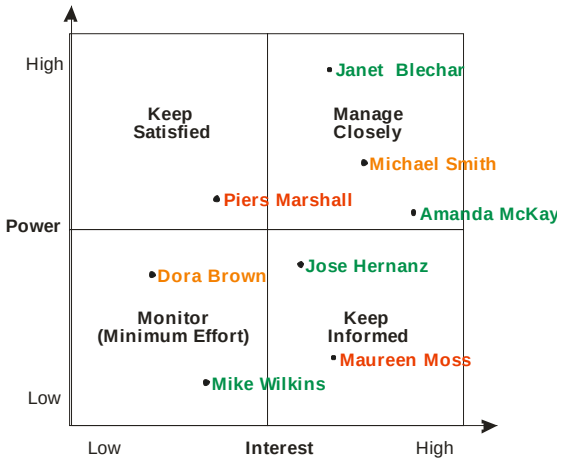


Figure 2 shows an example of this – in this example, you can see that a lot of effort needs to be put into persuading Piers and Michael of the benefits of the project – Janet and Amanda also need to managed well as powerful supporters.

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?

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.

4.10 Stakeholder Management and Planning

Worksheet

Planning stakeholder communication

'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.'

This article follows on from the previous article on Stakeholder Analysis.

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, download our free Stakeholder Communications worksheet. This is a table with the following column headings:

- **Stakeholder Name**
- **Communications Approach**
- **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 Worksheet 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.

Summary

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 step in this is brainstorm who your stakeholders are. The next is to prioritize them by power and interest, and to plot this on a Power/Interest Grid. The

final step 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.

4.11 Influence Maps

Uncovering where the power lies in your projects

Also known as: Social Network Analysis

Many people can have influence over your projects. Some influencers are obvious and easy to spot. Others are less obvious, but are no less significant. If you fail to recognize and 'manage' these influencers, you'll most-likely experience unexpected resistance to your projects, and sometimes bewildering failure. This is increasingly the case as you run large projects, and as the number of people affected by your projects increases.

People within your organization, at least, are supposed to work together openly and willingly. However, even here, your boss, your teammates, your customers, your boss's boss – even the CEO's nephew in the mailroom – can all impact you, given certain sets of circumstances.

However people outside your organization have all sorts of interests and motivations that you can't control. Here, knowing who influences who can be critical if you want to get anything done at all.

Influence Mapping

So do you understand who has influence over your projects? Do you know the nature, direction, and strength of these influences? After all, using the normal 'chain of command' may not always be the best way to advance your objectives: Knowing who the real influencers are can help you determine where you should put your effort if you really want to succeed.

This is what influence mapping is all about – discovering your project's true stakeholders (not just the obvious ones) and the influence relationships between them. This helps you target the key influencers so that you can win the resources and support you need to reach your goal.

Influence maps are a natural extension of Stakeholder Analysis. Your project's success can depend on identifying its key stakeholders and then managing the various relationships between them. Stakeholders have the power to help or hurt your initiatives, so stakeholder management is an important aspect of project management.

The Elements of an Influence Map

An influence map is a visual model showing the people who influence and make decisions about your project. The map helps you understand how stakeholders relate to one-another, so that you can quickly see the way in which influence flows.

Remember that even the most powerful people rarely act alone. Top executives and other people in authority rely on advisers. Find out who the advisers are, and understand how they operate. This can be vital to your project's success.

There are three main considerations when you construct an influence map:

1. The **importance** or weight of a stakeholder's overall influence (represented by the size of the circle representing that stakeholder).
2. The **relationships** between stakeholders (represented by the presence of lines or arrows between them).
3. The **amount of influence** stakeholders have over others (represented by the heaviness of the lines drawn between them).

Your completed influence map shows the stakeholders with the most influence as individuals with the largest circles. Lines (arrows) drawn to other stakeholders indicate the presence and strength of influence.

Example

You've proposed a new organizational structure that will encourage people to work in business units with cross-functional teams. You know this is a huge change, and you want to make sure it's well supported within the company before you try to implement it.

The most obvious stakeholders are:

CEO	Elizabeth Brown
CFO	Dennis Gordon
Director of Marketing	Pamela Enns
Director of Product Development	Jon Evans
Director of Human Resources	Wallace Houston

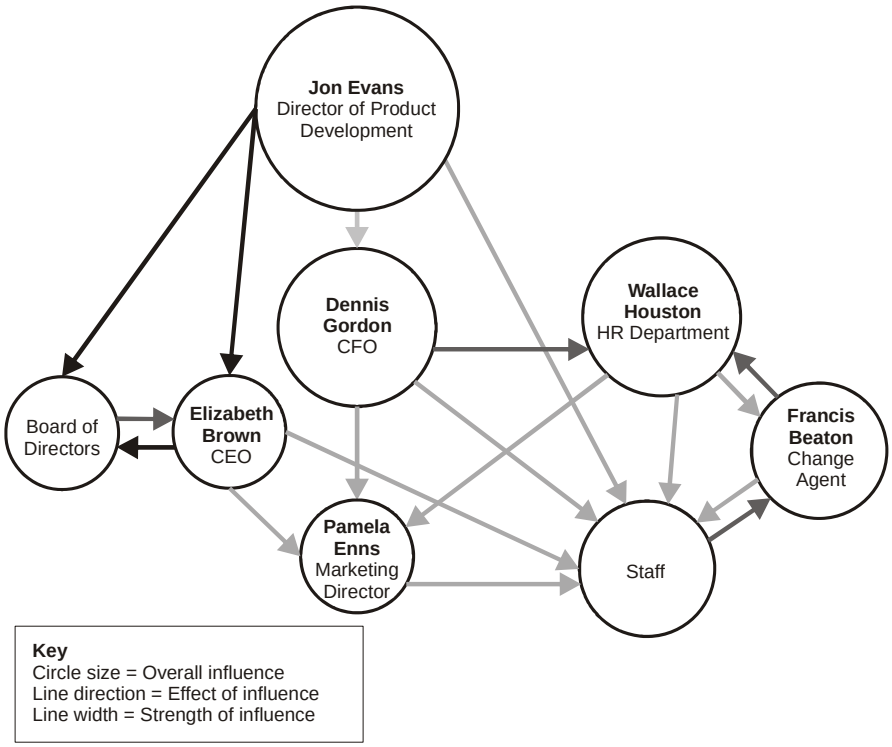
But are there other stakeholders as well? And who holds influence over whom?

Upon further investigation, here's what you discover:

- The entire HR team will be important to the reorganization – but not just the director of HR. Francis Beaton, the newly hired change agent, will be especially important.
- Elizabeth Brown has worked with Jon Evans for over 15 years, and she values Jon's input on strategic initiatives.
- The board of directors is chaired by a longtime associate of Jon Evans. Like Elizabeth Brown, the board chair values Jon's opinions and has never objected to any initiative Jon has ever backed.
- Wallace Houston and Dennis Gordon have a history of conflict. This is because Dennis was very late to realize HR's strategic value. Dennis still has difficulty spending money on HR

projects, which he considers to be 'soft' expenses. Getting Dennis's buy-in is critical if you want the financial resources needed for the change.

So when you look more closely, you can identify additional people who will have an impact on your reorganization plan. And not everyone has the same influence. The resulting influence map looks something like this:



This influence map clearly shows how important Jon Evans is to the success of your restructuring plan. It also indicates that you should spend energy on gaining support from Wallace Houston and Dennis Gordon before moving on to other executives.

Before you thought about stakeholder influences, you might have assumed that the CEO and CFO had the most influence on organization-wide change. But the influence map shows you that this is probably not for the case in this situation.

Influence is not static. It changes over time, just like the circumstances surrounding each project or decision. If you create influence maps at regular intervals, you'll chart these differences and gain a much greater appreciation for the way decisions are made. This will help you to smooth the decision making process and be more effective.

Creating an Influence Map

Follow these steps to construct an influence map.

Step One: Prepare a stakeholder analysis. This helps you identify, prioritize, and understand your key stakeholders.

Step Two: For each stakeholder, find out the following:

- Whom does he or she influence, and who influences him or her?

- How strong is that influence?
- What is the history of each relationship? How does this impact overall influence?
- What role does hierarchy play in the amount of influence?

Step Three: Map the importance of influence using the size and position of the circles. The largest circles belong to stakeholders with the most influence. Where possible, place the most influential stakeholders at the top of the page, and put less influential people lower down.

Step Four: Map the direction of influence by drawing arrows to link the stakeholders. (These may be one-way or two-way, depending on whether influence flows to the same extent in both directions).

Step Five: Map the strength of influence by using thicker lines to indicate stronger influence.

In this case, it's worth marking who has sign-off authority on your map, however, it's worth checking quite carefully that they really are as influenced by others as the others claim!

In some situations, the person who signs off projects or purchases may not actually be the most influential person in the network. For example, a Head of Purchasing might always accept the recommendations of the IT Department.

Step Six: Study the map, and identify stakeholders with the most overall influence. Form a stakeholder management plan that will allow you to communicate with, and hopefully influence, these important influencers.

Step Seven: Map these influence relationships on a regular basis. This way, you'll better understand the dynamics of decision making relating to your project.

Key Points

Influence maps are important visual models of the key people and relationships that impact a project or decision. (Don't make the mistake of thinking that hierarchy or traditional lines of authority are always the routes by which decisions are made.)

Take the time to uncover the underlying relationships and influence that key stakeholders have. With this insight, you can tap into the real sources of power and persuasion.

While this is something that people do intuitively in small projects, it's something that you'll need to do actively for larger projects. This is particularly the case in projects that involve people outside your organization.

Section 5: Practical Creativity

- Reversal - Improving products and services
- SCAMPER - Generating new products and services
- Attribute Listing, Morphological and Matrix Analysis - Creating new products, services and strategies
- Brainstorming - Generating many radical ideas
- Reverse Brainstorming - A different approach to brainstorming
- Reframing Matrix - Looking with different perspectives
- Concept Fan - Widening the search for solutions
- Random Input - Making creative leaps
- Provocation - Carrying out thought experiments
- DO IT - A simple process for creativity
- Simplex - A powerful problem solving process
- TRIZ - A powerful methodology for creative problem solving

5. Introduction to Practical Creativity

The tools in this section can help you to become more creative.They are designed to help you devise creative and imaginative solutions to problems, and help you to spot opportunities that you might otherwise miss.

The section describes the following techniques:

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

Before you continue, 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 beyond the scope of these articles.

Many of the techniques in this chapter have been used by great thinkers to drive their creativity. Albert Einstein, for example, used his own informal variant of Provocation 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 and the Reframing Matrix.

The other main strand uses 'Lateral Thinking'. Examples of this are Brainstorming, Random Input and Provocation. Lateral Thinking has been developed and popularized by Edward de Bono, whose books you can find in the appropriate articles.

Programmed Thinking and Lateral Thinking

Lateral thinking recognizes that our brains are pattern recognition systems, and that 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 . Even then, computers will need to become 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 do a full analysis every time you came across a cylindrical canister of effervescent fluid. Most people would just open their 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.

Lateral thinking techniques help us to come up with startling, brilliant and original solutions.

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. In the wrong place, however, it can be sterile or unnecessarily disruptive.

Taking the Best of Each...

A number of techniques fuse the strengths of the two different strands of creativity. Techniques such as the Concept Fan use a combination of programmed and lateral thinking. DO IT and Min Basadur's Simplex 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 and allow yourself to 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.

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!

5.1 Reversal

Improving products and services

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 center. 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.

After using Reversal, you would ensure that 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.

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.

5.2 SCAMPER

Generating new products and services

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.

Developed by Bob Eberle, 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 (e.g. color).
- P – Put to another use.
- E – Eliminate – remove elements, simplify, reduce to core functionality.
- R – Reverse – turn inside out or upside down, also use of Reversal.

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.

Using SCAMPER here has helped you 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.

5.3 Attribute Listing, Morphological Analysis and Matrix Analysis

Creating new products and services

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.

How to Use the Tools:

To use the techniques, firstly 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. For example, attributes of a pencil would be shaft material, lead material, hardness of lead, width of lead, quality, color, weight, price, and so on. A television plot would have attributes such as characters, actions, locations, and weather. For a marketing strategy you might use attributes such as of markets open to you, uses of the product, and skills you have available.

Draw up a table using these attributes as column headings. Write down as many variations of the attribute as possible within these columns. This might be an exercise that benefits from Brainstorming. 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.

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

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, and so on.

You can set these out as column headings on a table, and then brainstorm variations. This table is sometimes known as a 'Morphological Box' or 'Zwicky Box' after the scientist Fritz Zwicky, who developed the technique in the 1960s.

Power Supply	Bulb Type	Light Intensity	Size	Style	Finish	Material
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 Nouveau	Terracotta	Bone
Crank			Hand held	Industrial	Enamel	Glass
Gas				Ethnic	Natural	Wood
Oil/Petrol					Fabric	Stone
Flame						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 – used in themed restaurants, 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 a 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 or 'morphological box', 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.

Notes:

- 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.

5.4 Brainstorming

Generating many radical and useful ideas

Brainstorming is a useful and popular tool that you can use to develop highly creative solutions to a problem.

It is particularly helpful when you need to break out of stale, established patterns of thinking, so that you can develop new ways of looking at things. This can be when you need to develop new opportunities, where you want to improve the service that you offer, or when existing approaches just aren't giving you the results you want.

Used with your team, it helps you bring the experience of all team members into play during problem solving.

This increases the richness of solutions explored (meaning that you can find better solutions to the problems you face, and make better decisions.) It can also help you get buy in from team members for the solution chosen – after all, they have helped create that solution.

Brainstorming and Lateral Thinking

Brainstorming is a lateral thinking process. It asks that people come up with ideas and thoughts that seem at first to be a bit shocking or crazy. You can then change and improve them into ideas that are useful, and often stunningly original.

During brainstorming sessions there should therefore be no criticism of ideas: You are trying to open up possibilities and break down wrong assumptions about the limits of the problem. Judgments and analysis at this stage will stunt idea generation.

Ideas should only be evaluated at the end of the brainstorming session – you can then explore solutions further using conventional approaches.

If your ideas begin to dry up, you can 'seed' the session with, for example, a random word (see Random Input).

Individual Brainstorming

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

When Brainstorming on your own, it can be helpful to use Mind Maps 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 the idea 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. Valuable but strange suggestions may appear stupid at first sight. Because of this, you need to chair sessions tightly so that uncreative people do not crush these ideas and leave group members feeling humiliated.

How to Use the Tool

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.

And again, it's worth exploring the use of computer-based tools for group brainstorming. As long as you're reasonably quick with keyboard and mouse, these significantly improve the quality and effectiveness of a brainstorming session.

Key Points

Brainstorming is a great 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.)

This often makes group brainstorming sessions enjoyable experiences, which are great for bringing team members together.

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.

5.5 Reverse Brainstorming

A different approach to brainstorming

Related variant: Negative Brainstorming

Reverse brainstorming helps you solve problems by combining brainstorming and reversal techniques. By combining these, you can extend your use of brainstorming to draw out even more creative ideas.

To use this technique, you start with one of two 'reverse' questions:

- Instead of asking, 'How do I solve or prevent this problem?' ask, 'How could I possibly cause the problem?'

- Instead of asking 'how do I achieve these results?' ask, 'how could I possibly achieve the opposite effect?'

How to Use the Tool

1. Clearly identify the problem or challenge, and write it down.
2. Reverse the problem or challenge by asking:

   'How could I possibly cause the problem?', or
   'How could I possibly achieve the opposite effect?'

3. Brainstorm the reverse problem to generate reverse solution ideas. Allow the brainstorm ideas to flow freely. Do not reject anything at this stage.
4. Once you have brainstormed all the ideas to solve the reverse problem, now reverse these into solution ideas for the original problem or challenge.
5. Evaluate these solution ideas. Can you see a potential solution? Can you see attributes of a potential solution?

Tip:
Reverse brain-storming is a good technique to try when it is difficult to identify solutions to the problem directly.

Example

Luciana is the manager of a health clinic and she has the task of improving patient satisfaction.

There have been various improvement initiatives in the past and the team members have become rather skeptical about another meeting on the subject. The team is overworked, team members are 'trying their best' and there is no appetite to 'waste' time talking about this.

So she decides to use some creative problem solving techniques she has learned. This, she hopes, will make the team meeting more interesting and engage people in a new way.

Perhaps it will reveal something more than the usual 'good ideas' that no one has time to act on.

To prepare for the team meeting, Luciana thinks carefully about the problem and writes down the problem statement:

- 'How do we improve patient satisfaction?'

Then she reverses problem statement:

- 'How do we create make more patients dissatisfied?'

Already she starts to see how the new angle could reveal some surprising results.

At the team meeting, everyone gets involved in an enjoyable and productive reverse brainstorming session. They draw on both their work experience with patients and also their personal experience of being patients and customers of other organizations. Luciana helps ideas flow freely, ensuring people to not pass judgment on even the most unlikely suggestions.

Here are just a few of the 'reverse' ideas:

- Double book appointments.
- Remove the chairs from the waiting room.
- Put patients who phone on hold (and forget about them).
- Have patients wait outside in the car park.
- Discuss patient's problems in public.

When the brainstorming session runs dry, the team has a long list of the 'reverse' solutions. Now it's time to look at each one in reverse into a potential solution. Well, resulting discussions are quite revealing. For example

> 'Well of course we don't leave patients outside in the car park – we already don't do that.'
>
> 'But what about in the morning, there are often patients waiting outside until opening time?'
>
> 'Mmm, true. Pretty annoying for people on first appointments.'
>
> 'So why don't we open the waiting room 10 minutes earlier so it doesn't happen?'
>
> 'Right, we'll do that from tomorrow. There are 2 or 3 staff working already, so it's no problem'.

And so it went on. The reverse brainstorming session revealed tens of improvement ideas that the team could implement swiftly and easily.

Luciana concluded: 'It was enlightening and fun to looking at the problem in reverse. The amazing thing is, it's helped us become more patient-friendly by stopping doing things rather than creating more work'.

Key Points

Reverse brain-storming is a good technique for creative problem solving, and can lead to robust solutions. Be sure to follow the basic rules of brainstorming to explore possible solutions to the full.

5.6 The Reframing Matrix

Looking at problems from a different perspective

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 and imagine the solutions they would come up with.

How to Use the Tool

Put 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, however, use this approach in many different ways.

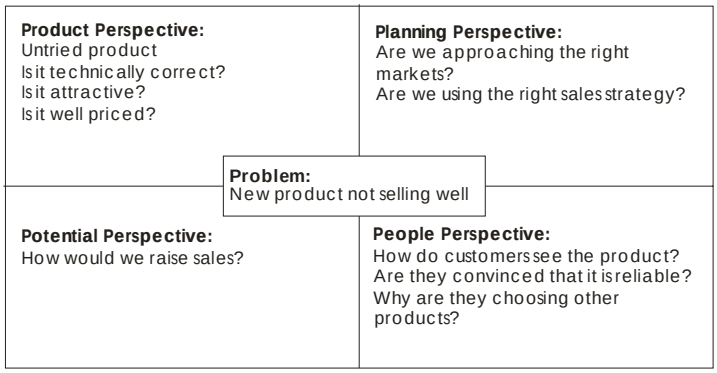
The 4 Ps Approach

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. 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 way 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.

5.7 Concept Fan

Widening the search for solutions

Concept Fans help you find new approaches to problem solving, when you have rejected all obvious solutions. Originated by Edward de Bono in his book Serious Creativity, they develop the principle of 'taking one step back' to get a broader perspective.

How to Use the Tool

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:

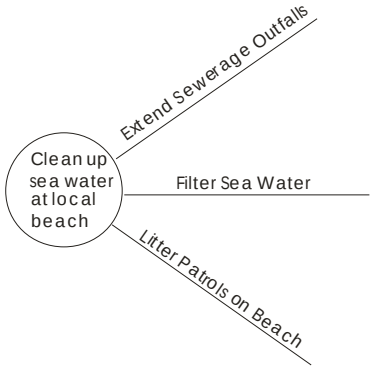


Figure 1: First Stage of a Concept Fan

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:

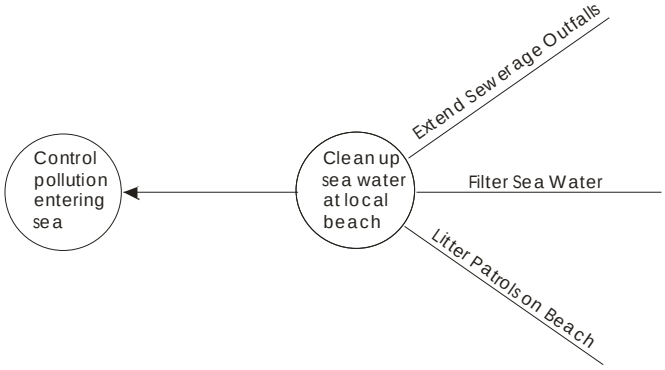


Figure 2: Broadening the Problem Definition on a Concept Fan

Use this as a starting point to radiate out other ideas (see figure 3).

If this does not give you enough new ideas, you can take yet another step back (and another, and another...), as shown in figure 4.

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.

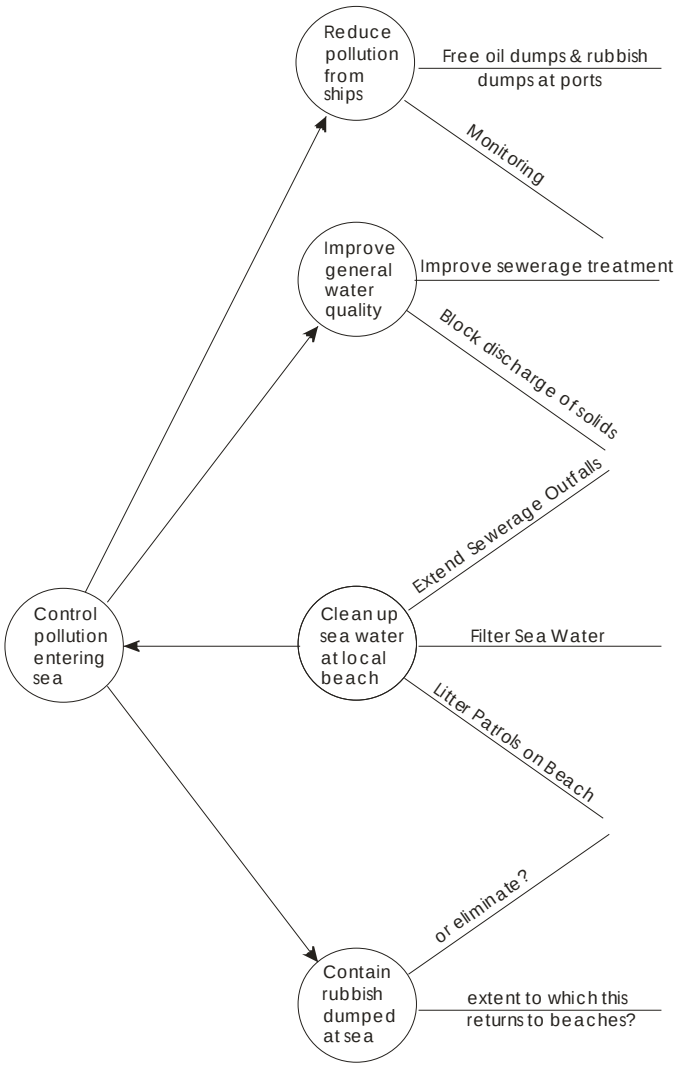


Figure 3: Radiating Ideas from the Broader Problem Definition

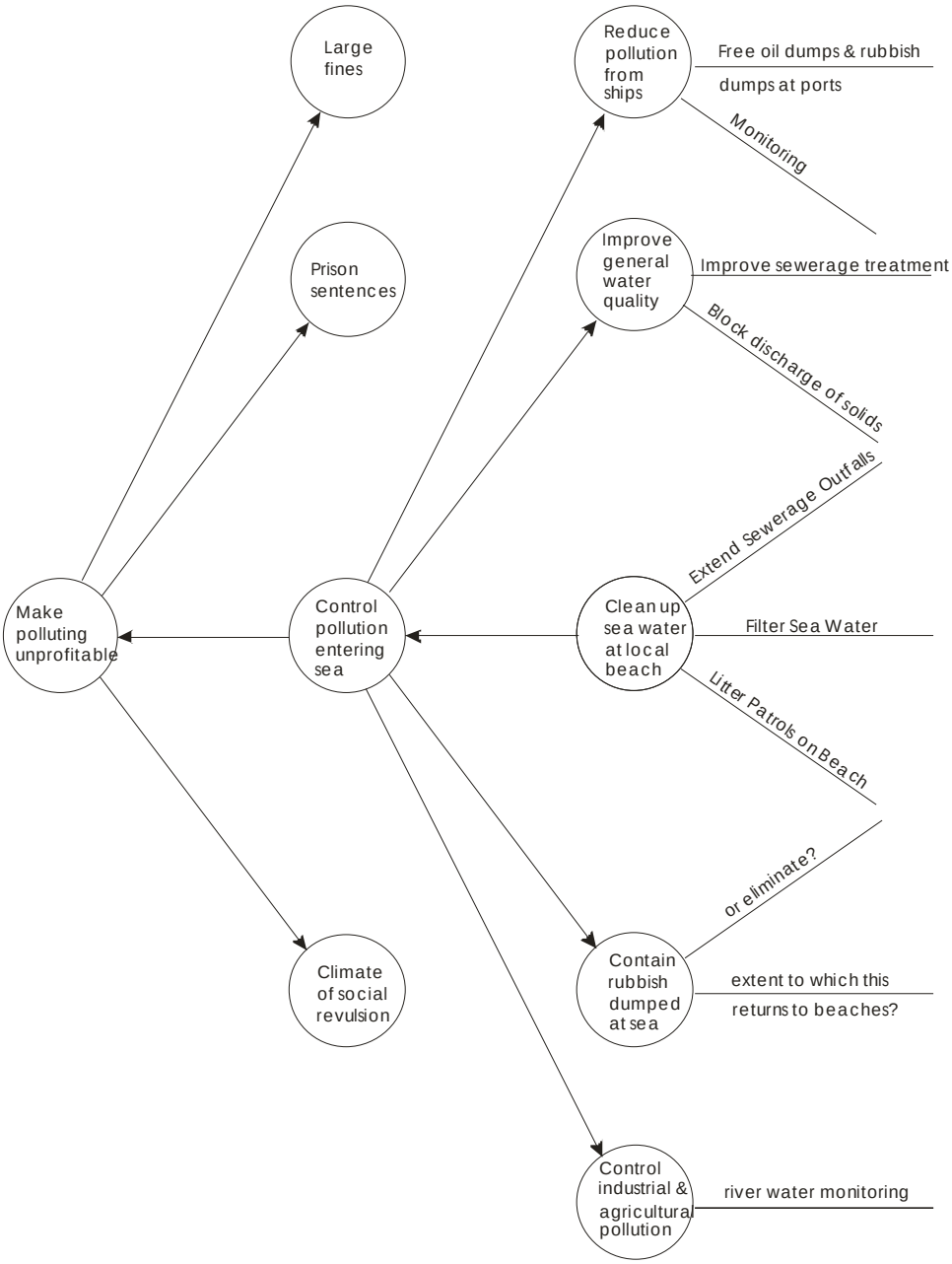


Figure 4: A Developed Concept Fan

5.8 Random Input

Making creative leaps

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 chapter, 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. 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.

How to Use the Tool

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 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_2 back into oxygen
- Similarly, pass exhaust gases through a soup of algae to convert CO_2 back into oxygen. Perhaps this is how an 'air scrubber' in a space craft works?
- Put sulphur-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 offload 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.

5.9 Provocation

Carrying out thought experiments

Provocation is an important lateral thinking technique. Just like Random Input, 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, originally developed by Edward de Bono, is one of the tools we use to make links between these patterns.

How to Use the Tool

We begin 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 that '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.

You can use this list as a checklist.

Edward de Bono has developed and popularize 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 the 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!

Edward de Bono's books, including Serious Creativity, explore this sort of technique in detail.

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.

5.10 DO IT

A simple process for creativity

DO IT is a process for creativity.

Techniques outlined earlier in this section 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.

How to Use the Tool

1. Define the Problem

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:

- 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.
- Lay out the bounds of the problem. Work out the objectives that you must achieve and the constraints that you are operating under.
- 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 Drill-Down for a detailed description of this process.
- 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 section to search for possible solutions. 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.

The Decision Making Techniques section of Mind Tools explains a range of excellent decision making techniques. Decision Tree Analysis and Force Field Analysis 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.

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. 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.

5.11 Simplex

A powerful integrated problem-solving process

Simplex is an industrial-strength creativity tool. Developed by Min Basadur, it takes the approach of DO IT 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.

How to Use the Tool

Simplex uses the eight stages shown in figure 1, below:

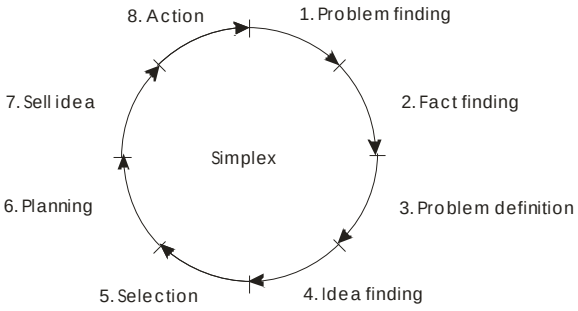


Figure 1: The Simplex Process

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 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 and lateral thinking techniques to brainstorming.

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

5. Selection and 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. The Decision Making Techniques section of Mind Tools lays out a number of good methods for this. Particularly useful techniques may be Decision Trees, Paired Comparison Analysis and Grid Analysis.

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, which is an excellent tool for qualitative analysis. The other is Cost/Benefit Analysis, 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, which lays out the who, what, when, where, why and how of making it work. For large projects it may be worth using more formal planning techniques.

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 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.

Min Basadur's book, The Power of Innovation, explores this process in much more detail.

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.

5.12 TRIZ

A powerful methodology for creative problem-solving

By Katie Barry, Ellen Domb and Michael S Slocum

Projects of all kinds frequently reach a point where as much analysis as possible has been carried out, but the way forward is still unclear. Progress seems blocked, and if the project team is to move forward, it must develop creative solutions to the problems it faces.

You'll already know about techniques such as brainstorming, which can help with this sort of situation. However, this type of approach, which depends on intuition and the knowledge of the members of the team, tends to have unpredictable and unrepeatable results. What's more, a huge range of possible solutions can be missed, simply because they're outside the experience of the project team.

TRIZ is a problem solving methodology based on logic, data and research, not intuition. It draws on the past knowledge and ingenuity of many thousands of engineers to accelerate the project team's ability to solve problems creatively. As such, TRIZ brings repeatability, predictability, and reliability to the problem-solving process with its structured and algorithmic approach.

About TRIZ

'TRIZ' is the (Russian) acronym for the 'Theory of Inventive Problem Solving.' G.S. Altshuller and his colleagues in the former USSR developed the method between 1946 and 1985. TRIZ is an international science of creativity that relies on the study of the patterns of problems and solutions, not on the spontaneous and intuitive creativity of individuals or groups. More than three million patents have been analyzed to discover the patterns that predict breakthrough solutions to problems, and these have been codified within TRIZ.

TRIZ is spreading into corporate use across several parallel paths – it is increasingly common in Six Sigma processes, in project management and risk management systems, and in organizational innovation initiatives.

Generalized Solutions

TRIZ research began with the hypothesis that there are universal principles of creativity that are the basis for creative innovations, and that advance technology. The idea was that if these principles could be identified and codified, they could be taught to people to make the process of creativity more predictable. The short version of this is:

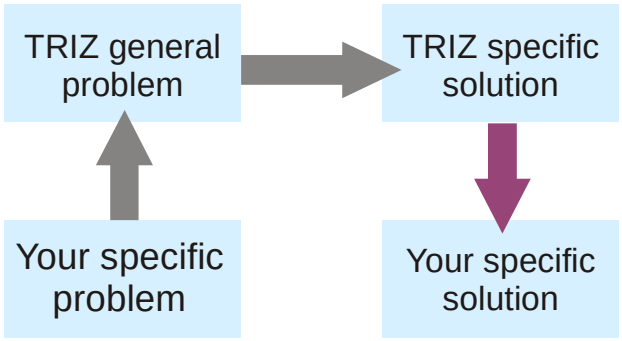
Somebody someplace has already solved this problem (or one very similar to it.) Today, creativity involves finding that solution and adapting it to this particular problem.

The three primary findings of the last 65 years of research are as follows:

1. Problems and solutions are repeated across industries and sciences. By classifying the 'contradictions' (see later) in each problem, you can predict good creative solutions to that problem.
2. Patterns of technical evolution tend to be repeated across industries and sciences.
3. Creative innovations often use scientific effects outside the field where they were developed.

Much of the practice of TRIZ consists of learning these repeating patterns of problems-solutions, patterns of technical evolution and methods of using scientific effects, and then applying the general TRIZ patterns to the specific situation that confronts the developer. Figure 1, below, describes this process graphically.

Figure 1: The TRIZ Problem-Solving Method



The arrows represent transformation from one formulation of the problem or solution to another. The gray arrows represent analysis of the problems and analytic use of the TRIZ databases. The purple arrow represents thinking by analogy to develop the specific solution.

Here, you take the specific problem you face, and generalize it to one of the TRIZ general problems. From the TRIZ general problems, you identify the TRIZ solutions to those general problems, and then see how these can be applied to the specific problem you face.

Example

A powerful demonstration of this method was seen in the pharmaceutical industry. Following the flow of Figure 1, the specific problem was as follows: an important process needed cell walls to be broken down in bacteria cells so that hormones inside the cells could be harvested. A mechanical method for breaking the cell walls had been in use at a moderate scale for some time, but the yield was only 80%, and was variable. Higher yields and a scaleable solution were needed.

The TRIZ general problem at the highest level is to find a way to produce the product with no waste, at 100% yield, with no added complexity. One of the patterns of evolution of technology that TRIZ identifies is that energy (fields) replaces objects (mechanical devices). For example, consider using a laser instead of a scalpel for eye surgery. In this case, ultrasound could be used to break the cell walls, or an enzyme could be used to 'eat' it (chemical energy). This may seem very general, but it led the pharmaceutical researchers to analyze all the resources available in the problem (the cells, the cell walls, the fluid they are in, the motion of the fluid, the processing facility, etc.) and to conclude that three possible solutions had a good potential for solving their problem:

1. *The cell walls could be broken by sound waves (from the pattern of evolution of replacing mechanical means by fields).*
2. *The cell walls could be broken by shearing, as they pass through the processing facility (using the resources of the existing system in a different way).*
3. *An enzyme in the fluid could 'eat' the cell walls and release the contents at the desired time.*

All three methods have been tested successfully. The least expensive, highest yield method was soon put in production.

Eliminating contradictions

Another of the fundamental concepts behind TRIZ is that at the root of many problems is a fundamental contradiction that causes it (we'll give examples below.) In many cases, a reliable way of solving a problem is to eliminate these contradictions. TRIZ recognizes two categories of contradictions:

1. **Technical contradictions** are classical engineering 'trade-offs.' The desired state can't be reached because something else in the system prevents it. In other words, when something gets better, something else automatically gets worse. Classical examples include:
    - The product gets stronger (good), but the weight increases (bad).
    - Service is customized to each customer (good), but the service delivery system gets complicated (bad).
    - Training is comprehensive (good), but keeps employees away from their assignments (bad).

2. **Physical contradictions**, also called 'inherent' contradictions, are situations in which an object or system suffers contradictory, opposite requirements. Everyday examples abound:
    - Software should be complex (to have many features), but should be simple (to be easy to learn).
    - Coffee should be hot for enjoyable drinking, but cold to prevent burning the customer
    - Training should take a long time (to be thorough), but not take any time.

Example

Dairy farm operators could no longer dry cow manure for use as fertilizer due to an increased cost of energy. They were faced with a technical contradiction between dry manure (good) and cost (bad). TRIZ led the operators to a drying method used for the concentration of fruit juice, which required no heat.

Some of the TRIZ Tools:

The 'General TRIZ Solutions' referred to in Figure 1 have been developed over the course of the 65 years of TRIZ research, and have been organized in many different ways. Some of these are analytic methods such as:

- The Ideal Final Result and Ideality.
- Functional Modeling, Analysis and Trimming.
- Locating the Zones of Conflict. (This is more familiar to Six Sigma problem solvers as 'Root Cause Analysis.')

Some are more prescriptive such as:

- The 40 Inventive Principles of Problem Solving.
- The Separation Principles.
- Laws of Technical Evolution and Technology Forecasting.
- 76 Standard Solutions.

In the course of solving any one technical problem, one tool or many can be used.

One of these tools, 'The 40 Principles of Problem Solving' is the most accessible 'tool' of TRIZ.

The 40 Principles of Problem Solving:

These 40 Principles are the ones that were found to repeat across many fields, as solutions to many general contradictions, which are at the heart of many problems. A list of all 40 Principles of Problem Solving can be found at:
http://www.triz-journal.com/archives/1997/07/b/index.html.

Here are just a few of the Principles and examples of how they could have been used to create products that were once new and innovative:

Principle	Solution
Segmentation (Divide an object into independent parts)	Individually wrapped cheese slices
Local quality (Provide different packaging for different uses)	'Adult' editions of Harry Potter books
Universality (make an object perform multiple functions)	Chocolate spread sold in glasses (with a lid) that can be used for drinking afterwards
Nested Doll	Store within store (coffee shops in bookstores)
Another dimension (Tilt or re-orient object)	Squeezable ketchup bottles that sit on their lids

Using TRIZ

The best way to learn and explore TRIZ is to identify a problem that you haven't solved satisfactorily and try it. Use the List of the 40 Principles of Problem Solving and the Contradiction Matrix tool that can be found at www.triz-journal.com to help you through the process.

Material for this article has been provided by a team of experts from the TRIZ Journal: Katie Barry, Editor, Ellen Domb, PhD, Managing Editor, and Michael S Slocum, PhD, Managing Editor.

Moving On

We hope you've enjoyed the Mind Tools E-Book.

We have put a great deal of effort into developing this and our other material. If you have any suggestions on how we can improve it for the future, then please let us know at customer.helpdesk@mindtools.com or through the Mind Tools web site at www.mindtools.com. Alternatively, if you have enjoyed this guide and found it useful, please let us know!

The Mind Tools web site at www.mindtools.com offers articles on a wide range of important career development and personal effectiveness techniques, as well as a range of related products and services.

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Best wishes, and enjoy using Mind Tools!

James Manktelow
CEO
Mindtools.com

Further Reading

The 10 Day MBA, Steven Silberger, Piatkus, London, ISBN 0749914017

10 Minute Time & Stress Management, Dr David Lewis, Piatkus, UK, ISBN 0749915366

Applied Imagination, Alex F. Osborn, Scribner's Year Published, ISBN 0930222933

Art of Creative Thinking, The, Robert W. Olsen, Perennial Library, ISBN 0060970510

Book of Stress Survival, The, Alix Kirsta, Thorsons, UK, ISBN 0722525923

Coaches' Guide to Sports Psychology, Rainer Martens, Human Kinetics, US, ISBN 0873220226

Creating Workforce Innovation, Michael Morgan, Business & Professional Publishing, Chatswood, Australia, ISBN 1875680020

The Creative Problem Solver's Toolbox, Richard Fobes, Solutions Through Innovation, Corvallis, OR, USA, ISBN 0963222104

Decision Making, An Integrated Approach, David Jennings and Stuart Wattam, Pitman Publishing, UK, ISBN 0273603973

Explorations in Parallel Distributed Processing, James L McClelland and David E Rumelhart, MIT Press, Cambridge, MA, USA, ISBN 026263113X.

Gower Handbook of Management Skills, The, Dorothy M Stewart (Editor), Gower Publishing Company, UK, ISBN

How to Develop a Super-Power Memory, Harry Lorayne, Thorsons, UK, ISBN 0722527845

How to Pass Exams, Dominic O'Brien, Headline, UK, ISBN 0747250472

How to Study, Harry Maddox, Fawcett Books, US, ISBN 0449300110

Imagination Engineering, Paul Birch and Brian Clegg, Pitman Publishing, London, ISBN 0273620649

In Pursuit of Excellence, Terry Orlick, Human Kinetics, US, ISBN 0880113804

Make the Most of Your Mind, Tony Buzan, Pan, London, ISBN 0330302620

Management Guide to Planning, Kate Keenan, Ravette Books, UK, ISBN 1853047880

Management Skills Book, The, Conor Hannaway and Gabriel Hunt, Gower, Aldershot, UK, ISBN 0556076829

Origin of Everyday Moods, The, Robert E Thayer, Oxford University Press, UK, ISBN 0195087917

Power of Innovation, The, Min Basadur, Pitman Publishing, London, ISBN 0273613626

Project Management, Dennis Lock, Gower Publishing Company, UK, ISBN 0566073404

Serious Creativity, Edward de Bono, HarperCollinsBusiness, London, ISBN 000637958-3

Six Thinking Hats, Edward de Bono, Little Brown & Co, ISBN 0316177911

Spanish by Association (Link Word), Dr. Michael M Gruneberg, Ntc Publishing Group, ISBN 0844294470

Sports Psychology: A Self-Help Guide; Stephen Bull; Crowood Press, UK, ISBN 1852255683

Statistics, H T Hayslett, Butterworth-Heineman, Oxford, UK, ISBN 0750604816

Statistics for Biologists, Nigel Webb and Roger Blackmoor, Cambridge Educational, UK, ISBN 052131712-6

Statistics for Business, Rex Ingram and Ken Hoyle, Butterworth-Heineman, Oxford, UK, ISBN 0750602074

Teach Your Child How to Think, Edward de Bono, Penguin, London, ISBN 0670830135

Thinkertoys, Michael Michalko, Ten Speed Press, Berkeley, USA, ISBN 0898154081

Use Your Head, Tony Buzan, BBC Books, London, ISBN 056337103X

Use Your Memory, Tony Buzan, BBC Books, London, ISBN 0563371021

What Is Total Quality Control? the Japanese Way, Kaoru Ishikawa, Prentice Hall Trade, ISBN 0139524339

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