

CHAPTER 22

GENERATING CAREER ADVANCING IDEAS

Most engineers will probably generate several hundred ideas during their career. Some of these ideas will be wonderful solutions that could earn an award or promotion. Unfortunately, just coming up with the idea is only the beginning. No matter how good the idea, it will not sell itself. You must be able to convince other people of its merit; otherwise, it will not benefit anyone or your career.

Engineers must have the skills to sell ideas and convince other people of the merits of their ideas. In most cases, this is not a natural talent but is a learnable skill. This chapter will show you how you can identify career advancing ideas and develop the skills you will need to sell your ideas to other people. Your ultimate objective should be to learn these skills to benefit your company, coworkers, and your career.

GENERATING CAREER ADVANCING IDEAS

The first step is coming up with a new idea. This is not an easy process and there are no guaranteed rules you can follow to generate great ideas. You can aid the process by first being alert or sensitive to problems in your daily work. If you perform your work every day with the attitude that what has worked in the past will work today, you will not discover many career advancing ideas.

You must continuously think of improvement, continuous self-improvement and job improvement; every person and every job can be improved. Adapting this attitude is the start of generating career advancing ideas. Do not be satisfied with the status quo. Always be on the lookout for new and better methods.

► **Career Tip.** Do not be satisfied with status quo. Always be on the lookout for new and better methods.

Being aware of how you can improve yourself is step 1; your present job is the best place to start. Think of the daily tasks you perform and the problems associated with getting your work done. Can anything be improved upon? Chances are there are going to be several. Start with simple things that are directly within your control and which you have the power to change. If you can implement a new procedure or create a new tool to save time, do it. Then show your supervisor how you improved the situation. The key is to start small with your present job and then move on to bigger and better ideas, all the while gaining experience and knowledge on how to sell your ideas. You must start with improving yourself and then move outward to other areas in the company.

Many junior engineers will immediately start questioning everything that is done in the company and quickly come up with better ways to improve everyone else around them. This is not what you want to do. I have on many occasions had to point out reality to junior engineers about their great ideas to change the company. I tell them I will make a note of their idea and we can discuss at a later time, but in the meantime I'd like to see them improve what they are working on first.

Once you have demonstrated that you can come up with good ideas to improve your present job, it's time to expand your horizons. The next area to look for ideas is interdepartmental problems. Look for new ways that may help two different departments to more easily accomplish their work. A simplistic example is the combining of two forms into one.

Often different departments will have you fill out forms to document the type of work you are requesting from them. Usually every department has its own customized form. It would save time to have one standardized form that both departments could use. It would save time by having to only fill out one form and decrease the company's printing costs by reducing the number of forms from two to one.

Another example might be changes to your design allowing the product to be assembled more easily. Try touring a production line to see how your particular component of the product gets assembled. If you could identify a simple change that would save assembly time and not sacrifice quality, this would be a great improvement.

Another good source for ideas is your supervisor, and there is no better place to start looking. Supervisors have pet ideas that they would like to try out to see if they would work. However, they are often too busy to try new ideas. Why not volunteer to try out your supervisor's ideas? It is a well-known fact that ideas "friendly" to management are the ones most likely to be accepted and implemented.

There are several ways you can benefit from suggesting ideas. One method is through the company-sponsored cost-cutting program. Nearly every company has such a program. These programs are set up by management to help encourage the submission of cost-cutting ideas.

Companies usually have a form you fill out and submit to a committee for review. Get some of these forms and become familiar with how to fill them out. Learn the criteria of the committee that judges the ideas for awards. Keep the forms handy and put one up in front of your desk so you can look at it every day. Try to submit at least one or two suggestions per year. Make this your goal.

► **Career Tip.** Make it your goal to submit two suggestions for improvement each year.

“Why bother,” is the response I most often hear, “they will never accept my idea!” To this I reply, “What do you have to lose?” The answer is nothing; you only have something to gain.

Is the effort worth it? That depends on how much money the ideas can save. Some companies offer as much as 10% of the cost saving to the submitter as a cash award. On an idea that saves \$10,000, this could amount to \$1,000. For me, there is very little effort to writing up an idea, less effort than driving to a store and purchasing a lottery ticket. In fact, it does not cost anything to submit your idea, and you have a much better chance of winning. In addition, most companies pay the tax on the award so you are not penalized; with the lotteries the IRS is there the minute you collect your prize. Hopefully this will convince you to consider submitting cost improvement ideas.

Another benefit of suggesting new ideas is career advancement. Often engineers are in a position to create new products for the company or significantly improve the quality of an existing product. These ideas cannot be directly rewarded with a cash bonus since it may take several years to implement them. The company, therefore, rewards these engineers through career advancement. For these types of ideas, the engineer cannot simply fill out a form; they require a different approach. Let’s now discuss a different approach you must take if you plan on getting people to accept your ideas.

THE IMPORTANCE OF PUTTING IT IN WRITING

When you come up with a major new idea, the first thing you need to do is get organized. The best way to get organized is by writing your idea down. The worst mistake you can make in trying to sell your idea is to rely upon verbal communications. The people you are trying to sell your idea to, particularly your supervisor, are bombarded with new ideas all the time. They are not going to take notice of what you have to say unless you give them a good reason. The way to do this is by putting your idea into writing.

► **Career Tip.** Take time to put your ideas in writing. This is best for everyone.

By putting it in writing you are sending an important message to everyone. The message is that you think the idea is so good you have put special effort into writing it up and documenting every detail so you don't lose it. Remember, your supervisor will only hear about 60% of your idea if you tell it verbally. After a few days he or she will probably only remember about 20% of what you suggested. And after a month, you can bet it's been forgotten.

A verbal exchange of ideas will probably leave you frustrated because of your supervisor's inability to grasp the magnitude of your idea. If you think your idea is worthwhile, then give it the emphasis it deserves and write it up! There are several benefits to a neat, well-organized, write-up.

1. By constructing a written document of your idea, you have a good record and you are showing everyone you think it is important. Written suggestions immediately invoke a need in the supervisor to seriously consider the idea.
2. You get organized and think your idea through. Remember, only you have a crystal clear vision of your idea; everyone else must rely on your verbal description, written words, or pictures. When you write something up it forces you to put your idea into the simplest terms which is the best way to communicate it.
3. A written description serves as a reference for future discussions. It is also the first step to generating patents. Light bulbs go out as fast as they come on. Without a written description it is easy to forget all the reasons why your ideas are so deserving of consideration.
4. Writing a description tends to eliminate the personal and emotional overtones that often accompany an engineer's idea. The emotional highs and excitement you have about your idea can turn people off before they have had the chance to really evaluate its true merits.

When preparing a write-up or proposal, your objective is to prove that you thoroughly understand the problem and have a great solution. When you write up the presentation you must establish enough credibility to show you have seriously analyzed the problem and have a solution that represents a significant improvement. Only then will your supervisor have enough confidence in you to really pay attention. To establish this type of credibility in a write-up or presentation you must first do your homework (Figure 22-1).

WHY RESEARCHING YOUR IDEA IS NECESSARY

In order for your written description or proposal to have any credibility, you must support it with research. Your research should answer the following eight questions.



FIGURE 22-1 Do your research first.

1. What is the problem and how big is it? An easy mistake is to assume the problem is apparent and your supervisor perceives the need to solve it as you do. First you must make sure they are aware of the problem. To do this, describe the problem in simple terms. Get their agreement that a problem exists. If you are intent on solving a problem that they consider trivial, no matter how good your idea, they will perceive your solution as trivial. Next, explain the circumstances that exist that make the problem worth solving. Quantify how big the problem is in terms of work hours lost, dollars lost, or poor performance. Supervisors take immediate notice when the problems are in terms of cost overruns, failures, schedule delays, or rework required. Once you have clearly identified the problem and assessed its impact it's on to the next question.
2. What if nothing is done now? Quantify the short-term and long-term impact of the problem. Most managers will hope the problem will go away if ignored. Show the manager the consequences of ignoring it. Identify any new problems that will arise if the present one is not solved. Once the magnitude of the problem starts to settle in, he or she will want to know why your idea merits consideration. In order to answer this you must do some further research. Your objective is to establish credibility in your answer, and to do this you should have knowledge of the past history of the problem. This leads to the next question normally asked.
3. How did we get here? To answer this question you must do research on what was done leading up to the problem in the first place. You may discover the problem you are trying to solve is small in comparison to other problems.
4. What was suggested before? Try to discover any past ideas that may have been suggested to solve the problem. Your objective is to show

that your idea does not take them down a path that has previously been tried and failed.

5. What has not been tried? Here you want to summarize several ideas that show potential for solving the problem, your idea included. Your aim is to show that your suggestion is the best. If you really do not have a good solution, don't fake it. Drop the idea. Overselling the benefits of your idea and not thoroughly thinking them out will destroy your credibility.
6. What puts your idea ahead of the rest? Highlight your idea by researching what is great or different about it. Summarize in simple terms the benefits of your idea. Quantify all the benefits you can. Supervisors like to hear the benefits in terms of cost reduction, lower unit product cost, improved performance, quicker turnaround, improved producibility, product reliability, and product safety. These are a few of the buzzwords used to help sell ideas.
7. What are the potential problems with the idea? After you have completed all the research on the benefits of your idea, you need to also consider the bad points. A well thought out plan will not only present the good points but also the bad points. All new ideas have problems associated with them. Everyone knows that nothing is free and everything costs something. Your supervisor is no different, and will look for potential problems or snags. The best way to deal with this is to meet it head on. Do not try to hide it. Make it part of your plan. Identify the problems with your idea. If possible, show that the consequences are trivial and the benefits outweigh the negative effects.
8. What will it take to implement your idea? If you have a great idea, the first question your supervisor will ask is "what will it take to implement it?" This is where you can really establish credibility by having done your research. Do research and make estimates to show that your idea will not break the company or the budget. Explain how funds can be redistributed to handle what you propose or how long the payback will take. Is what you proposed feasible in terms of schedule? Are the resources and manpower available? How will it affect the group's morale and customer relationships? Are any special facilities needed? Identify the expertise and skills needed as well as where they can be found.

People often come up with excellent ideas that are not within the charter of the group or company. An advantage to selling your idea is to show how the idea supports the company's strategic plan or present product lines.

With your research completed, it is now time to put together the presentation or plan.

WRITING UP THE PLAN

The exact organization or style of the plan you put together will depend upon your company's products and organization, your supervisor's style, and your own preferences or style [1]. There is no right or wrong style. The length is entirely up to you. If you are proposing a multimillion-dollar plan with a high impact on the company, you may want a detailed and thorough plan. These plans may consist of 30–40 pages. On the other hand, if you are just trying to make a simple change in your department your plan may be only a couple of pages long. To aid you in writing up the plan I have put together the following outline:

1. Executive Summary
2. Statement of the Problem
3. Background/Previous History
4. Potential Solutions (Pros and Cons)
5. The Best Solution
6. Benefits and Impact of Implementing
7. Implementation Plan
8. Conclusion and Summary

Executive Summary. This is a summary of all the high points of the plan. It clearly defines all the benefits of the plan right upfront. Your intent is to get your supervisor so interested in the idea or plan by the executive summary that he or she has to continue reading it to find out more.

Statement of the Problem. In the simplest terms and shortest possible means, describe the problem as best you can. Draw diagrams if needed, show charts or graphs that pictorially describe the problem. Use the material and information that you have collected during your research to define the problem and show how large it might be.

Background/Previous History. Next present a summary of the background leading to the problem and actions taken previously to solve it.

Potential Solutions. In this section list or identify all the potential solutions to the problem including the one you are recommending. Explain what is beneficial about each potential solution.

The Best Solution. This section should contain a concise, detailed description of your proposed solution. This is where you expand upon your idea. Discuss the details and highlight all the benefits.

Benefits and Impact of Implementing. This is where you summarize all the research you have done on the cost and impact of implementing your idea. Organize it in a neat, concise manner to address all the issues.

Implementation Plan. In this section, you clearly identify the plan that must be executed to implement your idea. Here is where you present the research you did and what it will take to get the proposed solution or new idea

working. The best method for doing this is through a schedule showing the tasks to be completed, the sequence and time phasing of the tasks, and the manpower and costs associated with each task.

Summary. This section should be a one- or two-page summary, at most, that describes all the highlights of the previous sections. It should be a section of the write-up that your supervisor can go to and get an executive summary of the points of your plan. It should clearly state that you recommend implementing the proposed idea.

HOW TO BEST PRESENT THE PLAN OR IDEA

Once you have completed the plan your first thought will be to rush into your supervisor's office and immediately start convincing him or her how great it is. You are just about ready, but you must complete other steps before you are ready for this. Your next step is to do some political selling before you enter their office. You now enter a new phase of getting your ideas accepted called "The Politics of Selling Your Ideas" [2].

You want to test out the waters before you go into your supervisor's office. The best way to do this is by showing the plan to your mentors or to other key people in the organization who are respected by your supervisor. In doing so, you can help the salability of your plan.

► **Career Tip.** Have a well thought out plan for presenting your idea. This is the time to let management see you at your best!

Ask their opinion and get a forewarning of how your supervisor may react. They will probably identify the same objections your supervisor will come up with. With this knowledge you have time to develop plans to work around these objections and easily handle them when your supervisor raises them.

If you are a politically savvy engineer, you will attempt to work out any differences between your viewpoint and that of the key people in the organization. You need to realize that the outcome of your effort to sell your plan will be based less on its technical value and more on the fact that enough people want it to succeed. A new idea can be less than perfect technically but still survive if key people involved want it to work. Where there is a will, there is a way.

These key people are also in a position to show you how to improve your plan. Ask for their support and any improvements they might have. By asking for their opinions and support you are effectively getting them to back your plan. They are less likely to shoot down the plan if their ideas are also included. It also provides a check to see if there are any fatal flaws or any major things you have overlooked. It's better to find out that your plan has a major flaw before you go into your supervisor's office.

You also quickly find out who supports your idea and who does not. Having the support of key people in your organization adds a large amount of credibility to your plan. Being able to say that the senior engineer backs your plan goes a long way to selling it. Also, being able to respond to the objections of the senior engineer and show how you plan on overcoming them effectively neutralizes the opposition. When it comes time to defend your plan you must know who to call upon for support and what objections other people are using to shoot down your plan.

► **Career Tip.** Be prepared to handle objections and negative feedback.

When you run into people who object to your plan, handle them with caution. First ask them why they are objecting to the idea or plan. Only when you allow them to talk freely are you able to air the differences. Empathize with the people objecting and explore their apprehensions. Get specific information about what exactly they are objecting to. Next, ask them how they would overcome the problems. Sometimes people are objecting because they really want to tell you the solution. Try to get them to help you define a solution. Nothing makes allies quicker than identifying that the senior engineer has identified a serious problem with your idea, but he or she is working on a solution so your group can realize all the benefits. If you win over resisters, periodically recheck their position to make sure they haven't changed their minds again. This is important.

Don't try to force the situation if you fail to get the support you need. Do not argue and counterattack; this is a lose-lose situation. Back off and recognize that you have an honest difference of opinion on the plan. In other words, you agree to disagree about your plan. This allows the objector to state their objections and you to continue; neither of you have lost credibility. By trying to force agreement you may win a short-term battle, but the first problem you run into implementing your plan will result in the person running around telling everyone how they told you so!

► **Career Tip.** Informally and ahead of time, discuss the idea with others to see what possible objections there may be. Be prepared to handle these objections.

When you present your plan to your supervisor, he or she will probably want to know the reaction of other people. Having already shown it to key people, and gotten their support before you go into the supervisor's office, allows you to identify who backs it. It also allows you to identify who is against it and the objections they have. In either case it only adds more credibility to your plan.

Show the plan to your mentors before you go into your supervisor's office. They can give you a good unbiased opinion of the plan. Their years of experience in the company can provide you with background on what has gone on in the past, what has previously worked, and how you might best sell your plan.

If your coworkers are open to new ideas, you will find a warm reception for your ideas. However, many workers feel new ideas create more work, something they are not interested in. To combat this they will claim that things worked in the past and there is no need to change things, "we always did it this way; no reason to change."

Another barrier you may encounter is the "sacred political laws" of your organization, which you may be unknowingly violating. For example, if you are in a PC company and recommend changing to a Mac you may be up against a sacred political law. Chances are some upper-level manager has already made the decision and you will be bucking the system.

Remember, new ideas or plans frequently upset the power structures of the organization and call for change. Your plans could be secretly saying, "Hey, supervisor, you are doing something wrong and here is the right way to do it." Your supervisor will not be very interested in implementing a new plan that may only highlight how wrong things were being done. New plans or ideas presented in this light often quickly end up in the trash before they can do any harm to people's careers.

After you have tried your plan out on other people, you should have a good idea of its strengths and weaknesses. Polish the plan with what you have learned. Incorporate new ideas when you have picked them up and be sure to give credit where it is due. Revise your approach if it needs it. Although it may be hard to change things, remember that your end objective is to benefit the company and its customers.

Here is a quick list of some of the helpful things you might have found out by sharing the plan with other people.

1. What are the weaknesses and strengths of the plan?
2. Is the timing or political climate right for my idea?
3. Are there any other issues that I can piggyback on to help sell my idea?
4. Who will make the final decision, and by what means? Committee vote? Supervisor approval? Manager-level approach?
5. Can I call upon other outside sources to help sell my plan? Coworkers? Consultants? Company publications? Technical journals? Competitors?

After you have shared your plan with other people, received their support and finally, modified and improved the plan, it is then time to share your plan with your supervisor.

MAKING THE BEST PRESENTATION YOU CAN

Making the big presentation to your supervisor or management may be one of the hardest things you will ever do. You will be nervous the first few times and you must practice several times before you actually do it. If possible, practice giving your plan several times to other people first. Run through it from beginning to end just the way you intend to give it. Your mentor would be a good person to practice your pitch on. After such practice you should be ready to present your ideas. Some people will tell you that you do not have to practice, just go in there and present it. However, I feel this is the worst thing you could do. Athletes practice many hours before they actually compete. Musicians practice hours before they perform a concert. Why not your let your supervisor see you at your best? Practice!

Make sure the setting and time of your presentation is good for your supervisor. The best way to do this is to talk to him or her in advance and block out a portion of time where they can give you some undivided attention with no interruptions. Announce you have a new idea you would like to discuss with them and specify how much time you are going to need. Generally, keep the meeting to approximately 45 minutes or less.

► **Career Tip.** Refine and polish your presentation through practice.

When the time comes, make sure you will not be interrupted. You have put a great deal of work into getting this prepared. Your final step is to get the utmost attention while presenting. Ask for all calls to be left for voice mail during your meeting if possible. If the supervisor answers his own calls, then ask if he would mind going to a conference room where you can shut the door. Your objective is to get undivided attention so that the value of your plan can be perceived clearly.

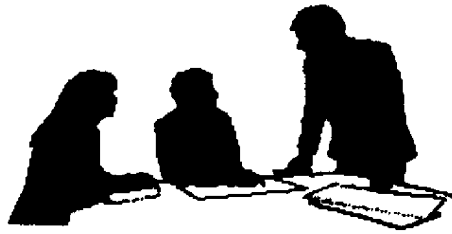
The style and type of presentation is best left up to your judgment. It may be as simple as a few typed pages or a complete report with a view graph presentation to highlight the important parts. A really effective engineer can personally produce computer spreadsheets, graphs, and view graphs for all types of presentations. If you need more training in this area, get it immediately. Poor view graphs can ruin any presentation. There is one very important concept that you must remember any time you are making a presentation: the goodness and value of your idea is being judged partly on how well you present (Figure 22-2).

► **Career Tip.** Your ideas will be assessed based on your ability to communicate, your presentation skills, and the quality of your charts.

This is unfortunate since your presentation skills do not necessarily reflect your technical ability. Nevertheless, people do react this way at



Formal Large Group



Small Group



Informal One on One

Which Presentation Style Is Best?

FIGURE 22-2 Different methods of presenting the idea.

nearly every presentation. Therefore, you must put on the best show you can.

Regardless of the size of the report or presentation, make sure your supervisor has a copy of it when the meeting is over. Invite them to make notes and keep it for future references.

As you present the plan make sure you pause and ask for feedback. If you're not getting feedback, ask people what they think. If they like it, you've succeeded. If they do not like it, find out why. Discuss objections but do not try to override or counterattack. You can always ask what it would take to make it a better plan. If they start to suggest things, you've got them hooked. Try to get everyone to buy into the plan and start supporting it.

If management likes your plan then it's on to the next phase: "How do we go about implementing the plan?" Remember, coming up with the good idea is only part of the solution. Implementing the plan and realizing the benefits is the other part. Only after you have started to realize the benefits will it positively effect your career. You must get your supervisor to share with you the details of how the company will approve and implement the plan. Once management has decided to move, only then can you start the implementation of your plan in earnest.

A FINAL WORD OF CAUTION WHEN SELLING YOUR IDEAS

Here's one final word of caution about selling your ideas. Remember that some people will think only of reasons why it will not work. You must have a strong will to overcome these objections and keep pressing on if you're certain you really have a great idea. Often it can only take one "no" to kill a great idea even if ten people have voted yes. Don't let one "no" vote ruin your plan; make sure it does not have a fatal flaw, then press on.

Finally, most people will say "If I have to go through all this trouble just to suggest something, then forget it." What they do not realize is the tremendous learning experience you go through doing all the tasks mentioned in this chapter. Maybe your first idea will not hit the jackpot, but perhaps you will be better prepared and more capable of selling your next idea. By putting the plan together you are showing your supervisor how you are trying to improve. If it is well organized and neat you are clearly demonstrating your ability to think through a problem in a well-organized and methodical manner. These are very valuable skills in an employee.

As a result of your efforts, your supervisor may be more willing to have you help on the next big cost-saving activity. These are the types of activities that help career advancement. If you follow the suggestions in this chapter you stand a better chance at career development regardless of whether your idea or plan is accepted or rejected. With this type of outcome, what are you waiting for? You have nothing to lose by suggesting something and stand a very good chance of career advancement.

SUMMARY

Just having a great idea is not good enough. You must have the skills to sell it to your coworkers and supervisor. The first step to selling your ideas is to get organized and write it down. Document the idea or plan. Part of documenting the idea includes doing research to support your ideas, find out what has been done before, and what benefits you can expect from implementing the plan. Next, you must write up the plan in an organized fashion. Discuss it with your coworkers and get their feedback and support. After you have obtained some

backing and incorporated any changes or improvements, it's time to make the big presentation.

Have you identified any career actions you want to take as a result of reading this chapter? If so, please make sure to capture these ideas before you forget by recording them in the notes section at the back of the book.

ASSIGNMENTS AND DISCUSSION TOPICS

- 1 Brainstorm for a few minutes and try to think of some ideas that you could implement to save your company some money.
- 2 Pick the best idea and do some research on it.
- 3 Generate a plan or write-up that describes your idea and its potential benefits.
- 4 Share the plan with one or more of your coworkers and get their input.
- 5 Modify your plan and incorporate any good suggestions.
- 6 Present the plan to your supervisor.
- 7 Implement the plan.

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1. Fuller, O., "How to Write Reports that Won't Be Ignored," *Machine Design Magazine*, Jan. 11, 1979, pp. 76-79.
2. Raudsepp, E., "Politics of Selling Ideas," *Machine Design Magazine*, Nov. 7, 1985, p. 97.