

TMGT- 4/591

Assignment: Application of Chapter 4 techniques

This assignment is due on September 30th and is worth 20 points

There are 38 techniques described in chapter 4. We cannot, in this class, try all of them effectively. For this assignment I have selected **two techniques** for you to report on. The first is mind mapping (46/20), sometimes called radial diagramming. The second is a variation of scamper 58/32 called verbal relational-word checklist (p.113).

1. Mind Mapping 46/20.

Read, carefully, about the technique. Note that it is useful for not only generating ideas but for developing one's intuitive capacity. Also note that about half the people who use this technique find it extremely useful (I'm one of them). **You will develop two mind maps.** *First* I want you all to practice by drawing a mind map generating new choices for what you could do if the price of gasoline goes up to \$10 per gallon within the next year with no signs of the price declining in the future after the rise. *Second*, I want you to decide on a different problem for which a solution is important **to you**. This could be at home or at work. Write an explanation of the problem (for me) and then apply the mind mapping technique.

It should take time to draw a map thoughtfully and completely. Take several days over this exercise. Draw it and then carry the drawing around with you, periodically reviewing it, thinking it through, adding to it, and changing it. Submit **both** completed mind maps. *The total number of branches and the quality of the ideas shall be considered when grading. I also want you to write a few paragraphs describing your experience with this technique and if you found it useful or helpful.* Some of you may be interested in using free software for mind mapping available on the internet. They will not give you answers to your problem but allow for a neater looking diagram. Simply Google mind mapping to find them.

2. Verbal Relational- Words checklist (a variation of scamper) 58/32.

This Technique is useful when you are simply trying to create ideas that might lead to product or service improvements. First, re-read the scamper technique. I want you to consider the work you do (if you are a full-time student then consider that is your work). *Your problem is to be more efficient at your work.* Now apply the Verbal Relational-Word Checklist (on page 113, not the SCAMPER on page 108) to your work. Some of your results might not seem to make any sense, but by looking at them closely you may be able to develop useful ideas. For example (and I hesitate to give you an example for fear that it will restrict your creative ideas), if you are a maintenance supervisor "multiply" may lead you to think you would need an assistant, an apprentice or a secretary; whereas "divide" may lead you to consider that it's time for another maintenance supervisor and the work you do be divided, which could lead to greater efficiency in the plant. Don't feel that you have to start on the first word. Look over the entire list for a starting point.

The number of words on your list is an indicator of the effort and lateral thinking you applied to the technique. *Submit your list (in a table) and a few paragraphs explaining*

what you have done and the results. Then write a few paragraphs describing your experience with this technique and if you found it useful or helpful.

Trouble getting started?

If you have trouble getting started with either of these techniques I suggest you try to apply a creative problem solving approach to your problem of getting started. Let me suggest Sleeping/Dreaming on It (60/34). (I shall post more information on this technique).

subbranches from each of these the pros and cons. Mind mapping also works well for outlining presentations, papers, and book chapters.

In fact, mind mapping can be used in a wide variety of situations. For example, mind mapping is especially useful for project management.³⁵ It is also extensively used in education at virtually every level from kindergarten to executive education courses. For example, it was used to teach creativity in a college marketing class.³⁶ The extremely successful socio/technical forecasting firm, Inferential Focus, founded by Charles Hess and Carol Coleman, uses Mind Maps[®] to spot trends and predict periods of change before they occur.³⁷ A major aerospace firm has used mind mapping to help layout the project plan for a major strategic change initiative.³⁸ And when Michael Stanley was the engineer in charge of Boeing's technical publications unit, he used Mind Maps[®] extensively. He even kept a spiral notebook of Mind Maps[®] covering the "basic subjects that I've got to know to do my job." He also had a 40 x 4 foot Mind Map[®] on his wall that he used to show top management about a new process he had designed for developing technical publications.³⁹

In my experience, about half of the people who learn this process find it extremely useful; the other half find it uncomfortable to use. The latter seem to object to the lack of structure and find it difficult to be as spontaneous as the process requires. But for those who are comfortable with it, it can be a very useful and versatile tool. As author Jill Neimark notes, "Once you've got the knack of letting your mind flow onto this visual chessboard (a Mind Map[®]), you can apply it to anything from business to relationships to your future."⁴⁰

There are two mind mapping software programs of which I am aware: MindManager[®] which is sold by Mindjet Corporation and can be found at Mindjet.com; and MindGenius[®] which is sold by Gael Ltd and can be found at MindGenius.com. I have used MindManager[®] extensively and found it to be excellent for a host of uses. It has over 500,000 licenses according to its Web site. It is effective for personal use on your laptop or PC, and equally effective for group brainstorming, and prob-

lem solving activity using a projector system. I have only recently become aware of MindGenius[®]. It appears to have similar features to those found with MindManager[®].

SUMMARY OF STEPS

1. Write the name or description of the object or problem in the center of a piece of paper and draw a circle around it.
2. Brainstorm each major facet of that object or problem, placing your thoughts on lines drawn outward from the central thought like roads leaving a city.
3. Add branches to the lines as necessary.
4. Use additional visual techniques—for example, different colors for major lines of thought, circles around words or thoughts that appear more than once, connecting lines between similar thoughts.
5. Study the mind map to see what interrelationships exist and what solutions are suggested.

47/21. MUSIC

Listening to soft, calming music is a good way to "free up" your subconscious. Music is listened to on the right side of the brain, the more intuitive side (for right-handed people). Music also tends to put the analytical side of the brain to sleep, allowing the intuitive side to become more active.⁴¹

48/22. NAME POSSIBLE USES

Naming the possible uses for an item helps provide solutions to a whole array of problems. The primary one, of course, is finding new uses for a product. Baking soda, for example, isn't just for baking. It is useable as a refrigerator deodorizer, a cleanser, and as a teeth brightener.

In a related vein, a very humorous account of "20 better initials" for a character's quite long nose in the 1987 movie "Roxanne" catches the spirit of this technique, if not its actual functional focus. Steve Martin, as the chief C. D. Bakes, has his



58/32. SCAMPER

SCAMPER is an idea generating checklist based on action verbs which suggest changes to an existing product, service or process. This mnemonic was created by Bob Eberle from the verbal checklist originated by Alex Osborn, a pioneer in creativity technique development.⁵³ Osborn also originated brainstorming, a technique discussed earlier in this chapter.

Osborn's original verbal checklist was ordered as follows: put to other uses, adapt, modify, magnify, minify, substitute, rearrange, reverse, and combine. Eberle reordered these to make them easier to remember:

- S = Substitute?
- C = Combine?
- A = Adapt?
- M=Magnify? Modify?
- P = Put to other uses?
- E = Eliminate or minify?
- R = Rearrange? Reverse?

The idea behind this verbal checklist is that an existing product, service, or process, whether one's own or a competitor's, can be improved if one applies a series of verbs and related questions to it and puts the answers to see where they may lead. These verbs indicate possible ways to improve an existing product or service by making changes in it. In the case of Osborn's checklist, further alternatives may be suggested by the definitions and related statements accompanying each of the main verbs. For example, if the item under consideration is a laptop PC and you are pursuing the "minify" alternative, you might shrink the laptop into a "notebook" or "palm" computer or a high powered "PDA". Eberle kept all of Osborn's questions and added a few more. See Exhibit 4.1. Over the years thousands of organizations have used the verbal checklist and derivations such as SCAMPER to create

or enhance thousands of products and services. One of my editors for a textbook I created using SCAMPER to change key book features found this checklist so useful that he distributed it to the sales force to obtain suggestions for subsequent editions.

To use SCAMPER:

1. Identify the item—the product, service, or process you want to improve.
2. Ask the SCAMPER questions about your item and see what new ideas emerge. Be sure to use the extensive expansion of these verbs provided in Exhibit 4.1.

EXHIBIT 4.1 SCAMPER VERBS AND RELATED QUESTIONS

VERB	RELATED ACTION QUESTIONS
SUBSTITUTE?	Who else can be substituted? What else can be substituted? Can the rules be changed? Other ingredient? Other material? Other process or procedure? Other power? Other place? Other approach?
COMBINE?	What other part instead of this? What ideas can be combined? Can we combine purposes? How about an assortment? How about a blend, an alloy, an ensemble? Combine units? What other article could be merged with this? How could we package a combination? What can be combined to multiply possible uses? What materials could we combine? Combine appeals?
ADAPT?	What else is like this? What other idea does this suggest? Does the past offer a parallel? What could I copy? Whom could I emulate? What idea could I



	incorporate? What other process could be adapted? What else could be adapted? What different contexts can I put my concept in? What ideas outside my field can I incorporate?
MAGNIFY?	What can be magnified, made larger, or extended? What can be exaggerated? Overstated? What can be added? More time? Stronger? Higher? Longer? How about greater frequency? Extra features? What can add extra value? What can be duplicated? How could I carry it to a dramatic extreme?
MODIFY?	How can this be altered for the better? What can be modified? Is there a twist? Change meaning, color, motion, sound, odor, form, shape? Change name? Other changes? What changes can be made in the plans? In the process? In marketing? What other form could this take? What other package? Can the package be combined with the form?
PUT TO OTHER USES?	What else can this be used for? Are there new ways to use as is? Other uses if modified? What else could be made from this? Other extensions? Other markets?
ELIMINATE OR MINIFY?	What if this were smaller? What should I omit? Should I divide it? Split it up? Separate it into different parts? Understate? Streamline? Make miniature? Condense? Compact? Subtract? Delete? Can the rules be eliminated? What's not necessary? What would a process flow chart reveal?

REARRANGE?	What other arrangement might be better? Interchange components? Other pattern? Other layout? Other sequence? Change the order? Transpose cause and effect? Change pace? Change schedule?
REVERSE?	Can I transpose positive and negative? What are the opposites? What are the negatives? Should I turn it around? Up instead of down? Down instead of up? Consider it backwards? Reverse roles? Do the unexpected?

Source: Created from text in Michael Michalko, *Thinkertoys* (Berkeley, California: Ten Speed Press, 1991), pp. 71-108.

Exhibit 4.2 is an example of SCAMPER used in a service industry—the hotel industry. Consider the traditional check-out procedure in a hotel. How can SCAMPER help us generate ideas for improving the process?

EXHIBIT 4.2 A SCAMPER EXAMPLE

REPLACE	Traditional Check-out Procedure
SUBSTITUTE	Check-out by phone, by in-house television channel, by mail; allow check-out at breakfast...
COMBINE	Combine check-out payment with check-in; offer breakfast food at check-out location; combine with services for ground transportation; combine with morning work-out at hotel exercise facility...
ADAPT	Adapt to the location of the guest; accept more credit cards; adapt to the times that guests want to check-out...
MAGNIFY	Increase the number of people at the check-out desk; make a big production out of check-out so that the guest enjoys it—have trumpets and encourage employees to weep as the guest leaves; have a very large



	person at the check-out desk so that the guest will be afraid to complain...
MODIFY or MINIFY	Have all forms and bills prepared before the guest comes to check out so that the least amount of time is required; cut some steps out of the current process; computerize to increase speed...
PUT TO OTHER USES	While the guests are waiting to check out, interview them about their stay and how the hotel could be improved; use check-out time as an opportunity to advertise specials that the hotel will be offering in the future; ask the guests if they wouldn't mind washing some windows for you while waiting to check-out...
ELIMINATE	No check-out—the guest leaves a credit card or a large deposit with you upon arrival so that you don't have to collect money upon departure. Or, do not allow any guests to leave the hotel once they come in—this will significantly increase occupancy...
REARRANGE	Rearrange the check-out area; rearrange the procedure for check-out...
REVERSE	Come to the guest's room and allow them to check out there; have guests check out when they arrive and check in when they depart (we don't know, you figure it out)...

Source: Florence Berger and Dennis H. Ferguson, Innovation: Creativity Techniques for Hospitality Managers (New York: John Wiley & Sons, Inc., 1990), pp. 25-26.

SUMMARY OF STEPS

1. Identify the product or service to be modified.
2. Apply each of the verbs on the checklist to suggest changes in the product or service writing the changes in the blank spaces on the form provided.
3. Make sure you use each of the action questions for the listed verbs in identifying possible changes.
4. Review your changes to determine which ones meet your

Here are some additional verbs that might be used beyond what you have found in SCAMPER. You would use them in the same way, forcing them against your product, service, process, or object to be changed.

Verbal Relational-Word Checklist:⁵⁴

Multiply, divide, eliminate, subdue, invert, separate, transpose, unify, dissect, distort, rotate, flatten, squeeze, complement, submerge, freeze, soften, fluff-up, by-pass, add, subtract, widen, repeat, thicken, stretch, extrude, help, protect, segregate, integrate, symbolize, abstract, etc. (*Source: unknown*)

59/33 7 x 7 TECHNIQUE

Another way to improve the utilization of new ideas is the 7 x 7 technique, a series of exercises designed to process, organize and evaluate idea slips that have been mounted on a racking board in seven rows and seven columns (or more, if needed).⁵⁵ Carl Gregory, who developed this technique, suggests that the following steps can help you make sense of all your ideas. You might use suggestions for this technique with a similar process, storyboarding (see Chapter 5):

1. Combine similar ideas.
2. Exclude irrelevant data.
3. Modify ideas to reflect insights gained in the first two steps.
4. Defer extraneous data for future reference.
5. Review past exercises to identify possibilities for alteration or refinement.
6. Classify dissimilar groupings into separate columns.
7. Rank items in each column.
8. Generalize each column using its main idea as a heading or title.
9. Rank the columns from left to right on the racking board according to their importance or utility.

Brief explanations of these steps follow: