

**Essay #2 - IDEAS AND PRINCIPLES TO HELP THE DESIGN AND CONSTRUCTION
PROFESSIONAL HAVE FUN AND BE PROFITABLE**

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Section 1 - Introduction

Design and construction practices over the past few years have changed. The changes have made it imperative that small and medium size company management must improve their skills to survive. They must direct their businesses more competently, work better than previously toward achieving their objectives, become more expert in the services they provide, and above all ---- have much more fun while they are practicing their skills as professionals.

My recent management experiences with many practitioners during this period has convinced me that if we are to achieve these worthwhile goals we must find better ways to do what we have chosen for a career. We must also find and adopt innovative technical and professional techniques to put the "zing" back into our work and play!

I have chosen a simple straightforward method to start your creative mind running with ideas that can be implemented now. The method is designed to make you step back, look at what you are doing, and help remind you of the way you wanted to work when you first started in the construction profession. These methods were once called "setting your goals and objectives."

Many of us have drifted away from these initial desires and dreams as we became immersed in the details and needs of everyday business life. Let us take a brief trip back to the start of our careers when things seemed simpler, most buildings were glamorous, and we were eager to be successful as a professional designer and constructor --- successful, not as a cash cow to earn more money than we could possibly spend, but successful in being good at what we did, so long as it produced significant design and construction.

Section 2 - Questions of help in setting business objectives for business model

Let us begin our review trip by asking a series of open questions about your business goals and objectives:

If you are about to prepare a new business plan, or to overhaul an old one, an essential first step is to ask and answer those questions that will give you answers from which to establish a valid base plan. Listed below are examples of some of the more important of these questions to be answered to allow you to get off and running in the right professional direction.

They are habit forming, open questions designed to encourage you, rather than force you to look ahead. Notice they are questions about YOU! Your talents and abilities should help you supply the answers to improve your team's performance, your company's reputation, and your own knowledge of your profession. Learning how to improve yourself will encourage others around you to improve themselves.

Here are the starter questions:

1. What business am I in?
2. What is my principal product or service?
3. What market do I serve?
4. What common qualities define my customers?
5. What is my predominant image with my clients?
6. What is my major competitive edge over others in similar businesses?
7. Where am I at a disadvantage compare to my competitors?
8. What business do I want to be in 3 years from now?
9. What major changes will I need to make to get there?
10. What do I consider is an adequate return on my investment?
11. What is my present return on investment?
12. What market share do I have now?
13. What market share do I want next year?
14. What is my major strength?
15. How am I using it?
16. What is my major weakness?
17. What are my specific goals for profit improvement?
18. In what ways do my personnel policies chafe my employees?
19. To what degree can I count on my key people?
20. How can I finance growth?
21. How can I have more fun doing what I do?

Section 3 - Breaking Out of the Rut

After answering the serious questions above, it may be difficult for you to return to question 21 and consider how to regain your fun sense of the creative world. Let us try an experiment recommended by Gerald D. Hansen, former President of the International Builders Exchange. He named his experiment "Get Out of That Rut." Mr. Hansen goes on to say "Life runs smoothly and uneventfully when we follow a regular routine. But when we allow our daily routine to blind us to new ideas or choices, we pay a price. People who make creative breakthroughs are the ones who are continually looking for different ways to do things."

He suggests you try a few of these habit-breaking activities.

- Speak to someone you see everyday but have never spoken to before.
- Rearrange your work area.
- Take a different route to work in the morning.
- Part your hair on the other side.
- Sign up for an activity you have never done before.
- Use your left hand if you're right-handed, or right hand if you're left-handed, for one day.
- Pretend you're a photographer. For one day, look at your surroundings as opportunities for unusual photographs.
- Read a novel, except the last chapter. Then write your own ending.
- Eat lunch in a different place, with a different person. Order something have never eaten before.
- Draw something you see every day. Don't worry about how good the drawing looks, but pay attention to how you "see" the object.
- Read a book on a subject you know nothing about.
- Pretend it is your first day at work. What are your reactions?
- Find a new use for an object commonly found in your work area.

Section 4 - The Line of Action in Design and Construction

The relationship between setting goals and objectives, and then breaking out of destructive ruts that prevent you from achieving your targets may reduce your probability of success. To improve your thinking patterns and keep you on a success path it is helpful to maintain a specific action line in the activities by which you plan and implement your work, particularly your creative work.

The line-of-action is a simple statement of the range of tasks necessary to conceive, design, build, and operate an environment. The line begins at a point referred to as the recognition-of-need with the succeeding actions following a sequence which usually, but not always, overlap during the process. A workable sequence which many professionals use is shown below in Figure 1, starting at point A - the recognition of need, and ending at point B - the discharge of design and construction responsibility.

FIGURE 1 - LINE OF ACTION

A. Recognition of Need

- 1 Conceive
- 2 Program

- 3 Articulate
 - 4 Approve
 - 5 Design
 - 6 Construct
 - 7 Turnover
 - 8 Operate
 - 9 Maintain
- B Discharge of
Design and
Construction
Responsibility**

A brief description of each step is outlined below to help understand its importance to a total project or program concept.

Recognition-of-need is the point at which a requirement for a new or updated environment is first felt. The planning, design and construction professional is usually involved deeply in this creative stage since recognition of need is the starting point of the line of action --- the entire planning, design and construction activity begins here. The true work then begins with the conceptual stage.

1. Conceive

During the conceptual period the need, which may be for increased facility size, larger dollar volume capacity, more effective handling systems, or a variety of other requirements is visualized and articulated in rough form. The visualization may be a pencil sketch or may remain an idea in someone's mind. Here is where the project sees its origin. It is this early idea that often carries the theme through to its successful conclusion. A good conceptual grasp of the program is essential if the project is to be successfully completed.

2. Program

In the programming phase, the needs of the concept are put into easily understood tabular form - so many square feet for storage, so many square feet for office, so much floor to ceiling height for shipping facilities, etc. The actual physical demands of the environment are set in the project program.

3. Articulate

Now the concept and program are combined into preliminary construction language. Floor plans are drawn in accordance with program requirements. The facility arrangement is shown in accordance with the project or program functional analysis. Materials are called out as the concept requires, and the project or program is clearly shown in words, charts, sketches, and photos.

4. Approve

This is a critical necking-down point in the line of action. By now sufficient work has taken place so the managers and the ultimate decision maker can understand the project - can say: "I like this or I don't like it; change this, revise this; let's

increase that a bit; let's cut down here": finally saying: "OK, I'm satisfied with this set of ideas. The concept and program looks workable; we have the financing and the land control - let's move on!" Approval almost always unlocks the full design and construction phases of the project.

5. Design

Design molds the products of the previous four steps into a set of construction documents that are the vehicle to allow the architect and engineer to translate program concepts into systems and materials.

6. Construct

Next, the programmed environmental construction begins. Start of construction is the point in the line of action where the project end product begins to be visible in a real sense.

7. Turnover

When the facility has been built, it is turned over with appropriate operating and maintenance manuals, to the owner or tenant. Turnover is a critical step, and when done properly, insures that a valuable commodity, the completed environment, is properly transferred to those who must use it.

Neglect of good turnover procedures is often the cause of serious callback problems. We certainly wouldn't turn a complex piece of machinery over to an inexperienced operator and expect he or she would or could make it perform 100% right from the start. Neither should we assume that an owner and user can take a new environment that has just been completed and immediately operate it at full efficiency and effectiveness.

Time should be spent during turnover to explain to the operator and user how this newly-built environment is to function.

8. Operate

The facility is now run-in and begins to achieve its full purpose. Operation is an important responsibility. Often the designer and builder will provide operational functions in connection with a new environment on a paid contract arrangement.

9. Maintain

Maintenance of the physical environment is the marketing and sales door-opener to future projects for the program and project team. It also assures that the environment that has been nursed through the previous eight stages will be maintained correctly so it works at its best for those who must use it. The maintenance contract provisions are perhaps one of the least explored areas in the more sophisticated approaches to environmental design and construction. It is a profitable business in itself that many architects, engineers and contractors are now able to offer as an added service.

The end of the line of action is when the owner, the user, the programmer, the designer and the builder of the environment have discharged his or her responsibilities. In a continuing trustworthy relationship, the line of action has no end since before a project is finished, the competent professional will be re-involved with their client in another program and another line of action.

Section 5 - Levels of Construction:

I have been using, teaching and watching lines-of-action in work for more than 40 years on several hundreds of projects and programs. With few exceptions the system has been well understood, easy to apply, and successful

However over the past few years our planning, design and construction profession has moved toward more complex delivery systems that tend to centralize responsibility, authority, and liability patterns in fewer and fewer people. This characteristic has encouraged a collateral movement toward accurately identifying the various management levels at which individuals, teams, companies, and organizations operate on their projects and programs.

This trend began with a gradual increase of skill requirements as the level of technology was extended into more and more specialized areas of work. Work began to be measured by the amount of education and training that was required to do the work. From these measurements has emerged four basic skill levels that are becoming visible on the planning, design and construction horizon.

- Specialized construction - (S building),

A field of business practice that encompasses single phases of the building profession. Examples of "S" building organizations are architectural/engineering firms, landscape architects, urban planning companies, mechanical contractors, electrical contractors, plastering contractors, and site work contractors, among others. S construction organizations include any single organizational unit, specializing and active in closely related design, planning and construction fields.

- Macro construction - (M building)

The business, act, or process of planning, designing, building, or improving real estate so as to raise the value of the property. This involves converting a concept and its related construction documents into an actual physical environment. The macro construction process uses some or all of the specialized building occupations (S construction) to build a facility under one construction responsibility management.

- Generic construction - (G building)

A field of business practice that requires the application of all phases of the construction industry, including programming, planning, designing, building, operating, and maintaining facilities. This sequence is described best as the full

set of activities shown in the nine elements of the line of action. Note: See the description of line-of-action in Section 2 of this essay.

- Universal construction - (U building)

Universal construction is the application of S, M and G construction in the full range of economic, business, technical, social, professional and other components that make up our world civilization. It is an all inclusive building and construction name applied to our profession of S, M, and G building.

The elements of U building collectively make up a total enterprise or effort that ultimately results in the creation of a physical object that is useful to the society engaging in its creation.

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2332 words - approximate
reading time = 10 minutes