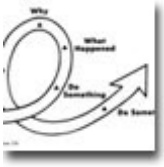


Designing Effective Work Systems For Greenfield Sites

Expansion - *November 1988* - By Paul Gustavson

Expansions requiring a relocation offer companies the opportunity to completely redesign the work place and to introduce new management techniques

San Jose, CA: There is an old Irish saying that asserts: "If you always do what you have always done, you will always get what you always got."

This statement is demonstrated by many companies But some plant start ups achieve productivity levels that are 30 percent to 40 percent better than their counterparts with similar technology at other greenfield sites because the organization is doing things differently.

What the more successful start ups do is use an organizational system model to analyze the functional and interpersonal needs of the work place Then, they design a work system using the results

Getting What You Design For

For nearly 15 years I have been involved in designing and learning about high-performanee, high-commitment start ups When I began researching what makes one plant so much more successful than another, I was looking for the one best answer.

I soon learned from some of the pioneers in this field, such as Bill Dyer, former dean of Brigham Young University's business school, Herb Stokes with Proctor & Gamble and John Cotter, a founding member of UCLA's Center for Quality of Work Life, that there isn't one best answer. However, there is a process and a methodology that seems to be very helpful in designrng high-performance organizations.

Perhaps the single most important lesson I learned is that you *get what you design* for. I learned early on that it is important to understand the cause and effect relationship between the ehoices made in designing an organization, the behaviors and feehmgs those ehoices elicit, and the impact this has on the organization.

I also discovered that there is a powerful conceptual framework which can be used in thinking about these relationships It is called an **organizational systems model** and it can be used both to perform a needs analysis before the design work begins and, ultimately, to create the work design.

The model (see chart on page 22) is a brief description of all the components that, together, contribute to the success of a new organization (plant). In reviewing the chart it is important to understand that the model is based on the presumption that a successful start up is one in which the three major categories of business-environmental (customer satisfaction) flnaneial (profit and loss) and human resources (turnover) are infuenced by the behaviors, feelings, activities and attributes of members of the plant.

People, not technology, have the greatest influence on how successful a greenfeld site will be. That is to say, if the members of the plant are highly motivated and committed, therr actions will have a positive impact on the organization's results

The difference in results between a "turned on" work force and a "no worse than any other work force" can easily be 50 percent to 100 percent better.

Commitment and Performance

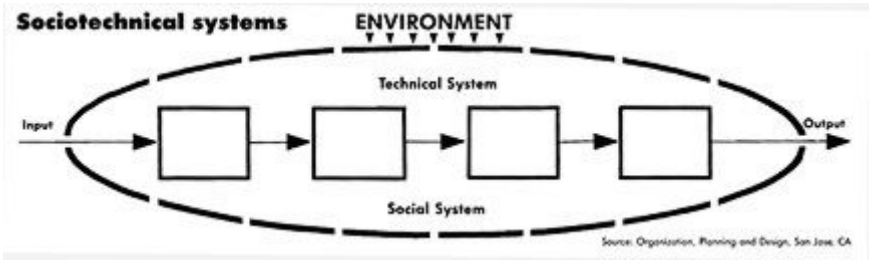
The key, then, is to understand what motivates employees What seems apparent from observing highly successful plants is that people are heavily influeneed by their environment. Tb elicit a certain type of behavior, an environment must be created that encourages that behavior.

For example, if you want members of a greenfield site to work together as a team, then you might want to design your pay system to reward team results rather than individual behavior. Also, the company might decide to get rid of ranking and rating systems of evaluatmg people since this drives individual competition.

The **organizational system model** (see chart on page 22) identifies 10 categories of organizational design choices that, if implemented, will influence the behavior and feelings of people within the organization and encourage a certain attitude toward work or a certain performance level.

Within each of the 10 categories there are a number of choices that must be made before the start up begins which will determine priorities and patterns of behavior. Of the choices within categories there also are a number of different options.

Before implementing any work design it is important to understand first that their are many categories of choices that must be made and many choices within those categories to decide upon. Remember, there is no "just one" best answer. Decision makers select options that (hopefully) will result in a desired pattern of behavior or feelings within the organization.



Clean Slate

Unlike working within an existing facility, start ups provide an exciting opportunity to begin with a clean slate. At a greenfield site you don't have to do what you have always done because you know what the results are going to be.

In relation to making work design choices, I learned from people involved in successful greenfield sites that there are four key factors to remember:

- **Organizational design choices are influenced by external factors.** Existing laws and regulations, the community and the parent company's culture are examples of external influencers. Therefore, it is essential to understand what those external forces are and how they might influence the ultimate design choices.
- **Design choices have a cause and effect relationship on the new facility.** It is necessary to understand the cause and effect relationship between any choice and the behaviors and feelings that will result.
- **Options within design choices must be selected with consistency.** Understand that all the categories of design choices contain numerous options and that all of the organizational choices selected need to be congruent and send the same message.

  An example of an incongruent design choice selection might be asking team members to run their team as if it was their own business, but then not sharing with them the financial data they need to make decisions, or not allowing the team to make decisions about scheduling task assignments or about allocating resources.
- **A thorough facility needs assessment must be conducted before implementing a new system.** Analysis tools need to be used in order to determine which options within a design choice category will elicit the desired behavioral response.

  The best analysis tools available to date to assist in this data-gathering process are **sociotechnical analysis tools.** These include an **environmental scan, a technical analysis and a social analysis.**

  An environmental scan is the process by which the organization understands the requirements of its customers and external influencers. A technical analysis is an understanding of the conversion process associated with input and output. A social analysis helps the organization understand what its employees need in order to regulate the technical system and produce output.

  Starting a new plant in a greenfield site is an opportune time to build on what works in existing facilities, and make quantum leaps in performance by moving away from traditional, autocratic, hierarchical, control-based plants and toward innovative, participative, flat, self-directing, high-performance, high-commitment work environments.

Achieving High Performance

Achieving a high-performance, high-commitment work site is the ideal. Unfortunately, there is no one best way to realize this goal, but there are ways that are better than others. The organizational systems model attempts to put limitless choices into a manageable format so that reasonable choices can be made within a framework.

A powerful concept I have learned and used in plant start ups as a means to help determine what the final work design will look like is the living systems theory.

This theory asserts that all organizations are living systems and, as living systems, are dependent on their external environment for survival.

Like any living system, organizations take in raw materials, which they convert or transform and then put back into the environment in a different form. It is the ultimate goal of the organization to make its output compatible with, while also satisfying the needs of, its environment.

To accomplish this, the organization must understand the requirements of both its customers and its influencers. Influencers might include regulatory agencies, the goemment, stockholders or suppliers.

Other models exist to help us visualize and understand some specific phases in the design process.

There is, for example, the transition planning model (below). This model illustrates a process by which an ideal future work environment can be envisioned. First the ideal environment must be conceived of, then there needs to be an analysis of what has happened in the and, finally, a transition toward the ideal state can be planned.

Another tool essential to designing greenfield sites is the corkscrew model shown below. This model illustrates the importance of developing a hypothesis about each design option before it is selected.

For example, if the desired outcome of a particular option is to have team members committed to the success o£ other team members then an environment must be created that will encourage team members to care.

One option would be to have team members select other team members rather than having personnel select the team members. The theory being that team members involved in the hiring process have more at stake than individuals that are not involved in the "hands on" process If the team has selected its own members, then each participant is more likely to be concerned about the success of others.

The corkscrew learning process also allows companies to receive constant feedback on whether or not their choices are encouraging the desired results.

Basically, the process is as follows:

- An option is selected.
- An outcome is predicted.
- The design choice is implemented.
- Resulting behavior is tracked and the following question asked:

  What can we learn from this?

A new hypothesis is established, based on the results.

- New design choices are selected.
- A new outcome is predicted.

This then, provides for continual improvement.

These are the concepts, tools and models which are used in high-performance, high-commitment plants that plan and choose work designs. How successful they are depends, in large part, on how committed senior management is to the design and its outcome.

In redesigning their work sites many companies, including Embassy Suites, Digital Equipment Corp., Exxon, Xerox and AT&T have experienced significant improvements in productivity and quality.

Ten Questions to Ask When Designing a New Work Environment

1. What is the mission or purpose of the plant? What is its reason for being?

2. What are the goals and objectives for the plant and what is its stated operating philosophy?

3. How does the company deal with external influencers such as customers, regulatory agencies, the government and stockholders?

4. What are the technical systems (tasks and technologies) used to convert the organization's input into its output?

5. How are people organized? What operating, managing and strategic systems exist?

6. What are the decision-making and information-gathering systems?

7. What skills, knowledge and attitudes are required of workers in the organization?

8. What are the "people systems?" How are people attracted, selected, oriented, assimilated, assigned, trained, certified and transferred? And, how are performance contracts established? How is feedback given?

9. What are the reward systems?

10. What are the renewal systems? How does the organization adapt to change in its external and internal environment?

Steps Toward Improving Productivity Through New Work Designs

What follows is a step-by-step process for the design of a new plant or service operation:

1. Develop a clarity of purpose and vision about the new plant-what product and/or service attributes will be emphasized, what will stay the same, what is likely to change, what new ideas should be introduced.

2. Develop a statement outlining the plant's objectives relative to the needs of customers, owners and employees. Propose a plant-operating philosophy and a set of design guidelines for the new organization.

3. Develop preliminary recommendations for how the new plant will be set up and organized based on the desire to meet the performance requirements already identified.

4. Agree on a design process Establish an advisory committee. Write a design-development schedule and discuss the schedule with top management and the advisory committee.

5. Identify those individuals and groups who will play a significant role in supplying, supporting or receiving products from the new plant. Analyze their needs, expectations, requirements and relationships relative to the new plant and clarify how these will be satisfied.

6. Analyze the proposed product flow in the plant, paying particular attention to identifying, effectively controlling and, where possible, eliminating sources of variability in the raw materials and/or in the manufacturing processes.

7. Analyze formal and informal interactions and relationships between functional groups and business units in existing plants and in the proposed organization.

8. Develop coordinating mechanisms for the new plant that retain the strengths but eliminate the weaknesses found in current organizations.

9. Analyze traditional work practices related to task assignments, specialization, job design, classification procedures and individual reward systems.

10. Review the relevance of such procedures and reward systems in the context of employee performance requirements end demands on the new plant.

11. Develop detailed recommendations for how the new plant will be structured based on meeting the performance requirements identified and analyzed earlier.

12. Make sure that these recommendations are consistent with the operating philosophy and the design guidelines previously developed and agreed to with other relevant parties The full range of choices

considered should tee examined together with suitable cost-banefit analysis to support the recommendations finally put forward.

13. Develop a hiring and start-up plan for the new plant. This should include orientation processes, together with both technical, business and team-based training, and certification programs for employees being hired or transferred into the new facility.

14. And finally, appropriate development, measurement, evaluation and renewal-systems should be designed to support the plant during its first three years of operation.