

## A PLANT TOUR

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Any time an Appraiser is required to value a business, it is essential to undertake a plant tour and interview operating management. Most of the Business Valuation literature pays little attention to this element. For example, in *Valuing a Business*, (Second Edition), the Index goes from Piper, Estate of William T., followed by Pollack, Irving M.; none of the words "Plant", "Tour", or "Interview" are listed.

The "Data Collection Checklist for Business Valuations" included in the "Guide to Business Valuations" is slightly more helpful; at the end of the section "Other Company Data", it adds:

"Practical Consideration:

The consultant should visit the company's facility and conduct interviews with key personnel to obtain an understanding of the product or service flow and more information on the company's operations."

Nowhere does it tell you what to look for and the type of questions to ask. This column is an attempt to fill that void.

### **Background**

Plant visits allow the Appraiser to build a better understanding of the operation's performance potential, establish the quality of the work force and have an understanding of the assets on the balance sheet. Almost everybody who works for, or supplies services to, a manufacturing company can benefit from seeing a factory first hand, even if the plant is not part of a current assignment. The store of experience created by years of plant visits is extremely useful for future assignments.

Reading financial or even management reports, cannot give a clear picture of the operations of a plant. Factories are as difficult to understand solely by looking at numbers as they are to manage that way. Traditional reports rarely present an up-to-date, thorough, picture of an operation. Financial information tends to reflect the plant's activities as they were in the past. They rarely reflect its revenue generating potential, or the skills or capabilities of its employees. Without bench marks and operational data, such as man hours, it is virtually impossible to use them to assess potential.

## **A Plant Tour**

Most visitors don't begin thinking about their plant tour until they are in the parking lot. The objective is to find out what are the plant's valuable features & abilities, as well as how it operates, and how well it performs by industry criteria and fulfils its ascribed role in the company's strategy.

It is essential not to be judgmental. Do not assume a practice that appears to be "old fashioned" is not efficient. New trends such as "empowerment" and "job rotation" may improve efficiency with a very young force but among older employees can result in confusion. To establish standards of comparison, the Appraiser should visit plants in different industries and parts of the country.

Almost every operation has the same basic problems; how to:

- manage the flow of work;
- translate customers' demands into products quickly;
- involve everyone in process improvements.

How they solve them varies, particularly between industries; people tend to carry customs and practices with them as they move from job to job in a specific industry, making much of it the same.

Plant tours are best performed by a small group; at least two people, each focussing on a different aspect of the operation. One might concentrate on material flow and quality, while the other looks at human resources, management, training and compensation. It is essential to inquire about problems with questions such as:

- Is the material handling flexible enough for new products?
- Can the inventory control handle rapidly changing production?
- Do the work rules restrict the introduction of new products?

## **Conceptual Framework**

Many Appraisers come away from a plant tour with only a vague understanding of what they have observed. They rarely have a conceptual framework to understand and organize what they have seen and heard. With such a framework, questions are more focussed, and the information gathered more helpful. Our framework, which I believe was originally developed by McKinsey & Company, the international management consulting firm, has four parts. These are the plants:

- Strategic Role.
- Structural Alignment.
- Day-to-Day Management.
- Improvement Path.

## **A Plant Tour**

### **Strategic Role**

To determine the contribution of a plant to the value of a business, the Appraiser must comprehend the role it plays in the company as a whole and whether the plant managers understand this role. We believe the best way to understand this is to ask questions, such as:

- What does this plant do exceptionally well?
- Does it aim for low costs?
- What is the trade-off between costs and quality?
- What can't you do well?

Many plant managers use phrases such as, "best practice", without relating them to the strategy of the business. Manufacturing plants produce two kinds of products: commodity oriented items, usually in large volumes; and specialty items with short lead times, normally in smaller quantities. Each type requires a separate plant layout as well as different skills and practices. In general, the specialty items have higher margins and greater capital requirements.

During the plant tour, ask management about their priorities and try and determine if their decisions actually reflect them. Talking to the people on the floor is important. More and more plants rely on operators as a source of new capabilities rather than simple machine tenders; it is important to find out if their perception of the plant's role is the same as the managers'.

- Is cost, quality or flexibility the highest priority?
- Who gets information concerning the plant's strategic role?
- Does it result in appropriate actions?
- Are the performance measures related to the plant's mission?

If it becomes clear during the tour that the plant does not have a clearly defined strategic role, it is essential to try to find out why not. It may be as simple as a conflict between the statement of objectives, such as "responsiveness to customer's needs" and the performance measurement adopted, such as pounds produced.

### **Structural Alignment**

Once the Appraiser has identified the plant's strategic role, he must ask, "does it have the right equipment to do the job?" Without the proper tools, even the best managers could not make a plant function well. Don't limit your focus to things that work well. Look for evidence of excessive investment or complex "monument" systems.

For example, on a recent visit to a metal fabricating company, the aisles between the machines were obstructed with carts containing inventory; this suggested not only excessive inventory, but also higher than necessary costs as one batch had to be moved out of the way before another could be processed.

## **A Plant Tour**

Important questions include:

- What is the most efficient piece of equipment in the shop?
- What items require the most maintenance?
- How did the last purchases of capital equipment work out?
- What are the white elephants in the plant?
- What is the condition of the building and equipment?
- Is there a preventive maintenance program?

Structural alignment refers to more than "hardware"; it includes "software", the manual and computer-based systems and processes that run the plant. These range from routing cards and stock tags to ERP (Enterprise Resource Planning) systems. As they interact with a physical environment, computer systems for manufacturing are notoriously complex; individual sub-systems are added at various times when needed and may not communicate well with each other. Establishing the capabilities of an operations information system is complex, but the following types of questions, which show how the operators view the system, are useful.

- How complex and well-integrated is the information system?
- Does the system help make better decisions?
- What would they do to improve the system?
- When was the system last changed?
- How easily was this done?
- Does it now better meet the needs of the plant?
- How often is the system down?
- Can information be entered only once?
- Must it be re-entered from one system to another?
- Does everybody understand why the information is needed?

In a plant tour, rapid assessments must be made with only evidence from one's eyes and ears. In such circumstances, the views of the people who actually use the equipment are a good guide. Some complaints and grumbles are normal, but widespread dissatisfaction with the plant's equipment and systems shows something is amiss.

### **Day-To-Day Management**

A manufacturing plant operates on three levels. The first is a set of processes which transform material and information from one form to the next. The second is the systems that facilitate and coordinate these processes. At the third level, it is a community of people. A plant can have the most efficient processes and systems, and yet without a common sense of purpose, it may flounder competitively.

## A Plant Tour

### *Processes*

On the plant visit, when assessing the processes, look for excessive scrap and high product-or-process variability; these are signs of poor management. Information about product variability is normally freely available; this metric is usually carefully tracked and compared with historical data. Process variability, which is at least as important, is harder to determine during a tour because appropriate measurements are not always made.

Some questions that can help:

- Is the manufacturing process treated as a science or an art?
- Is it likely to vary irrespective of the particular operator?
- Do the employees understand the causes of product variability?
- Are systematic attempts made to identify its sources?
- Does one or more machine frequently fail to produce-to-spec?
- Do the operators know which variables to monitor?
- Are standard procedures followed when the process fails?
- Is there a rigorous review of the causes of machine down-time?

When a process fails, the staff of a well-managed plant acts like good detectives in searching for clues. They insist on knowing why the failure occurred and make sure that they take steps so that they do not happen in the future.

### *Systems*

In looking at the second level, the processes, it is important to establish "who actually runs the shop" decides what to make and when and deals with problems such as late or missing orders. Establish if this person knows how to handle a crisis (a sign that they are common), or who finds solutions to problems before they arise (a sign that they are not).

The following simple ratios give a measure of how well existing systems are being managed.

- How many days production is the work-in-process?
- How much as the man-hours per unit changed in the last year?
- How often did the delivery date meet the customer's request?
- How much of the total through-put time is actual processing?

### *Community*

To assess the plant as a community see if employees are caretakers of the equipment or act as craftsmen involved in the overall process. Caretakers watch the production and hope that nothing will happen that requires them to act. They feel entitled to their jobs and want to be paid for their time and experience rather than for actual actions. Caretakers frequently use the word "they" referring to management, another department, or a different shift as a source of their problems.

## **A Plant Tour**

Craftsmen, on the other hand, grasp the entire integrated process not just their piece bit. They look for facts, insight and feedback. They will challenged established methods and make suggestions for improvements. Plants usually have a mixture of caretakers and craftsmen. During the tour, look for patterns; are the caretakers primarily in one area, function or shift? How does the existing mix affect performance?

### **Improvement Path**

The final element of a conceptual framework for a plant visit is whether managers have identified and articulated an improvement path. If both management and the employees are aware of this and can describe it, it is much more likely to be successful.

At the risk of sounding like an audit checklist, we have set out some examples of the questions to be asked about the improvement path; they have been organized into the seven elements by which our firm categorizes an improvement path.

#### *Context*

- What is the competitive environment for the organization?
- What pressure for improvement comes from the environment?
- How does the operation compare with industry standards?
- What areas need improvement?

#### *Goals*

- What are the specific objectives and time horizon?
- Is the emphasis on lower costs or faster responses?

#### *Focus*

- Has the improvement effort a clear focus?
- Is it on activities that occur in several departments?
- Is it on problems in individual departments?

#### *Methods*

- What methods have been selected?
- Are they appropriate for the indicated goals?
- Are standard techniques applied?
- Is statistical process control being used?

#### *Resources*

- Have adequate internal resources been allocated?
- Has the experience of the organization been drawn on?

## **A Plant Tour**

- Are consultants being used?
- How many people are actively involved in the process?

### *Organization*

- How many improvement projects are underway?
- Over what time frame will they take place?
- What is their sequence?
- Have they been assessed for effectiveness and efficiency?
- How are the teams organized?
- Do the teams follow the existing organizational structure?
- Are there cross-functional teams?
- Do the people have the right skills, ability, and authority?
- How often do the teams meet?
- Are there regular status reports and process reviews?

### *Learning*

- How is the new knowledge recorded for future projects?
- What efforts are being made to enhance the process?
- How is "reinventing the wheel" avoided?
- What efforts have been made to learn from other operations?
- Is there evidence of "scheme burn-out"?
- Does management carry out post-project audits?
- How do the teams involve others with relevant experience?

## **Conclusion**

Anybody going on a plant tour will benefit greatly from setting clear objectives and applying a conceptual framework to interpret what they see and hear. This column has set out our approach; obviously there are others, but there is one essential prescription for making the most of a plant tour; do it frequently. As one visits more and more plants, one builds a mental database of comparisons for subsequent visits. Even the plant, in a totally related industry, can help build that base.

The essence of a successful manufacturing organization is its ability to do something of value for its customers that its competitors cannot. This is the plant's contribution to the value of the enterprise. A plant tour is an essential part of the process by which an Appraiser develops an understanding of these abilities and how they might be exploited.