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Note on How to Approach POM Cases

Many Production and Operations Management cases involve looking at an operating unit, diagnosing what if anything is wrong, and fixing the problems. Others involve making plans for the future. In these cases, there are six steps to follow. If in a given situation you are not sure where to start, then looking at this list should help. It is also a useful checklist for thorough analysis and recommendations in a real situation. These steps are only a recommendation. In any given case, one or more of the steps may be relatively straightforward or brief, and a different one may require most of the analysis and thinking. Sometimes you may start in the middle and work backwards. Solving POM problems is often more of an art than a science.

Step 1. What does the operating unit have to *do well*? (For convenience I will talk as if the level of analysis is one operating unit, e.g. a single plant.) Usually this will mean looking at its product or service, looking at its customers to find out what elements of the product or service they value most highly (cost, reliability, features, fast delivery, product variety, etc.) and sometimes looking at competitors to see which market niches they have already filled up or where they are challenging the operating unit. Keep in mind that it is usually impossible to design an operating system to do everything better than its competitors.

Step 2. Ask what's wrong--that is, the *symptoms* which are causing concern to the management. These may be as vague as declining profits, or as specific as inventory up, or unacceptably high rework and scrap, or late deliveries. These are the symptoms which, if not corrected, will hurt the operating unit and the firm's profitability and future viability.

Step 3. Do a *diagnosis* of the underlying causes of these symptoms. This is where you will begin heavily using the specific analytical tools such as process flow analysis, information flow analysis, looking at the cost structure of the operating unit, or whatever is appropriate for the level of detail in the specific symptoms. Diagnosis in POM, as in other parts of management, is usually not cut and dried. It requires some creativity and some willingness to look at several ideas to see if they could possibly explain what is going on. Sometimes several symptoms will be due to one major underlying cause. More often, the operating unit will have several different problems, especially if its environment or its management have changed recently.

Step 4. Once you have at least a tentative idea of the underlying diagnosis, ask what *management levers* are available. Usually the case makes them fairly clear (a lot clearer than is often true in real life). For example, the case might be about capacity expansion. The major levers are adding new plants, new equipment or more people. Sometimes there is a very specific choice among several different processes, or ways of organizing information flow or workers.

This note was prepared as the basis for class discussion.

However, in other cases there are opportunities to be really clever here. Think of ways of redefining the problem or of using unconventional new methods to break out of the problem. For example, look at managing demand. (Altering customers' needs or perceptions to conform better to what we can do, instead of vice versa.)

Step 5. The fifth step is to perform further analysis which shows whether and *how much the changes will fix the underlying problems*. Here you do more heavy number crunching, or careful logical analysis. Your first goal is to figure out whether the changes you're proposing will indeed fix the underlying problems. Your second goal is to figure out the comparative costs and benefits of those changes. Your third goal is to figure out a rank order for the levers available to management, and how much each of those levers should get pulled. For example, there may be several different ways of expanding capacity, each of which has somewhat different effects. Which different type of capacity should be added, and how much?

Step 6. *Step back.* Look for unplanned side effects of your changes, and interactions among them. Look at the bigger strategic implications for the firm as a whole of the change your are proposing. . . . If it solves the immediate problem, will it cause bigger problems in the future? Or conversely, will it give the firm new techniques and new skills, which it can apply outside of this particular operating unit? Have you solved all of the problems you identified? What can go wrong?

Step 7. Set your plan of action. Set priorities on what to do first. Think through your contingency plans: How and when will you, as the manager, check to make sure your actions have had the anticipated effects? What can go wrong, and how will you respond? If it is premature to commit completely to an irrevocable course of action, exactly what experiment will you perform to get the necessary additional information before you commit?