WHAT TO DO UNTIL THE CONSULTANT ARRIVES

The life span of a distribution center is finite. As the business grows, customers demand more, and selling patterns change, internal resources and facilities can reach their upper limits of productivity. Changes are required to continue shipping orders or to expand the business further. These changes can be made internally or with the outside assistance of a management consultant. In either case, a significant amount of operational information and data must be collected and analyzed.

If a management consultant is used, the operating staff must be informed of the decision and the reasons for making it. At the same time, the Information Systems department needs to be aware of the use of outside support and the requirements for data that they will have to extract from the systems. Some recommendations from the consultant may even include changes to the information systems.

The old adage for selecting real estate is location, location, location. In a distribution center study, the three criteria to a successful project are data, data, data. The specific data required will vary based on the scope of the project, but most distribution center projects require similar base data.

Most studies, particularly where improvements of an existing operation are required, start with a CAD file of the facility. If this is not available, building measurements need to be taken to get the layout onto CAD. The existing material handling and storage equipment in the building needs to be included in the layout, as well as a note on the condition of each item. For pallet racking, beam and upright capacities and dimensions must be recorded. For lift trucks, capacity, aisle width requirements, heights, age, and running hours are important.

The IS department needs to gather the SKU level data required for the completion of the study. Much of the movement information will have been captured as part of the sales history. Information about units and cube shipped by week or month for the last year is vitally important to the study. Many of the recommendations that will result in the final design will depend on this volume data. Because of the amount of data involved, having the data available in a universally readable format is helpful (ASCII text files, Microsoft Excel or Access databases, or equivalents).

The second category of data that should be collected is inventory by SKU. Because any inventory is just a snapshot, it is helpful to have inventory levels for different time periods. Of particular importance are peaks and seasonality. Often, this information is available from historical file records. Along with the inventory in units and cube, it is important to collect data on the physical aspects of the products, including number of units per carton, carton sizes, cartons per pallet, and carton weights.

This is some of the information that the internal or external consultant will use to design optimal storage and handling systems for a distribution business. These areas typically account for the largest amount of the space in the distribution center, but are not necessarily the part of the operation that is most critical in fulfilling customer orders. For that reason, an in-depth analysis of historical customer order data is required, typically sales histories for the past twelve months. Important information to be gleaned from these files includes: the number of orders, lines, pieces, and cubic volumes sold; the number of on-time shipments and back orders filled; and any special handling or processing requirements, such as specific temperature or hazmat concerns. These files help to determine the way orders should be picked and processed to fulfill customer requirements.

To understand the flow of material across the dock, the activity logs are a good place to start. If they are not available, information on both inbound and outbound shipments should be collected as needed. Logs can be created to include time of arrival, time that a dock door is in use, number of pallets loaded and unloaded, number of SKUs on a shipment, number of non-palletized cartons, and time of departure.

If the project scope includes changes to procedures, any documentation that exists on present operations should be collected. It is helpful to have a complete set of documents that follow an order through its complete life cycle.

Another key component of information to be collected is the projections of future requirements during the life of the facility. These forecasts include increases in the volume of existing SKUs, changes in the number of SKUs, additional service provisions, and changes in the sales units. While forecasts are not always accurate, it is important to try to determine the most detailed projections as are currently available.

In addition, some questions about projections should be directed to individual business unit managers, where applicable. These include:

- Are there anticipated changes in your division affecting the warehouse operation?
- Will receiving patterns change?
    - Greater frequency with smaller quantities?
    - Seasonality?
    - Commodity pricing/advantageous buys?
- Will there be any changes in the unit load?
- What about packaging changes, or the ability of products to stack on one another?
- Will there be new customer demands for labor-intensive services, such as customization, special labeling, price ticketing, or repackaging?
- Will customer order patterns change?
    - Greater frequency with smaller quantities?
    - Seasonality?
- Are there anticipated changes in the mix of vendors, or vendor provided services?
- Are there anticipated changes in the mix of SKUs or specific storage and handling requirements?

The data collection phase of consulting projects is an absolutely necessary component for effective design. The failure to obtain good information is the single greatest cause of problems and delays in the completion of a project. Using the time before the internal or external consultants arrive to gather this required data would assist greatly in a faster and more successful design project.