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Application of Course Concepts at Aldo

Individual Research Project

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P421: Supply Chain Management—Planning & Scheduling

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As the manager of a small shoe store called Aldo—that is, a small location within a large global corporation—I have gained a lot of insights about the everyday application of scheduling and planning in supply chain management. I have also seen firsthand how these concepts are applied in the real world, and specifically the major role that they play in daily operations within the retail industry. The Aldo Group maintains four existing brands through its head office in Montreal, Canada. This paper will focus specifically on Aldo, the exclusive brand sold in my store.

Though various course concepts are applicable to some extent in my store, they are much more relevant to the operations activities carried out through our head office, which handles the supply chain management. Supply Chain-related departments at head office include a planning & distribution department as well as a product-buying department. It should be noted that Aldo sells products through an e-commerce store in addition to thousands of bricks-and-mortar locations across the globe.

Manufacturing Planning and Control (MPC) is primarily covered by the planning & distribution team at head office, after the buyers select the products & handle all negotiations with the suppliers, as it primarily involves the planning process to ensure that a sufficient quantity of materials arrive at the right time at the right place with regard to product production and distribution. The planning process begins once the design has been purchased by one of our buyers. We primarily purchase from in-house designers to maintain a unique product line. Then the raw materials—generally real leather or suede—must be sourced. Many of our shoes use leathers from European countries such as Italy and Spain, which are highly regarded. When man-made materials are used, it is a very high quality synthetic, which is sometimes referred to as vegan leather. The types of material used can make a difference in the demand for the product, depending on the market.

The course textbook discusses demand management as the first piece of MPC. One important piece of information to note regarding demand management is the customer order decoupling point within Aldo's supply chain. In our company, the order penetration point is the finished goods inventory that is held in stores, as well as in warehouses for distribution of

online orders. This also means that Aldo is a make-to-stock firm, as our products are completely designed and manufactured before customers are able to make a selection; they are not customizable.

As a make-to-stock firm, the main focus of the MPC system at Aldo is on maintaining the finished goods inventory. It is very important that the staff of our planning & distribution department constantly and consistently track demand by location. Data capturing & monitoring is the primary method for tracking this demand. Aldo has very sophisticated software, allowing each store's POS to track sales, which can be grouped for analyzing in many ways, along with on-hand inventory in real time. These numbers generated through the POS systems in each store are accessible through head office and can be viewed across time increments of a day, week, month, season, or full year. The H.O. team is also able to view the numbers across stores, grouped by any number of factors including country, region, store size, and sales volume of store for more efficient ordering.

We also collect customer e-mail addresses at the point of purchase to facilitate customer relationship management. The company's CRM system prompts the customer to register on our website once the e-mail address has been submitted through the POS which allows additional information to be gathered from the customer. The customer's e-mail is requested with each purchase made in store which allows for tracking of frequency of purchases and types of products purchase by individual customers. This is even more useful when customers shop through our e-commerce store, which encourages customers to be logged in while they shop, as it can track each product a customer looks at and ultimately what purchase decision results. Tracking this individual sales data can help the planning & distribution department create links between multiple products purchased by a single customer, and the sequence in which the purchases are made. This technique would help draw conclusions about demand for new product lines based on previous purchase progressions.

Our products are all categorized with a numbering system, identified by a 3-number code, which groups the products by different classifications. This makes it very easy to predict demand in each location for each product when looking over historical sales figures, as it helps

to show the trends in demand by specific product types. The most basic level of classification is based on a broad product category— men’s or women’s shoes, handbags, or other accessories. The following two numbers each represent a more specific classification; these classifications vary and are each dependent on the previous classification. So for example, the code 11-8-3 classifies a women’s dress shoe with a tall heel while 21-5-1 classifies a men’s “city”-style shoe with laces. Using historical data based on this classification system allows for much higher accuracy in forecasting demand for new products in each location. Each week, we receive a report in store from head office showing the percentage contribution of each product class to the store’s total sales for the previous week. Looking at these trends from week to week myself, it is apparent how useful this tool is in planning & distribution for this company.

Demand forecasts in this company also take various qualitative measures into account, which emphasizes the need for human verification of the distribution plans. Qualitative market assessments such as perception of value/price willing to pay for different products are taken into account. For instance, my store carries most of the synthetic shoes that the company produces because we are located in a relatively low cost mall and many of my customers, while they may have the disposable income to purchase a more expensive shoe, do not see the value in spending more money to purchase a genuine leather shoe. Distribution representatives must also take into account the varying levels of trend awareness in different markets. Being in Indiana, we tend to be one of the last markets to pick up on major fashion trends. Consequently, my store does not receive the products that are regarded as very trendy/fashion-forward, even if the classification identifies the product category as being in high demand.

Considering the physical distribution aspect of demand management, this location-specific demand is vital in determining when, how much & how to replenish stock at each location. As a general rule, stores receive new product shipment weekly. This allows the brand to keep up with the industry demand of “fast fashion,” always having the latest trends available. The frequency of shipments also makes it easier for the planning & distribution team to keep popular styles stocked adequately. When planning each store’s shipments, it is

assumed that some type of planning software is implemented. However, the significant size of this team implies that the software's plans are reviewed by the live staff and adjusted as they see fit. I believe that the distribution employees are allocated by region, with one or a few representatives overseeing the shipments for all of the stores in a single region.

While physical distribution is extremely important, we do also have a sort of buffer in our order system that allows us to capture many sales even when we do not have the desired product in stock. This is essentially an in-store link to online purchasing. However, unlike many retailers, the order management system we use works seamlessly with our POS system, making the process hassle-free for customers. The way the software works allows store associates to enter in-store customer order transactions through the same system used to ring up an in-store purchase. We press a single key before scanning the item to be ordered, then enter the product information to specify what is being ordered (color, size) followed by the customer's shipping information. All orders placed in store are shipped for free and can be sent to any address in the United States. Of course there are times when this option is not viable—primarily in situations when the customer needs a shoe in a short period of time—but the availability of this ordering system has also gained a lot of sales for items that are out of stock in the store. For this reason, it seems to me that the stock held in each store is not as big of a concern as it may be in other make-to-stock environments. What's most important is the availability of a product within the company, which allows the item to be obtained at the customer's request.

Dealing with physical distribution planning, in addition to shipments coming into the store, the above methods of demand management also dictate product recalls. These can be released at any time throughout the year, but the majority occurs between seasons as previous season products need to be moved out of the stores. Product recalls in this company do not refer to defective products as is the case in many industries, but are simply product being moved out of a specific location for any given reason (this usually involves shipping out older products that are not selling as expected in order to create more space for new incoming styles). These recalled products may be shipped for liquidation to Aldo Outlet stores where

they are sold at an additional discount, or to one of the company's warehouses to be held for order fulfillment, as directed by the distribution team.

Forecasting demand for our products, as is commonplace in the retail industry, requires consideration for seasonal demand. Starting late in the fall, and particularly during the time period designated as the "Holiday Season" (generally between Black Friday and Boxing Day), we experience a significant increase in demand compared to the rest of the year. This is mostly due to customers shopping for gifts for the holidays, as well as an increased need for "occasion" wear such as dress shoes that are often purchased for a specific outfit to be worn to any kind of holiday gathering. It seems most appropriate to use a seasonal factor in order to adjust forecasted demand for these cyclical fluctuations in demand. This could easily be calculated by reviewing the historical data generated through the POS systems in each store in order to analyze how the seasons affected sales in the past. This should be done individually for each location as some see more holiday traffic than others (for instance, in Indianapolis, the Castleton Square Mall—where my store is located—is considered a shopping destination in the area and sees significantly more seasonal holiday shoppers than downtown's Circle Centre Mall).

The distribution team must, once again, combine the seasonally adjusted demand with a quantitative analysis of other potential factors affecting demand and must plan accordingly. For example, when the super bowl took place in Indianapolis, our location in Circle Centre received multiple special shipments leading up to the beginning of the super bowl events in order to stock the store sufficiently for the expected business generated that week. There are also repetitive special events: besides basic seasonal demand, all of the locations are stocked very heavily throughout November to prepare for Black Friday.

Using a combination of all of these tools and methods, it should be very possible to create a reasonably accurate demand forecast. This is needed both as a total quantity to purchase and on a location-specific basis to plan for distribution of the inventory. Forecasting demand by location to determine distribution would be a purpose that applies to Master Production Scheduling and Control (MPS). This application is intended for use in the short-term

with scheduling and execution decision-making. Upper management will have little to no involvement in these routine weekly forecasts that command the weekly distribution schedule across all of the company's locations. These forecasts need to be constantly monitored and adjusted as necessary based on updated metrics like sales data & its comparison with previously forecasted data. These forecasts are created for a very short time period—probably one week, which is the standard time between a store's shipment receipts. The management will have very little investment in these forecasts as they do not affect the company in the long term, and costs are minimal since most of the data is automatically generated.

When it comes to actually generating the MPS based on the calculated demand forecast, it must be a very large project as the demand forecasts would need to be generated individually for each SKU. I am truly unsure of the number of active SKUs in the company right now; I would not know where to begin to guess. However, I can only imagine the amount of time it would take to not only generate all of these forecasts and create the MPS for each, but then to continue tracking all of them with updated figures as actual sales come in and demand must be adjusted accordingly. Given the multitude of this process, when considering creating these schedules individually for each product for each store, I imagine that this part of the distribution management is handled electronically. It is likely that there is not much manual adjustment of these forecasts and MPS's because this short-term planning is not regarded as being extremely important and the amount of labor required to check all of this individually would not be cost-effective.

The application of the order promising/available-to-promise (ATP) concepts should also be noted regarding customer orders. These orders are placed by customers through our website or by an employee on behalf of a customer through a POS system in one of our stores (as detailed earlier) and are all sent together to be processed through a single order management system. The orders may be fulfilled in another store or in a warehouse; they are generally assigned to the closest location to the customer that shows the item in stock in order to ensure the shortest possible delivery time. It is really at the point of purchase that the ATP concept applies. When submitting an order in store, there are times that our search system,

which allows employees to view the available locations for any given SKU at any given time, will show the item in stock in multiple other locations. However, when we attempt to submit the order the POS will register the item as out-of-stock. This is due to a combination of a safety stock requirement and an ATP schedule. While we would like to do whatever we can to make any item a customer desires available to her, we also do not want to be in the business of making promises we cannot keep, by allowing said customer to place an order that cannot actually be fulfilled. I would guess that the safety stock requirement is 10 based on experience of the available items that have shown up before when an item was said to be out-of-stock to order. The number of orders already in place is also taken into account at this point, so if there is an existing order that has not been fulfilled for a particular item, that order quantity will be subtracted from the on-hand inventory (available balance) to prevent double promising a single item to multiple customers. This is a best practice to provide the best possible service to our customers.

The Sales and Operations Planning application is probably used by our head office representatives when planning purchases of finished goods from our suppliers. This would be a slightly less detailed plan that looks at product families as a whole on a quarterly or monthly basis for a period of several months to a year. Most of our operations work on a quarterly or seasonal basis, so this is most likely done quarterly in our company. Top management should be more involved in this planning process as investment in the forecasts is moderate. The cost of processing and acquisition for these forecasts is higher than with MPS because there is a lot more data involved.

The way that the SOP plan is laid out is much for beneficial for a better overview of each product's history and allows creation of a more detailed map for future production planning. The inclusion of employee details is important at this stage because buying the product is the step that the company is actually investing a major amount of money, so it is important that we are reviewing these other related costs and taking that into consideration when planning a purchase. It seems logical that Aldo would use a mixed operating plan in its SOP planning. We are an established company that has been around for over forty years now, so our supply chain

specialists in head office should have the experience to create a plan this way. It would be the most cost effective because it applies common sense in addition to the standardized methods and, as with all aspects of planning, it allows for the plan to benefit from human intelligence and information from qualitative data can be applied.

Strategic business planning would likely have been used in some of the major decisions that have been made in the company in the recent years while I have worked here. Several new product lines have been introduced during this time. We have also recently put a lot of investment into expanding one of our sister brands, Call it Spring, into the U.S. In 2012 when rival shoe store Baker's went out of business, Aldo bought out fifty of its locations and opened Call it Spring stores. These investments would have been influenced by much broader sales figures, and top management would have been very heavily involved. These types of forecasts are probably produced less than once a year, as needed, and would likely look at a yearly forecast. The investment by management would be quite high and the cost of processing this data would also be high as it is all-inclusive and would take a lot of effort.

Once all the planning is complete based on the forecasted demand for the final product, we would have to implement Material Requirements Planning (MRP) to create demand and production schedules for the parts needed to produce the end products. This would primarily be the leather used to make the shoes but would also include materials for the soles, laces, zippers, and any other details included on the design for shoes and purses (the company purchases accessories as a finished product). Based on the production schedule for the end items, MRP would be used to determine corresponding demand for each part in each period and a production schedule would then be created accordingly. The most difficult part with this schedule would be determining the amount required of each part in total across all of the different products, but using computer software eliminates that concern.

Overall, it is clear that the manufacturing planning and control concepts covered in this course play a big part in operating a retail corporation. Aldo is an example of how this would be done on a large scale as it is a very big corporation, but the same concepts could essentially be applied in smaller retailers as well. It was really interesting getting to explore the

applications of these concepts in a real-life situation and made it apparent how applicable these concepts are in the industry I have chosen to start my career in.