
UNIT 8 OPEN TO BUY AND UNIT PLANNING

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8.0 OBJECTIVES

After studying this unit, you should be able to:

- explain the concept of open to buy;
- discuss unit planning;
- explain how to reorder;
- describe the format for replenishments and placing orders;
- explain the concept of online inventory.

8.1 INTRODUCTION

Open to Buy and Unit Planning form the part of the merchandise planning process and need to be considered as the continuation of the earlier unit discussed. This unit takes us into the actual realm of the ordering process and hence needs separate attention from the buying and merchandising team. The merchandising team details out their purchasing requirement through the seasonal or yearly plan based on the planned sales, planned reductions, planned EOM and planned BOM stocks. The Buying or The store operations management team figure out how much they need to buy for the given month based on what is already available for the given month. In this unit, you will learn about the importance of open to buy system in the retail business and the unit planning for placing the orders. You will also learn about the formats for replenishments and stock feedback.

8.2 FIGURING OPEN TO BUY

Open to buy (OTB) is a system whereby the buyer or the merchandising team of the store knows how much more they can buy based on the actual status as on date.

OTB is also known as how much to receive, so as to ensure that the purchasing determined at the start of the season for the given month. The Purchasing should not go either very low or high as compared to the change in sales position for the given month. The OTB is to be used as a controlling process for ensuring at no point in time the inventory available in the store is within the parameters. These Parameters are decided in the merchandising plan by the buyer or the merchandising team. Thus, it is necessary that the store management must keep constant tab on the inventory on hand. The buyer generally places order for the merchandise to be received during a particular month much in advance. The suppliers or manufacturers of the product show/present their collection for the season at least three months in advance to the buyer. The buyer based on his purchase and merchandising plan places the order for the required merchandise with the concerned suppliers.

The buyers as a matter of precaution do not place orders for 100 per cent of the store's requirement. It is necessary as the season may not turn up as expected and thereby resulting into ordering excess inventory for the months of the season. Further, the buyer needs to keep certain per cent of the purchase value balance for completing purchase position close to the concerned month. This is done to take care of the following:

- i) new styles/items which are in vogue or popular during a particular period/month and need to be purchased for bringing in the freshness to the collection already on hand;
- ii) as the season moves to close, the suppliers/manufacturers are ready to offer certain per cent of rebate on new purchases;
- iii) sometime certain styles/items may show fast movement and to take care of their replenishments the retailer may need to take care of such purchases;
- iv) the merchandising team may decide to go in for certain unplanned promotion. They may like to promote certain items in some specific price range.

With the help of OTB, the buyer or the store management based on the actual sales situation decides how much more to buy for the concerned month. They may also decide to hold on the purchases further till the stock position is in balance with the sales position of the store.

Generally OTB is calculated at retail value, but it can also be worked out in terms of units. OTB can be defined as **the amount of goods which needs to be purchased during a given period. This ensures that the stock on hand at the end of the period is as per the closing stock planned for the given period.** Thus, for calculating OTB, we have to subtract the merchandise on hand at a given point in time from the merchandise required at that point in time.

$$\text{Open to Buy} = \text{Merchandise Required as per Plan for the Given Period} - \text{Merchandise Available at a Given Point in Time}$$

In the above definition of open to buy, we have mentioned about merchandise available at a given point in time. This includes the merchandise on hand or in stock at a given point in time plus the merchandise to be received during the period against the orders placed in advance by the buyer. The merchandise to be received includes the merchandise that is in transit or expected during the period under consideration. So, if the merchandise is to be received for a particular month, then it includes all the

goods already received during the given month. In these goods the goods in transit but to be received in the store within the given month is also added plus the goods that will be received at a particular date but before the closing of the month.

The merchandise required for the given period or month comprises sales expected for the month plus the reductions expected plus the end of the period or month stock planned. Thus the definition of OTB can be further expanded as follows;

$$\text{Open to Buy} = \text{Expected Sales} + \text{Expected Reductions} + \text{Planned EOM stock} - \text{Stock on Hand/beginning of the Period Stock} - \text{Merchandise to be received or on Order}$$

OTB is the best tool available to the buyer or the merchandising planning team to ensure that any unexpected situation can be brought under control with changes in new purchases. This reduces the risk of excess stock and also to take care of change in consumer demand or taste.

Let us take a look at some situations through certain examples to figure out how the OTB is to be decided in such situations:

In the first example, we shall look at a situation where OTB is to be decided for a month when the planned stock position for the beginning and end of the month is known.

Example 8.1. Calculate OTB when Opening and Closing Inventory Figures are Known

Find the OTB for a departmental store which is holding stock at the beginning of the month of retail value Rs 300000 and expects to close the sale for the month at Rs 200000 plus a reduction value of Rs 25000. The buyer has placed earlier an order for the merchandise worth Rs 150000, which is to be received during the month. The buyer wants to place further order at the beginning of the month for balance merchandise in order to finish the month with a closing stock of Rs 450000.

Solution

Let us first find the total merchandise required as per plan.

$$\begin{aligned} \text{Merchandise required for the month} &= \text{Sales expected} + \text{reductions expected} + \text{planned EOM stock} \\ &= \text{Rs } 200000 + \text{Rs } 25000 + \text{Rs } 450000 \\ &= \text{Rs } 675000 \end{aligned}$$

Further, we need to find the merchandise available in actual.

$$\begin{aligned} \text{Merchandise available} &= \text{merchandise available at the beginning of the month} + \text{merchandise to be received during the month against the order.} \\ &= \text{Rs } 300000 + \text{Rs } 150000 = \text{Rs } 450000 \end{aligned}$$

So to find OTB, we shall use the following working:

$$\begin{aligned} \text{OTB} &= \text{Merchandise required} - \text{merchandise available} \\ &= \text{Rs } 675000 - \text{Rs } 450000 = \text{Rs } 225000 \end{aligned}$$

Hence, the merchandise will have to place further orders at the start of the month of Rs 225000.

The above working has been based on the retail value. Many retailers are keen to know their real investments in further purchases; i.e. at cost value. Let us learn the working through the following example:

Example 8.2. To Convert the Retail Value of the Purchase into the Cost Value

Taking the above example, suppose the initial mark-up for the store is 40 per cent, and the buyer has bought merchandise of cost value Rs 150000 (instead of the retail value of Rs 150000 to be received in the example above), which will be delivered during the month by the supplier. What is the cost value of the merchandise to be ordered for the month?

Solution

While we are aware of the retail value of merchandise required as calculated in the above example, which is Rs 67500. We have to now calculate the retail value of the merchandise available in the store.

Merchandise available = Merchandise on hand + Merchandise ordered

Since we have merchandise ordered value in terms of cost, we shall have to convert it into retail value as follows:

$$\begin{aligned} \text{Retail value of the merchandise ordered} &= \text{Cost value of the merchandise ordered} \\ &\div (1 - \text{Initial mark-up percentage}) \\ &= \text{Rs } 150000 \div (1 - 0.4) = \text{Rs } 150000 \div 0.6 \\ &= \text{Rs } 250000 \end{aligned}$$

$$\begin{aligned} \text{Therefore, the retail value of the merchandise available} &= \text{BOM stock value at retail} + \\ &\text{Merchandise ordered at retail value} \\ &= \text{Rs } 300000 + \text{Rs } 250000 \\ &= \text{Rs } 550000 \end{aligned}$$

$$\begin{aligned} \text{Thus, the OTB at retail value} &= \text{Merchandise required at retail value} - \text{Merchandise} \\ &\text{available} \\ &= \text{Rs } 675000 - \text{Rs } 550000 = \text{Rs } 125000 \end{aligned}$$

Now the OTB at retail value needs to be converted to the cost value as follows:

$$\begin{aligned} \text{Cost value of OTB} &= \text{Retail value of OTB} \times (1 - \text{initial mark-up } \%) \\ &= \text{Rs } 125000 \times (1 - 40\%) = \text{Rs } 125000 \times 0.6 \\ &= \text{Rs } 75000 \end{aligned}$$

For the retailer knowing the cost value of his investment in further stocks makes it easy for him to check on his cash-flow situation and plan accordingly. Hence, it is important for the merchandising team or buyer to know how to calculate OTB at the cost value from the retail value.

The buyer should also be able to handle the OTB requirement at the mid of the month or a period as the case may be. Let us study the example below to understand the calculations of OTB in the middle of a month.

Example 8.3. Calculating OTB at the mid of the Month or Period

A buyer of the department store has received following information on the performance of the store for the first half of the month of April.

Closing stock on hand as on 15 th April	Rs 200000
Sales during the period 1 st to 15 th April	Rs 150000
Markdowns given during 1 st to 15 th April	Rs 8000
Discounts to the employees during 1 st to 15 th April	Rs 2000

The merchandising plan for the month of April is as follows:

EOM stock planned for April	Rs 300000
Sales planned	Rs 300000
Total reductions planned	Rs 15000

The buyer is expecting to receive merchandise worth Rs 100000 during the 3rd week of April.

What OTB at retail value needs to be worked upon?

Solution

First let us calculate the balance retail value of the merchandise needed to meet the month's plan:

$$\begin{aligned} \text{Balance expected sales value for the next 15 days} &= \text{Expected target for the month} \\ &- \text{actual sales occurred till 15}^{\text{th}} \text{ April} \\ &= \text{Rs } 300000 - \text{Rs } 150000 \\ &= \text{Rs } 150000 \end{aligned}$$

$$\begin{aligned} \text{Balance reduction value for the next 15 days} &= \text{Target reduction value} - \text{actual} \\ \text{reduction value} &= \text{Rs } 15000 - \text{Rs } 8000 - \text{Rs } 2000 \\ &= \text{Rs } 5000 \end{aligned}$$

$$\begin{aligned} \text{Thus, the merchandise required for the balance period} &= \text{Balance sales} + \text{Balance} \\ \text{reduction} + \text{EOM stock} &= \text{Rs } 150000 + \text{Rs } 5000 + \text{Rs } 300000 \\ &= \text{Rs } 455000 \end{aligned}$$

Let us now work on the merchandise available at retail value:

$$\begin{aligned} \text{Merchandise available at retail value on 16}^{\text{th}} \text{ April} &= \text{BOM stock available as on 16}^{\text{th}} \\ \text{April} + \text{Merchandise on order for April} &= \text{Rs } 200000 + \text{Rs } 100000 = \text{Rs } 300000 \end{aligned}$$

$$\begin{aligned} \text{Therefore, the OTB for the balance period} &= \text{Merchandise required for the balance} \\ \text{period} - \text{Merchandise available as on date} &= \text{Rs } 455000 - \text{Rs } 300000 \\ &= \text{Rs } 155000 \end{aligned}$$

Hence, the buyer will need to order merchandise worth Rs 155000 to meet the balance requirement of the month of April.

In the above example, we were able to calculate OTB based on the stock values known to us as on a particular date. But, how do we calculate OTB if we are not aware of the stock value as on a particular date? Let us learn the calculation of the stock value on hand, as on a particular date, if we have to work on OTB during the balance period.

Example 8.4. Calculation of OTB when Stock Value is not Known

A buyer for a men's wear department store visited one of the stores on 20th July and wanted to place further orders for the men's wear items for the concerned store, but for which he must know certain details. The buyer received following information from the store management for the month of July:

Opening stock as on 1 st July	Rs 300000
Merchandise on order and to be received in July	Rs 50000

Purchases received between 1 st to 20 th July	Rs 100000
Planned sales for July	Rs 400000
Actual sales between 1 st to 20 th July	Rs 250000
Planned reductions for July	Rs 30000
Actual reductions between 1 st to 20 th July	Rs 20000
EOM stock planned for July	Rs 400000

**Open to Buy and
Unit Planning**

Find out what is the OTB available to the buyer for further orders?

Solution

As you have learnt in the earlier examples, we need to first determine the stock required and stock available for working out the OTB possible.

Merchandise required for the period 21st to 31st July:

Sales planned for July	Rs 400000
Actual sales till 20 th July	Rs 250000
Balance sales for 21 st to 31 st July	Rs 150000
Planned reductions for July	Rs 30000
Actual reductions till 20 th July	Rs 20000
Balance reductions for 21 st to 31 st July	Rs 10000
EOM stock planned for July	Rs 400000

Thus, merchandise needed

for the balance period Rs 560000

Merchandise available as on 20th July:

BOM stock for July	Rs 300000
Purchases made till 20 th July	Rs 100000

Total merchandise handled Rs 400000

Actual sales till 20th July Rs 250000

Actual reductions Rs 20000

Total deduction from the stock Rs 270000

Merchandise in stock as on 20th July Rs 130000

Add merchandise to be delivered in July Rs 50000

Thus, total merchandise available Rs 180000

Therefore OTB possible for the balance period Rs 380000

So, the above example gives us the method to work out OTB even when the stock value as on a particular date is not known.

8.3 UNIT PLANNING

Unit planning is another way of placing orders for the requirement of the merchandise. This is different than the rupee method you have learnt in the earlier sections. Unit planning is useful when we have to break the merchandise on several factors or characteristics of a particular product category. For example, say for the

ladies wear items the merchandise can be first of all classified on the type of fabric used. It can be further classified on the basis of colours, then designs, then fits or styling and then on the basis of pricing. The merchandising team which has to prepare the assortment plan will have to take all these factors or product characteristics into account. Generally, merchandising team while preparing assortment plan, distributes the merchandise into two categories – basic and fashion. The basic merchandise represents the items which are picked up for regular usage like the ones for regular outerwear used at home or inner-wears. In case of the basic items the consumer goes by a particular brand, type of material and colour, and price which are being approved and finalised subconsciously in the mind of the consumer. This is based on his experience with the concerned item. It is the fashion items where the consumer has to go by certain product characteristics based on the trend of the day, peer pressure, lifestyle, life-stage, etc. Thus while planning assortment of the fashion items, the merchandiser of such items has to look into all these factors that influence consumer choices. In rupee planning method the buyer goes by the value of the merchandise to be bought for a particular period. He/she may think that there is enough merchandise if the closing stock matches with the plan. The type of products or items available within a particular category may not be of the type that is selling more or are in demand during a particular period of time. For example, in apparels particularly availability of sizes in a given style are very important for a consumer. Otherwise even if the consumer may like the style, he is not able to buy it. It is in such situations that the unit planning of assortment becomes very essential. Here, the concerned merchandising team ensures that minimum quantities against different product characteristics as per basic stock requirement in a category are maintained. It is maintained in such a way that consumers are able to make selection as per their choice requirement. In such cases, the rupee value of the merchandise on the floor do not provide right clues to further order requirement.

Unit planning is very helpful, particularly when it comes to planning the purchase of the fashion goods. However, it can also be used for other types of items which may fall under the staple or basic category. Fashion goods should necessarily be broken into sub-groups depending on the dimensions which are important vis-à-vis the customers of such items or categories. Such a break-up based on different dimensions may then be used while ordering new goods.

Check Your Progress A

1. What do you mean by ‘Open To Buy’ system?

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2. Discuss ‘Unit Planning’.

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3. Describe how is OTB for a particular month calculated.

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4. Differentiate between basic items and fashion items.

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5. Why is OTB important particularly for the fashion items?

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8.4 REORDER QUANTITIES

You have already learnt about figuring open to buy and unit planning. Let us now learn about reorder quantities, formats for replenishments and placing order and concept of online inventory. This method is an essential part of the unit planning. Here, the company or retailer decides to take the actual count of the inventory in a particular sub-category at the SKU level. This is done so as to receive the required break-up of the quantities at all dimensional levels. Look at Table 8.1 which represents the format used to note the actual count.

Let us now introduce some of the terms used in the replenishment form in Table 8.1. These are also used to calculate the ‘maximum quantity’, which acts as the main anchor in maintaining a balance in the stock quantity.

- **Unit OTB or OQ:** This is the quantity ordered after the periodical count of the inventory is taken for a concerned sub-category. Based on the maximum quantity decided for a given sub-category, the order quantity is placed. Generally, for basic staple products which remain the same, season after season, this is the re-order quantity. However for the fashion products, this may comprise new styles/items plus the break sizes/SKUs to make for the complete set in a given sub-category.

The basic formula for calculating this quantity is as follows:

Order Quantity (OQ) = Maximum Quantity – Quantity on-hand – Quantity on-order

- **Reorder period (RP):** It refers to the period of time, in terms of weeks, between planned stock counts or stock takes. A re-order is placed after each stock count.
- **Delivery period (DP):** It refers to the period of time, in terms of weeks, between the stock count and the date on which the re-ordered merchandise is on the selling floor. In other words, it is the time taken to deliver the material from the time the order is placed.

- **Rate of Sale (RS):** It is the average number of units sold per week. If working on an average daily sales basis, then this figure would comprise the average units sold on a daily basis.
- **Reserve (R):** It is the quantity of the merchandise to be maintained on-hand so as to cover the increase in sales and/or delay of the re-orders. It can be taken as a certain percentage of the sales for a given period, or can be calculated in terms of the expected delay in terms of (number of) days.
- **Merchandise on-hand (OH):** It is the amount of stock available in units during the stock count.
- **Merchandise on-order (OO):** It is the number of units of the merchandise ordered but not yet received.
- **Maximum Quantity (M):** It is the order-up-to quantity. Maximum or provision quantity is the one that is to be made available – on-hand plus on order – at any point of time (particularly at the time of re-order). M is never on-hand at any given point of time, because there always is a continuous activity of receipt of goods as well as occurrence of daily sales.

The formula to calculate maximum quantity is as follows:

$$\text{Maximum} = \text{Rate of sales (Reorder period + Delivery period)} + \text{Reserve}$$

Table 8.1. Format for doing stock count

Department: Buyer:				Item: Prices:									
Item	Reserve quantity	size	Maximum quantity	Date: 21-06-2011				Date: 12-07-2011					
				OH	OO	R	S	OH	OO	R	S		
White shirt	8	S	22										
	16	M	48	24	24	20	25	28	29				
	16	L	48										
	10	XL	30										

Please note: OH = On hand quantity; OO = On order quantity; R = Quantity received; S = Sales quantity.

Example 8.5. Use of the Stock Count to Decide on OTB

Taking the format given in Table 8.1, let us calculate OTB against the stock count taken on two different dates. Suppose the merchandising team of the men's wear category in a department store has finalised the reserve and maximum quantities as given in the Table 8.1 above, for an item white shirt for different sizes of S, M L, and XL. Then based on the stock count done on 21st June and 12th July, it places orders against OTB as on 21st June and on 12th July. Let us understand how the OO and OH quantities have been arrived at in the above Table by taking size M for calculating the relevant details. The size M has an average sale rate of 8 pieces per week and the frequency of stock count is done at the end of every three weeks. When the orders are placed and the delivery time taken is one week from the date of the order.

Solution

Suppose on the stock count done on 21st June, the stock on hand was found to be 24 pcs for the size M. To find the quantities to be ordered it uses the working as shown below:

$$\begin{aligned} \text{Maximum quantity for size M} &= \text{Rate of sales (Reorder period + Delivery period)} \\ &+ \text{Reserve} \\ &= 8 \times (3 \text{ weeks} + 1 \text{ week}) + 16 = 8 \times 4 \text{ weeks} + 16 \\ &= 48 \text{ pieces} \end{aligned}$$

Now if the quantity on hand was 24 pcs on 21st June, and nil quantity on order, then to find the quantity to be ordered we shall use the following formula:

$$\begin{aligned} \text{Order quantity (OQ)} &= \text{Maximum quantity} - \text{Quantity on-hand} - \text{Quantity on-order} \\ \text{Therefore, OQ} &= 48 \text{ pcs} - 24 \text{ pcs} - 0 = 24 \text{ pcs} \end{aligned}$$

Suppose the actual quantity received during the intermittent period (before the next count on 12th July) was only 20 pcs, and the actual sale happened were of 25 pcs, then the stock on hand on 12th July is:

$$\begin{aligned} \text{Stock on hand on 12 th July} &= \text{Stock on hand on 21}^{\text{st}} \text{ June} + \text{stock received before} \\ &12^{\text{th}} \text{ July} - \text{sales before 12}^{\text{th}} \text{ July} \\ &= 24 \text{ pcs} + 20 \text{ pcs} - 25 \text{ pcs} = 19 \text{ pcs} \end{aligned}$$

$$\begin{aligned} \text{Now the order to be placed on 12 July} &= \text{Maximum quantity} - \text{stock on hand on 12}^{\text{th}} \\ &\text{July} - \text{stock on order, if any, as on 12}^{\text{th}} \text{ July} \\ &= 48 \text{ pcs} - 19 \text{ pcs} - 0 = 29 \text{ pcs} \end{aligned}$$

So the order to be placed on 12th July is of 29 pcs for men's wear white shirt by the merchandising team.

The format given in the above Table can be modified by the merchandising team as per the needs of a given store or product category. In the above working, we considered a formula for working out maximum quantity based on the assumption that the re-order period is always longer than the delivery period. Thus the lead time for receiving merchandise from the date of order was sum of re-order plus delivery periods, as shown here below.

Maximum quantity = Rate of sale (lead time) + Reserve quantity

Now, what happens if the re-order period is shorter than the delivery period. For example, in the case of furniture retailer, where the retailer would take stock count every week. He places orders for the required furniture and the delivery time for furniture would take more than a week or two. In such cases, the lead time is equal to the delivery time taken by the supplier from the date of the order. The time between the two re-orders need not be added to the delivery period, if the retailer wants to keep the maximum quantity close to the real requirement in terms of the lead time. To understand this concept, let us study the following example.

Example 8.6. The Maximum Quantity required if the Re-order Time is less than the Delivery Period

A retailer of a furniture store takes stock count every week and decides on the order to be placed based on the maximum quantity to be available. The delivery period for the ordered quantity is three weeks i.e. order placed in week one will be received in week three. The retailer maintains 2 pieces of a furniture item as reserve stock. The rate of sale is on an average 5 pieces. In order to work with the minimum stock on the floor, the retailer works with the following formula for working out maximum quantity.

Maximum quantity = Rate of sale (delivery time) + Reserve stock

Thus maximum stock for a furniture item = 5 × 3 weeks + 2 = 17 numbers.

Let us take a look at the following performance for 6 weeks period to check if the working of the maximum quantity works for the retailer. The details of OH, OO, and S for week 1 and 2 have been provided. Sale data has been given for the 3rd week onwards to work out OQ, OH and OO from 3rd week onwards.

Wk 1 OQ=7			Wk 2 OQ=8			Wk 3 OQ=7			Wk 4 OQ=5			Wk 5 OQ=3			Wk 6 OQ=4		
OH	OO	S	OH	OO	S	OH	OO	S	OH	OO	S	OH	OO	S	OH	OO	S
5	5	6	4	5	6	3	7	6	4	8	5	7	7	6	8	5	5

$$\begin{aligned} \text{Week 1 order quantity (OQ or OTB)} &= \text{Maximum} - \text{On hand} - \text{On order} \\ &= 17 - 5 - 5 = 7 \end{aligned}$$

$$\begin{aligned} \text{On Hand quantity for week 2 (OH)} &= \text{OH of wk1} + \text{OO of wk1} - \text{S of wk 1} \\ &= 5 + 5 - 6 = 4 \end{aligned}$$

The OQ quantity placed in week 1 becomes OO quantity in week 3. Assuming the quantity received is same as the quantity ordered.

In the same way we need to find the OQ, OH and OO for all the rest of the weeks.

From the position of on hand quantity with the furniture retailer we can very well say that the basis of working out maximum quantity, taking only delivery time as the lead time. When the delivery time is longer than the re-order time – is very much appropriate.

Based on the working for calculating order quantity, we can also calculate the re-order periods and rate of the sales as explained below.

Re-order period (RP) = Number of days between stock counts;

If we want to calculate the re-order period in terms of weeks, the working will be as follows:

Re-order period in terms of weeks (RP) = Number of days between stock counts ÷ no. of days in a week

For calculating rate of the sale, we shall use the following formula:

Rate of sale = (Opening stock at the beginning of the period + purchases during the period – end of the period stock) ÷ Reorder period

Let us look at an example where all the above formulas are put to use.

Example 8.7. Use of different Formulas used in Unit Planning Method

On July 5, the retailer of men’s shirts had 95 shirts on hand. The retailer ordered for 45 shirts, which were received after two weeks. The retailer did another stock count on August 2, when the stock on hand was 80. The retailer maintains a reserve quantity of 24 shirts. What should be the order quantity as on August 2?

Solution

Since we do not know the reorder period and the rate of sale, we should first of all calculate the same.

$$\begin{aligned} \text{Reorder period in weeks} &= \text{number of days between two weeks} \div 7 \text{ days in a week} \\ &= 28 \div 7 = 4 \text{ weeks} \end{aligned}$$

$$\begin{aligned} \text{Rate of sales per week} &= (\text{Opening stock} + \text{stock received} - \text{closing stock}) \div 4 \\ &= (95 + 45 - 80) \div 4 = 60 \div 4 \\ &= 15 \text{ shirts per week} \end{aligned}$$

$$\begin{aligned} \text{Maximum quantity} &= \text{Rate of sales (reorder period + delivery period)} + \text{Reserve} \\ \text{quantity} &= 15 (4 \text{ weeks} + 2 \text{ weeks}) + 24 = 15 \times 6 + 24 \\ &= 90 + 24 = 114 \text{ shirts} \end{aligned}$$

So, the order quantity as on August 2, (OTB) = Maximum quantity – stock on hand – stock on order

$$= 114 - 80 - 0 = 34 \text{ shirts}$$

(Please note: if the shirts are to be ordered in sets and each set comprising all sizes in certain ratio and is of 6 pieces, then naturally the order quantity will be 36 pieces which is closer to 34 pieces required)

8.5 FORMAT FOR REPLENISHMENTS AND PLACING ORDERS

Any format for replenishment of the orders has to be necessarily a part of the overall feedback process. This feedback has to come from the field i.e. from the staff in the field meant to collect information from various stores in the channel or directly from the store staff through the point of sales software installed in the stores under the direct control of the buying and merchandising management at the head office.

Key Elements Of The Sales Feedback

For category management or sales feedback from the stores, the type of data that should be monitored is as follows:

- Main category and Sub-categories;
- Price ranges;
- Other important dimensions;
- Benchmark quantities under different price ranges and dimensions;
- Opening stock at the beginning of the period;
- Quantity received during the period under consideration;
- Quantity returned to the main warehouse or vendor during the given period;
- Quantity sold during the given period; and
- Quantity balance or closing stock, at the end of the given period.

The format indicating the exact placement of each of these elements will be developed in the next part. All the data as per above elements should be covered for a single store operation which may be functioning on a stand-alone basis or for a store-in-store operation for a particular product category/sub-category, say, in a large format store (LFS). Data—if captured at the SKU level—for any/each element can be received either through the ERP (enterprise resource planning software) or any other such programme. Alternatively, a manual or MS Excel register format can be developed in order to capture the data. In case of store-in-store operations, the LFS may not provide all the required information to its franchisees. In such cases, it is imperative for the front sales staff at the counter to maintain the information in the register format preliminarily before transferring the details to the feedback form. You may refer to Table 8.2.

Table 8.2. Weekly reports to be submitted by each counter sales representative (CSR) to the category Manager or retail executive (RE) (sample format)

Category	Details	Price Range Upto 300	Price Range 301 to 500	Price Range 501 to 700	Price Range 701 to 1000	Price Range 1001 to 1500	Remark
Tee Shirt	Bench mark Qty/ (No of Options) Opening Qty (mention style nos. with proper sets) Qty Recd Qty Returned Qty Sold Closing Qty (mention style nos. with broken sets or more than 60 days old)		64 (8) 50 TSS/440/320/540 VTS/653/465/ 578/ 550 16 5 10 51 TSS/440/320 VTS/653/465				
Skirt	Bench mark Qty/ (No of Options) Opening Qty (mention style nos. with proper sets) Qty Recd Qty Returned Qty Sold Closing Qty (mention style nos. with broken sets or more than 60 days old)	0	0	36 (9)	92 (23)	0	
		0	0	32 SKA 432/ 434/ 435/ 436/ 437/ 438 8 0 5 35 SKA 433 (4 pcs) SKA 438 (2pcs)			

8.5.1 Format to Capture the Sales and Stock Feedback

The most important feedback form for a product category management process is the sales and stock feedback form. This form provides all the elementary details that are helpful for a category manager to manage the store sales operation smoothly and efficiently. Table 8.2 shows how is it presented to the seniors or back-end team to take replenishment and other related steps. For example, let us consider the data for a brand of kids' wear so as to explain the feedback for different price ranges and for two sub-categories, namely T-shirts and skirts.

To organise the data in the given format in Table 8.2, the following steps are crucial:

- It is necessary to begin with a basic register from which required information can be taken periodically.
- The category head/manager decides what data to be taken as the benchmark quantities on the basis of the sales data made periodically. This is calculated as per rate of the sales for the same season previous year and any other relevant inputs. In Table 8.3 optimum quantities and number of options are shown for the important categories of the kids' wear. The benchmark quantities tell the store representative how much maximum quantity should be held in the given category for the concerned price range. It acts as the controlling point. Thus gives clear idea both to the front and back end teams about the excess or lower stock levels in a concerned price range of a given category.
- The register provides details about the opening quantity and the style number, as well as the data related to the quantity returned, quantity received, quantity sold, and closing quantity.
- Details pertaining to the styles in stock, be it full set or broken sets, is covered between the two rows for opening and closing quantities. The opening quantity/style details of the next month in conjunction with the details of the broken sets in the previous period offers the complete picture of the in-house stock for a given price range or dimension as the case may be.

Table 8.3: Final configuration of the options and pieces in each sub-category and price range (i.e. no. of options / no. of pieces)

Product sub group	Allocation of 1000 pieces	Options/ quantities in upto 300	Options/ quantities in 301 to 500	Options/ quantities in 501 to 700	Options/ quantities in 701 to 1000	Options/ quantities in 1001 to 1500	Total no. of options	Final quantities
Tee Shirt	206	0	24 / 96	25 / 100	3 / 12	0	52	208
Vest	154	0	23 / 92	14 / 56	2 / 8	0	39	156
Skirts	126	0	0	9 / 36	23 / 92	0	32	128
Dress	113	0	2 / 8	5 / 20	9 / 36	13 / 52	29	116
Capris	83	0	0	4 / 8	16 / 64	2 / 8	22	88
Shirt	74	0	3 / 12	10 / 40	5 / 20	0	18	72
Leggings	63	4 / 16	12 / 48	0	0	0	16	64
	819						208	832

8.5.2 System of Replenishment

When the front sales team forwards the feedback in the required format to the back-end team, the latter begins its work, which generally comprises the following tasks:

- (1) To know the styles and sizes those are selling well. Those with high sell-through as per the benchmarks decided for the respective product category/sub-category are identified. Then, steps are taken to replenish such styles either by sending the cut-sizes or pack-sizes. For example, in the case of garments, only those pieces for which sizes have been sold off are sent. The full set for example, in a given style of garments, if more than 50 per cent sizes are sold off or are likely to be sold off within a given period. In such cases, it is better to send the complete set comprising all sizes, rather than replenishing only the broken sizes based on the sell-through achieved.
- (2) To send goods in new styles as per the feeding cycle (i.e. the cycle-time decided for a given product category or sub-category in a given store to feed new styles after the completion of that period. For example, a store may decide to supply new styles every 60 days.
- (3) To take back those goods which are in the form of broken sets and have completed their given cycle-time. Those styles which have been extremely slow or have not been doing well and would give the merchandise a negative effect even if those styles have not completed the mandatory cycle or exposure time. For example, not a single piece of a particular style has moved, say, for the first month of its exposure on the store's shelf. However, the exposure time can vary from category to category and store to store depending on the sales-to-stock ratios planned for each product category or sub-category.

The buying and merchandising team for the stores gets good insights into the real status on the stocks available under different categories/sub-categories. Based on the relevant price ranges from the above feedback reports, the team can take necessary effective steps either to replenish the goods, where there is good demand. The goods may be transferred to another store with demand for such items in a particular store. The team may also return the merchandise to the supplier based on certain understanding or may take back in the warehouse for disposing the stocks through special promotions including end of season discounts.

8.6 ONLINE INVENTORY

With the advances in the technology related to IT, the retailers, particularly large format stores have started working with online inventory system. Under this system, the supplier of a particular item is provided with log-in password so that he can directly log-in to the website of the store. He/she can see for himself/herself all the relevant data like sales of the style in a given period of time. The sales as per important features like price range, style numbers, number of pieces sold, size-wise sales, category-wise sales, quantity received, quantity in stock on the floor, and so on. Thus, providing the supplier with the facility to make the replenishment against the relevant styles and sizes or against the particular category. Where the sales have been good, the supplier arranges supplies to the concerned store's warehouse as per the norms decided. This facility for direct access to the relevant information obviates the need to make indent by the buyer or merchandising team on the supplier. Thereafter approve the supplier's purchase order. Further, the supplier is able to make quick replenishment against the concerned styles or sizes. Thereby ensuring complete satisfaction of the consumers and better sell through and better profitability,

both for the store and self.

Check Your Progress B

1. What do you mean by Unit OTB?

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2. Explain the meanings of 'Reorder period' and 'Delivery period'.

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3. What is meant by 'Merchandise on-hand' and 'Merchandise on-order'?

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4. Outline the advantage of the online inventory.

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5. Which of the following statements are true or false?

- i) Just to save time, the buyer places orders for 100 per cent of the store's requirement in the beginning of the season.
- ii) OTB reduces the risk of excess stock and takes care of change in the consumer demand or taste.
- iii) The merchandising team while preparing assortment plan, divides the merchandise into basic and fashion categories.
- iv) Online inventory system increases the time of replenishment.
- v) The exposure time of a category in a store located in a remote area is generally longer.

8.7 LET US SUM UP

Open to buy (OTB) is a system whereby the buyer or the merchandising team of the store knows how much more they can buy based on the actual status as on date. OTB is also known as how much to receive, so as to ensure that the purchasing determined at the start of the season for the given month. The purchases do not go either very low or high as compared to the change in the sales position for the given month.

The buyers as a matter of precaution do not place orders for 100 per cent of the store's requirement. It is necessary, as the season may not turn up as expected. Thereby resulting into ordering excess inventory for the months of the season.

OTB can be defined as the amount of goods needed to be purchased during a given period. This ensures that the stock on hand at the end of the period is as per the closing stock planned for the given period. Thus, for calculating OTB we have to subtract the merchandise on hand at a given point in time from the merchandise required at that point in time.

The merchandise available at a given point in time includes the merchandise on hand or in stock at a given point in time. The merchandise to be received during the period against the orders placed in advance by the buyer is also added. The merchandise to be received includes the merchandise that is in transit or expected during the period under consideration. The merchandise required for the given period or month comprises sales expected for the month plus the reductions expected plus the end of the period or month stock planned.

Unit planning is another way of placing orders for the requirement of the merchandise - different than the rupee method. Unit planning is useful when we have to break a particular product category of the merchandise on the basis of several factors or characteristics. In rupee planning method, since the buyer goes by the value of the merchandise to be bought for a particular period, he/she may think that there is enough merchandise if the closing stock matches with the plan. The type of products or items available within a particular category may not be of the type that is selling more or are in demand during a particular period of time. Unit planning is very helpful, particularly when it comes to planning the purchase of fashion goods. However, it can also be used for other type of items which may fall under the staple or basic category.

Fashion goods should necessarily be broken into sub-groups depending on the dimensions which are important vis-à-vis the customers of such items or categories. Such a break-up based on different dimensions may then be used while ordering new goods.

Reorder method is an essential part of the unit planning. Here, the company or retailer decides to take the actual count of the inventory in a particular sub-category at the SKU level. This is done to receive the required break-up of quantities at all dimensional levels.

The basic formula for calculating reorder quantity is as follows:

Order quantity (OQ) = Maximum quantity – Quantity on-hand – Quantity on-order

Maximum or provision quantity is the one that is to be made available – on-hand plus on order – at any point of time (particularly at the time of re-order). M is never on-hand at any given point of time. There is always a continuous activity of receipt of goods as well as occurrence of daily sales.

Any format for replenishment of orders has to be necessarily a part of the overall feedback process. This feedback has to come from the field i.e. from the staff in the field meant to collect information from various stores in the channel. This may be taken directly from the store staff through the point of sales software installed in the stores under the direct control of the buying and merchandising management at the head office.

With the advances in technology related to IT, the retailers, particularly large format stores have started working with online inventory system. This facility of direct access to the relevant information obviates the need to make indent by the buyer or

merchandising team on the supplier and thereafter approve the supplier's purchase order. Further, the supplier is able to make quick replenishment against the concerned styles or sizes thereby ensuring complete satisfaction of the consumers and better sell. This leads to better profitability both for the store and self.

8.8 KEY WORDS

Balance	: The difference between the totals of the credit and debit sides of an account.
Discounts	: To deduct from an account, debt, charge, and the like.
Fabric	: A cloth produced especially by knitting, weaving, or felting fibres.
Markdowns	: Temporary reduction in the selling price of an item to stimulate its demand or to drive a competitor out of the market.
Real Investments	: Money invested in tangible and productive assets such as buildings and equipments, as opposed to investment in securities or other financial instruments.
Replenishments	: Restore to a former level or condition.
Stock value	: The value of the derivatives market.

8.9 ANSWERS TO CHECK YOUR PROGRESS

B5 i) False ii) True iii) True iv) False v) True.

8.10 TERMINAL QUESTIONS

1. Explain the significance of open to buy system in the merchandise planning process.
2. Define OTB and explain in detail 'merchandise required' and 'merchandise available' with an appropriate example.
3. What is 'Unit Planning'? How is it useful in replenishments?
4. Explain the concept of reorder quantity giving suitable examples.
5. What is the significance of maximum quantity in the reorder system? Explain its various elements.
6. Describe the format used to capture sales feedback. Explain its key elements.

Activities	
i)	Study the replenishment process of an apparel store. Does it follow 'OTB' system? If yes, how successful is it?
ii)	Visit a departmental store that follows online inventory system. Study its working and how efficient it is.