**Drexel University • Westphal College of Media Arts and Design • Design and Merchandising**

DSMR 232 -001, 4.0 credit • Retail Merchandising Planning (Winter 2023)

# **Assignment G:** Calculating Assortment Plans

Assortment planning will result in establishing a model stock, which is the desired assortment of stock broken down according to selection factors important to your target market, such as brand, price, material, color, and size. The objective of establishing a model stock is to maximize the sales and profits from your inventory investment. After you have determined the budget for merchandise purchases and examined store records, trends, and external factors affecting sales, you are ready to prepare an assortment plan.

## SAMPLE PROBLEM

Assume that your department is selling sweatshirts. Your research of past sales records indicates that sweatshirts have typically composed 5 percent of total sales for the department. This year total sales are planned at $100,000. From your research, you realize that most of your customers for this product are not brand loyal. They will substitute one brand for another if you have the size, color, and style for which they are looking. Past sales records indicate that Russell has been the most popular brand with your customers.

You decide to stock only Russell sweatshirts costing $10 each. Because sweatshirts represent 5 percent of your total planned sales ($100,000), you will have $5,000 to spend on sweatshirts ($100,000 x 0.05 =

$5,000). Because each sweatshirt costs your store $10, you will be able to purchase 500 sweatshirts ($5,000 / $10 = 500).

The next step in developing an assortment plan will be to calculate the specific unit breakdowns of these sweatshirts based on the selection factors you have chosen—size and color. Russell has these sweatshirts in sizes from extra small to extra-extra-large in 20 different colors. By examining past sales records, you determine that the size distribution has been:

|  |  |
| --- | --- |
| Medium | 20% |
| Large | 50% |
| X-Large | 30% |

Basic colors of white and gray have been your best-sellers in the past, each one accounting for 40 percent of sales. Black has been a good seller too, with 20 percent of sales.

Based on your plan, you are ready to calculate the number of sweatshirts that you will purchase for each of the sizes and colors selected.

## SAMPLE SOLUTION

|  |  |  |  |
| --- | --- | --- | --- |
| Size Medium | Number  100 (.20 x 500) | Color White Gray Black | Number  40 (100 x .40)  40 (100 x .40)  20 (100 x .20) |
| Large | 250 (.50 x 500) | White Gray Black | 100 (250 x .40)  100 (250 x .40)  50 (250 x .20) |
| X-Large | 150 (.30 x 500) | White Gray Black | 60 (150 x .40)  60 (150 x .40)  30 (150 x .20) |

**CREATING AND USING YOUR OWN SPREADSHEET**

You can develop assortment plans very quickly using a computerized spreadsheet which provides you the opportunity to easily make changes in your plan.

1. Download and Open SPREADSHEET G. Using Spreadsheet #1 on the file, enter the dollar budget that is presented in the sample problem above. Your calculations should be the same as in the sample problem.
2. Now develop assortment plans for the problems that follow. Record all your answers on the tables provided.
3. When you have completed the lesson, save the file as SPREADSHEET G\_COPY, and then close the file.

## PROBLEMS

1. Determine the assortment plan for the sample problem if you just learned that your budget has been reduced to $4,000.
2. For the original illustrative problem (budget at $5,000), determine the assortment plan if the unit cost of each sweatshirt was increased to $13.00 each.
3. For the original illustrative problem (unit cost at $10), determine the assortment plan if you decided to change the size distribution as follows: medium (15 percent), large (45 percent), and extra large (40 percent).
4. If the size distribution was the same as presented in the original illustrative problem, determine the assortment plan if you decided to change the color distribution as follows: white (35 percent), gray (65 percent), and black (0 percent).

# Assignment G (Part 1): Calculating Assortment Plans

## Name and Date

1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Size/Color | White | Gray | Black | TOTALS |
| Medium | 32 | 32 | 16 | 80 |
| Large | 80 | 80 | 40 | 200 |
| X-Large | 48 | 48 | 24 | 120 |

2.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Size/Color | White | Gray | Black | TOTALS |
| Medium | 31 | 31 | 15 | 77 |
| Large | 77 | 77 | 39 | 193 |
| X-Large | 46 | 46 | 32 | 115 |

3.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Size/Color | White | Gray | Black | TOTALS |
| Medium | 30 | 30 | 15 | 75 |
| Large | 90 | 90 | 45 | 225 |
| X-Large | 80 | 80 | 40 | 200 |

4.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Size/Color | White | Gray | Black | TOTALS |
| Medium | 35 | 65 | 0 | 100 |
| Large | 88 | 162 | 0 | 250 |
| X-Large | 52 | 98 | 0 | 150 |

## CREATING AND USING YOUR OWN SPREADSHEET

1. Open SPREADSHEET G and locate Spreadsheet #2.
2. Input formulas in the appropriate cells that will calculate Units Needed, Number of each size and color needed, Total Number of each size needed, and Total Number of each color needed.
3. When you have completed the lesson, save the file as SPREADSHEET G\_COPY, and close the file.

## PROBLEMS

1. You have a $1,000 budget to purchase sweatshirts for your store. All the sweatshirts will be purchased from Hanes for $10 each. The distribution of sizes will be as follows:

|  |  |
| --- | --- |
| Small | 20% |
| Medium | 32% |
| Large | 28% |
| X-Large | 20% |

Four colors will be represented in the assortment as follows:

|  |  |
| --- | --- |
| Red | 25% |
| Blue | 25% |
| White | 25% |
| Black | 25% |

1. Recalculate the assortment plan for the information presented in Problem 1 if the distribution in sizes were changed as follows:

|  |  |
| --- | --- |
| Small | 20% |
| Medium | 32% |
| Large | 32% |
| X-Large | 16% |

1. Recalculate the assortment plan for the information presented in Problem 1 if the distribution in colors were changed as follows:

|  |  |
| --- | --- |
| Red | 20% |
| Blue | 20% |
| White | 30% |
| Black | 30% |

1. Recalculate the assortment plan for the information presented in Problem 1 if the distribution in colors were changed as follows:

|  |  |
| --- | --- |
| Red | 50% |
| Blue | 20% |
| White | 30% |
| Black | 0% |

1. Recalculate the assortment plan for the information presented in Problem 1 if the distribution in sizes were changed as follows:

|  |  |
| --- | --- |
| Small | 28% |
| Medium | 32% |
| Large | 28% |
| X-Large | 12% |

# Assignment G (Part 2): Calculating Assortment Plans

## Name and Date

1.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Size/Color | Red | Blue | White | Black | TOTALS |
| Small | 5 | 5 | 5 | 5 | 20 |
| Medium | 8 | 8 | 8 | 8 | 32 |
| Large | 7 | 7 | 7 | 7 | 28 |
| X-Large | 5 | 5 | 5 | 5 | 20 |
| TOTALS | 25 | 25 | 25 | 25 | 100 |

2.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Size/Color | Red | Blue | White | Black | TOTALS |
| Small | 5 | 5 | 5 | 5 | 20 |
| Medium | 8 | 8 | 8 | 8 | 32 |
| Large | 8 | 8 | 8 | 8 | 32 |
| X-Large | 4 | 4 | 4 | 4 | 16 |
| TOTALS | 25 | 25 | 25 | 25 |  |

3.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Size/Color | Red | Blue | White | Black | TOTALS |
| Small | 5 | 5 | 7.5 | 7.5 | 25 |
| Medium | 5 | 5 | 7.5 | 7.5 | 25 |
| Large | 5 | 5 | 7.5 | 7.5 | 25 |
| X-Large | 5 | 5 | 7.5 | 7.5 | 25 |
| TOTALS | 20 | 20 | 30 | 30 | 100 |

4.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Size/Color | Red | Blue | White | Black | TOTALS |
| Small | 12.5 | 5 | 7.5 | 0 | 25 |
| Medium | 12.5 | 5 | 7.5 | 0 | 25 |
| Large | 12.5 | 5 | 7.5 | 0 | 25 |
| X-Large | 12.5 | 5 | 7.5 | 0 | 25 |
| TOTALS | 50 | 20 | 30 | 0 | 100 |

5.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Size/Color | Red | Blue | White | Black | TOTALS |
| Small | 7 | 7 | 7 | 7 | 28 |
| Medium | 8 | 8 | 8 | 8 | 32 |
| Large | 7 | 7 | 7 | 7 | 28 |
| X-Large | 3 | 3 | 3 | 3 | 12 |
| TOTALS | 25 | 25 | 25 | 25 | 100 |