Adventure Works Cycles   
Sales Data Analysis

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# Objective

Adventure Works Cycles (AWC) utilizes a data warehouse to provide decision support services to management and executive leaders. The main objective of this analysis was to generate a business intelligence report including any recommendation(s) and/or important findings. To begin this analysis project, a deep dive into the sales data contained within AWCs data warehouse was initiated. As a result of this review, two to three charts were built summarizing and presenting data in an easy, digestible manner. This report includes those charts with added discussion on the findings and recommendations from this analysis.

First step of the process was to connect to AWCs data warehouse and then, using Microsoft’s Power BI (Business Intelligence) application, the correct data from the date dimension table, reseller dimension table, and the reseller sales fact table were reviewed and available for the building and populate process. Since AWC has many resellers, the decision was made to focus this analysis on the top five resellers with the highest sales volume and the bottom five with the lowest sales volume. Please note the sales data were reviewed from three different multidimensional perspectives (i.e., Sales Volume, Year, and Region). Next, we will discuss the findings of the top five resellers then move onto any findings for the bottom five resellers and wrap up the findings section with regional information.

# Findings

The top five resellers turned out to be Brakes and Gears, Excellent Riding Supplies, Retail Mall, Totes & Baskets Company, and Vigorous Exercise Company (Figure 1). All top five resellers, except Retail Mall and Vigorous Exercise Company, had an increase in their sales between 2011 and 2012. In 2010, AWC had $36 K on the books from the Retail Mall reseller and those sales grew substantially in 2011 to $303 K. In 2012, Retail Mall had a slight decrease in sales volume then took a huge drop to $159 K in 2013. Vigorous Exercise Company’s sales volume have steadily decreased each year, starting at $301 K in 2011, $286 K in 2012, and finally $256 K in 2013. AWCs remaining top five reseller companies had significant increases (e.g., 2 to 2.5 times) to their sales volume from 2011 to 2012 with the largest increase going to Totes & Baskets Company as they started 2011 with $167 K and finished 2012 with $360 K. As noted in Figure 1, Brakes and Gears was the only top five reseller who had an increase in their sales volume from 2012 to 2013 going from $249 K to $397 K.

The bottom five resellers were Eleventh Bike Store, Essential Bike Works, Large Bike Shop, Mobile Outlet, and Parts Shop (Figure 2). As displayed in Figure 2, Eleventh Bike Store had no sales for the past two years and Mobile Outlet is listed with sales of $1 in 2013. In addition, the Large Bike Shop is not showing any sales for 2013.

Across all ten regions, sales ranged from $1.59 million to $18.5 million (see Figure 3). The Southwest region had the highest sales at $18.5 million and was considerably higher than Australia, which had the lowest sales volume at $1.59 million. The Southwest region accounted for 23% of overall sales. As depicted by Figure 3, 85% of Adventure Works sales occurred within North America. Lastly, recommendations from the analyst will be reviewed.

# Recommendations

Due to the uncharacteristic ups and downs with the Retail Mall reseller, it is recommended to review records and determine what caused the significant drop in sales volume from 2012 to 2013 as well as seeing if any incentives can be added to help bring that number back up. For the Vigorous Exercise Company reseller, it is recommended to review records and determine reasons for the steady decrease. After reviewing the data in Figure 1, it seems likely that 2012 was a prosperous year and either the economy or the company took a dive in 2013 as all but four of the top five resellers had a decrease in sales volume. As a result, management needs to review circumstances during these times to determine the reasons behind the declining sales volume.

In addition, management should initiate a detailed review of AWCs reseller records and determine if the bottom five companies are still in business or if there is a discrepancy that needs resolved (Figure 2). An expanded review of companies can be initiated to catch any others that are no longer in business. For the final recommendation, management may want to focus on expanding/growing AWCs sales within France (6%), United Kingdom (5%), Germany (2%), and Australia (2%) to broaden the companies reach (Figure 3).

# Attachments

[Figure 1: Top 5 Resellers by Sales Volume and Year](#_Toc79859421)

[Figure 2: Bottom 5 Resellers by Sales Volume and Year](#_Toc79859422)

[Figure 3: Sales by Region](#_Toc79859423)

## Figure : Top 5 Resellers by Sales Volume and Year

Graphical user interface

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Source: Server ML-RefVm-820127, Adventure Works Data Warehours Database (AdventureWorksDW2017)

## Figure 2: Bottom 5 Resellers by Sales Volume and Year

Chart, bar chart

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Source: Server ML-RefVm-820127, Adventure Works Data Warehours Database (AdventureWorksDW2017)

## Figure 3: Sales by Region

Table

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Colored circles represent the amount of sales within the region, the size of the circle is dependent on the sales number for that region. Larger circle means more sales, as the circle decreases in size so does the sales number.

Source: Server ML-RefVm-820127, Adventure Works Data Warehours Database (AdventureWorksDW2017)