



[Consumer Spending Habits in 2015](#)

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SpringBoard Data Analytics Career

Track - Capstone II Project

Overview

One of the leading past times for any population is purchasing material goods or “shopping”. Spending habits for consumers vary across the globe with numerous companies taking advantage of key insights to determine profitable products to invest their resources in. These details that impact product performance can be information on the customer age range, gender groups, product categories, unit cost, unit price, etc. In this analysis, we will focus on consumer habits within France, Germany, the United States, and the United Kingdom.



Areas of Concern to Address:

Product Category Revenues Vs. Profits

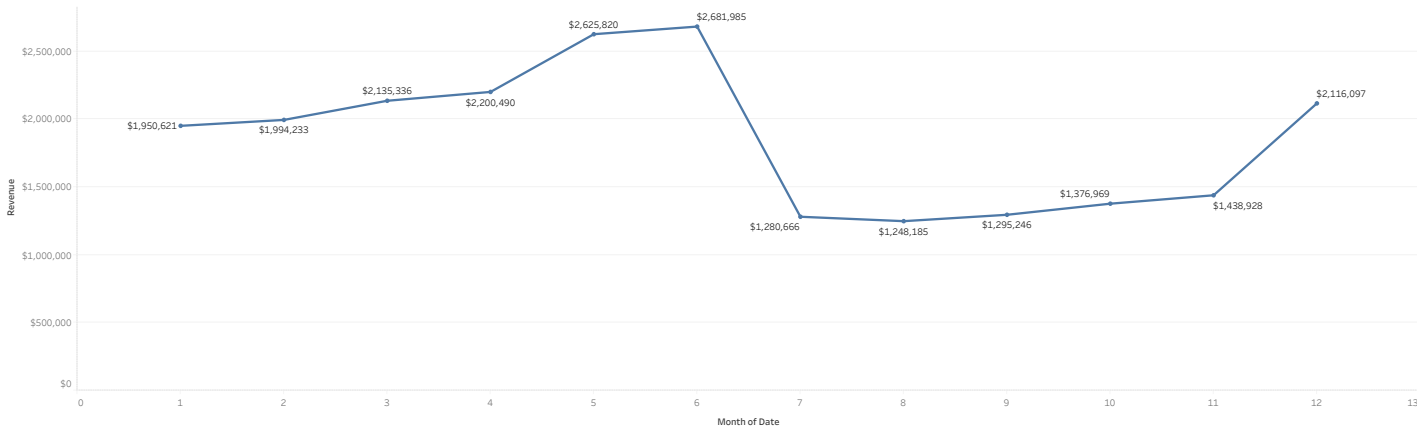
Influential Consumer Details (ex: Age, Gender, Region, etc.)

Question:

What are the top (3) performing sub-products, in 2015, that companies should allocate resources for the following year?

Firstly, at a macro level, the revenue for each month is consistently illustrating positive six-figure values. Monthly revenue sees an increasing trend between January through June (Q1 – Q2) with a **37.49%** increase from \$1,950,621 to \$2,681,985. However, revenue drastically decreases by **52.25%** between June and July to a low of \$1,280,666. Fortunately, there is a slight recovery between November and December when revenue soars up **47.06%** to end the year with \$2,115,097.

Months Vs. Revenue

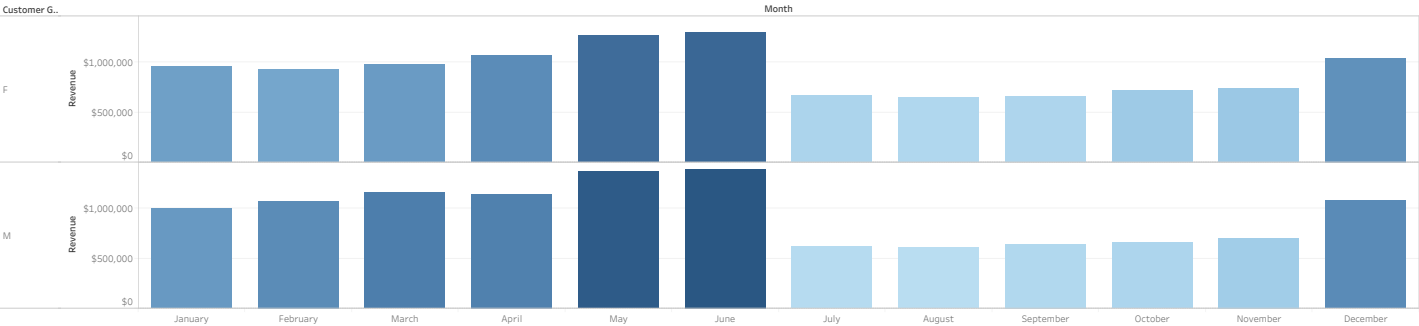


Avg. Customer Age
34.050955414 to 38.687943262

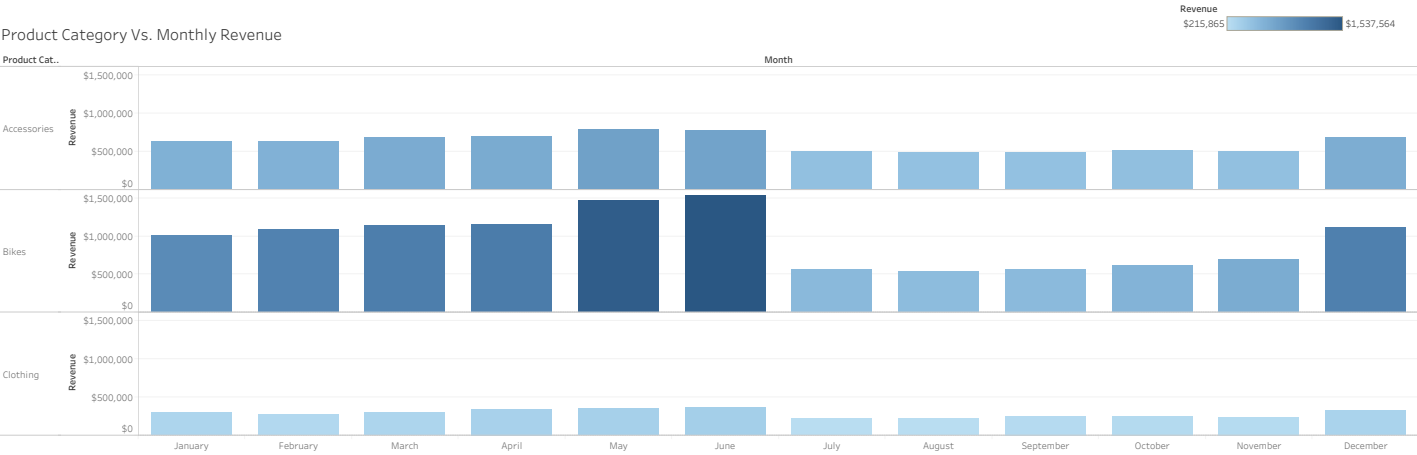
Revenue
\$605,268 \$1,389,771

When separating monthly revenue between female and male gender groups, females tend to spend more during the non-peak months of July through November, while males tend to spend more during the peak months of December through June. The two highest yielding months for both genders are **May** and **June**, where males increase their spending by **8.49%** and **7.55%** more than their female counterparts. One thing to note is that the average customer age is right around **37** years for females and **36** years old for males during these peak months.

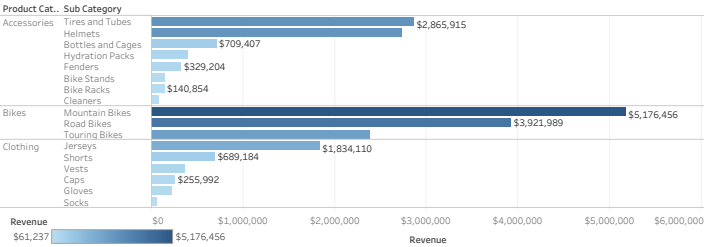
Gender Vs. Age Vs. Monthly Revenues



Moving to a more micro level, we want to split revenue resources between their three product categories: Accessories, Bikes, and Clothing. In terms of ranking, the Bikes category is leading in revenue across all months, followed by Accessories, then Clothing. We can see that similar trends are followed with revenue peaking in **May** and **June**. However, while Bikes and Clothing categories increase between these months by **4.07%** and **2.96%**, Accessories slightly decreases by **1.82%**.

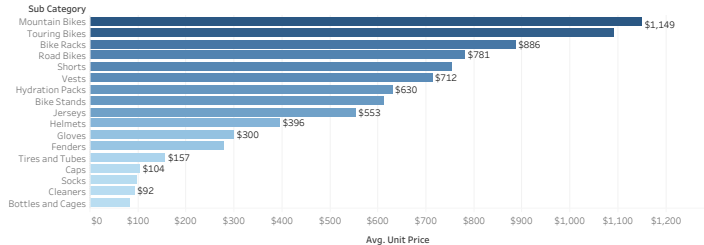


Product Category Vs Total Revenues

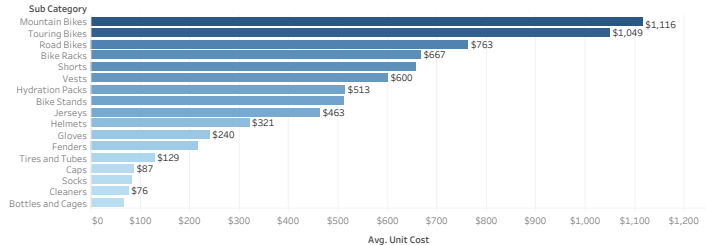


By further breaking down the product and sub-product categories, we first see the average cost & price of the sub-categories are drastically higher for the Bikes categories than for Accessories or Clothing. Comparing each product category's highest-priced subcategory, Mountain Bikes are 29.68% more valued than Bike Racks and 52.59% more than Shorts. However, when observing each product category's highest revenue sub-product, we see that the ranking shows Mountain Bikes then Tires & Tubes, followed by Jerseys. These results are impacted by the sub-products quantity bought with Tires & Tubes selling 22,213 items, which is 164.85% greater than 2nd most bought sub-category at 10,558 (Bottles & Cages).

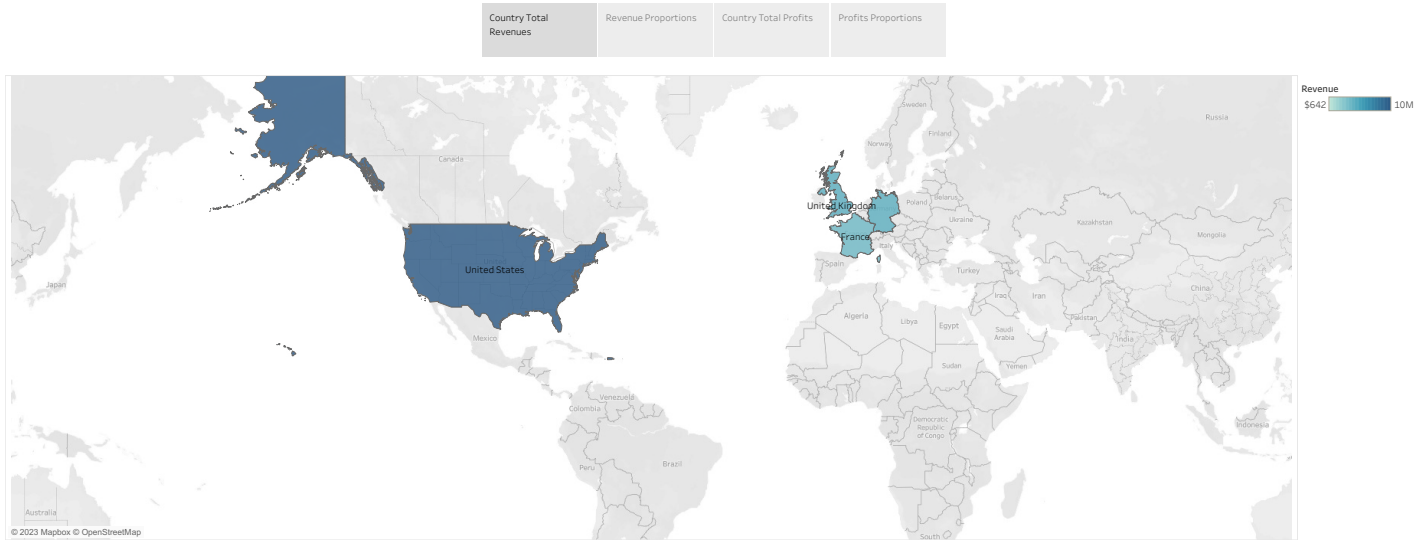
Average Price of Sub Category



Average Cost of Sub Categories

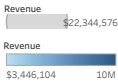
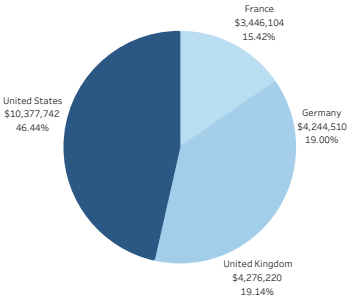


Country Revenue Vs. Profits

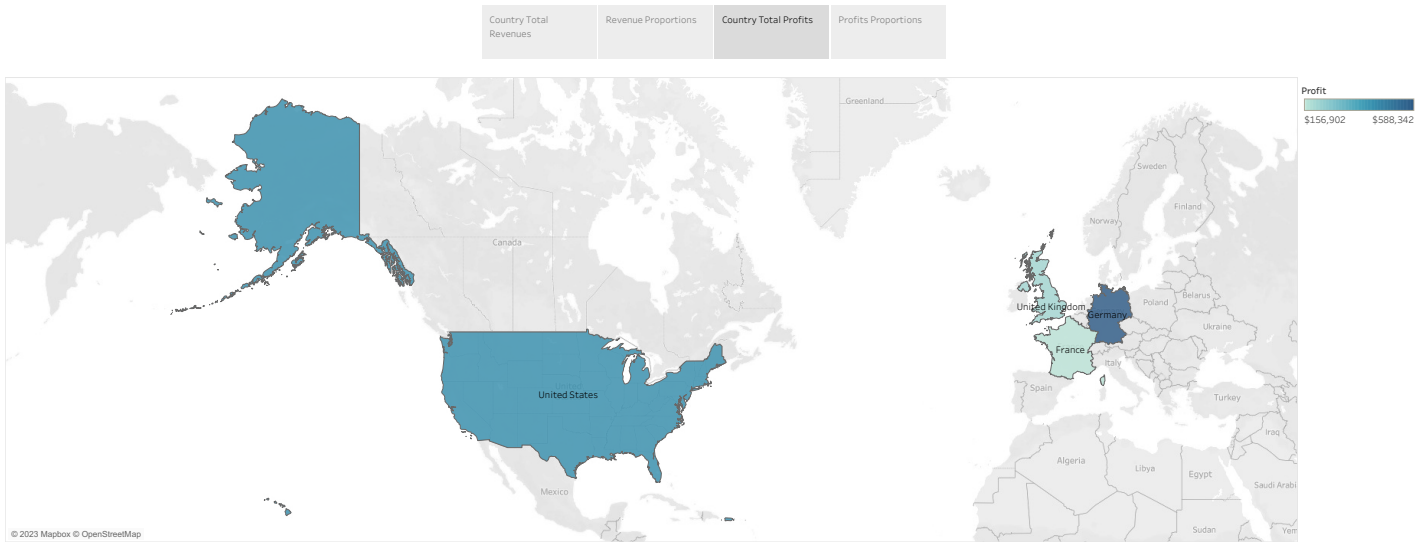


Country Revenue Vs. Profits

Country Total Revenues	Revenue Proportions	Country Total Profits	Profits Proportions
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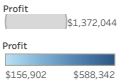
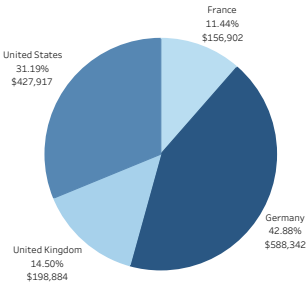


Country Revenue Vs. Profits

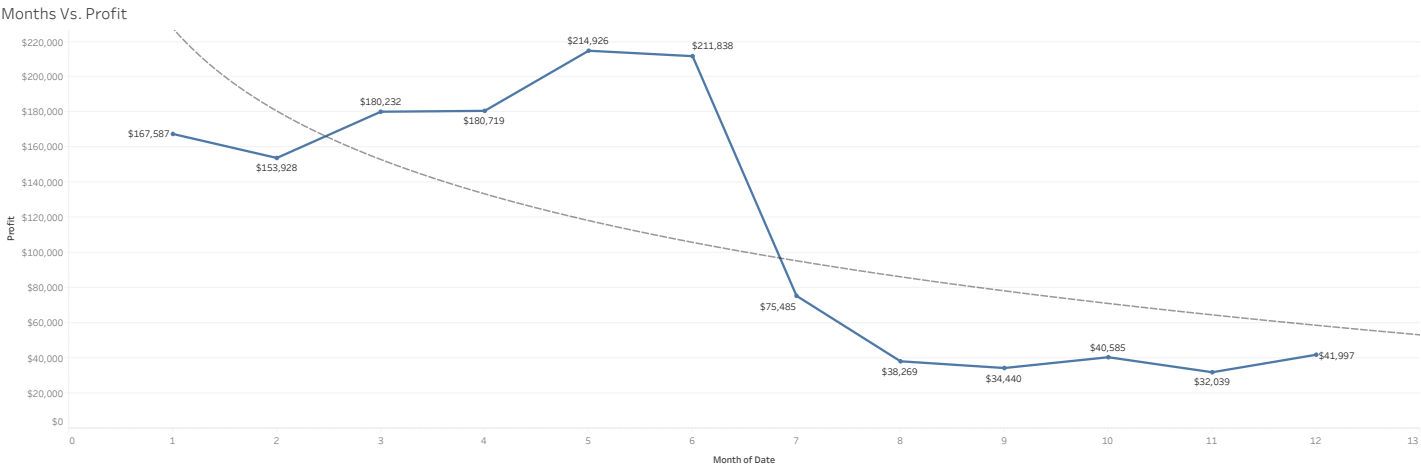


Country Revenue Vs. Profits

Country Total Revenues	Revenue Proportions	Country Total Profits	Profits Proportions
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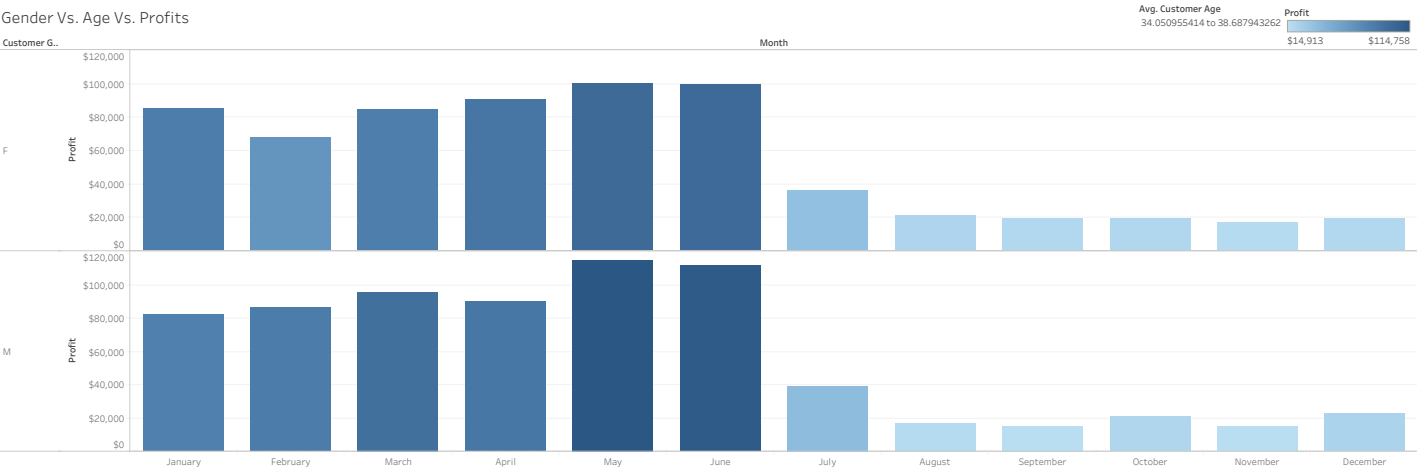


Now specifically looking at profits, the profits for each month have a negatively trending line, with a drastic decrease of **64.37%** between June and July. Profits further declined by another **44.36%** from July's profit of \$75,485 to **\$41.997** in December (**1/5** the number of profits from June).



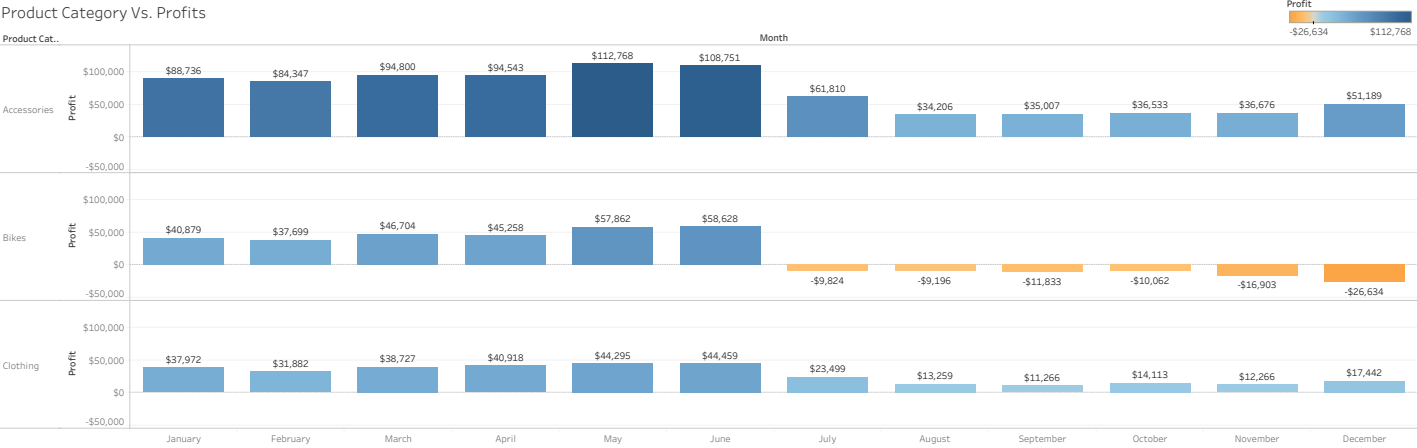
Reviewing monthly profits between female and male gender groups, the two highest yielding months for both genders are **May** and **June** (like Revenues), where males contribute more profits by **14.57%** and **11.83%** more than their female counterparts. The average customer age is right around **37** years for females and **35** years old for males during these peak months.

Gender Vs. Age Vs. Profits

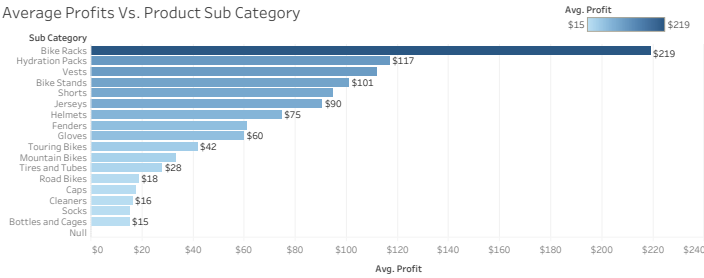
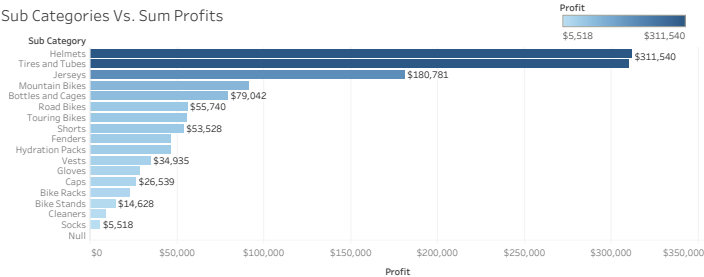


From a more micro perspective, we see that **Accessories** are leading in monthly profits followed by **Clothing** then **Bikes**. During the peak months, Accessories profits are at least **94.89%** and **85.49%** greater than the other categories.

Unlike the view of the revenues, Bikes profits diminished the most, especially during the months of **July through December** (Q3 – Q4). During these months, the Bikes category returned a **negative** net profit plummeting by **145.43%** in December, since their last positive reported profit in June.



Finally, by breaking down the product categories into their sub-categories we can see the total sum of profits and their average profit per item. Looking at the average profit per sub-category item, we see that the top three subcategories are **Bike Racks**, followed by **Hydration Packs** then **Vests**. Bike Racks returns the highest profit margin with **\$219** per inventory item sold. This is **87.18%** greater than the 2nd highest-yielding item of Hydration Packs.



However, when looking at total profits from subcategories, we find that the top three are **Helmets** followed by **Tires & Tubes** then **Jerseys**. Helmets and Tires & Tubes have only a slight marginal difference, with Helmet's profits greater by **0.46%**. However, both categories are at least **71.54%** greater than the 3rd ranked subcategory of Jerseys.

So which subcategory products should companies invest in based on this data?



Top Products: Accessories & Clothing Product Categories for Profits

Top Products (three): Helmets, Tires & Tubes, Jerseys

Influential Consumer Details:

Priority months are between **January – June**, with emphasis on **May and June**. Attract **Male** gender products – Higher Revenues (sales) and Profit Margins during Peak Months Center the targeted age group around **36 years old** – the most frequent average age of male shoppers. For women, this would increase to **37 years old**. Distribute products to the **United States and Germany** – These countries hold the highest profit yields and revenue values.