

## **Income, Customers, and Sales Channels Analysis in Power BI**

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### **Explanation:**

For this project, I used the sample model Adventure Works DW 2020, which can be found at the following link: <https://learn.microsoft.com/es-es/dax/dax-sample-model>.

This model contains information about products, sales, sales channels, and customers of Adventure Works, a global manufacturer and retailer of bicycles, components, clothing, and accessories.

The dashboard I created is designed for a marketing manager who needs to make quick, data-driven decisions regarding advertising campaigns. At the top of the dashboard, there are three key KPIs: Total Revenue, Unique Customers (customers who purchased only once), and Returning Customers (customers who purchased two or more times). These KPIs summarize the results of the three fiscal years combined; however, the data can be filtered by year and by country. These filters also apply to all other visualizations.

The visuals included are:

1. A donut chart showing the distribution of total income by product category.
2. A bubble map displaying revenue by country, with bubble size proportional to revenue.
3. A pie chart representing the revenue distribution by sales channel.
4. A stacked bar chart showing the number of returning vs. unique customers per fiscal year.
5. A line chart showing the number of orders placed each month across fiscal years.
6. A horizontal stacked bar chart displaying the distribution of income generated across sales channels.

### **Insights:**

- **Product Categories**

The Bicycle category generated the highest sales revenue over the three years analyzed (USD 94.62M). This is positive, as bicycles are the company's main product. For this category, I recommend customer loyalty strategies, such as discounts for repeat purchases, loyalty programs, or premium offers.

Components, clothing, and accessories contributed less revenue (USD 11.80M, 2.12M, and 1.27M respectively), but still represent valuable opportunities. Cross-selling strategies could encourage bicycle buyers to purchase components and accessories at a special price. For clothing, campaigns leveraging cycling influencers through photos and videos could strengthen brand positioning by showing how our cloth enhances the cycling experience.

- **Income by Country**

The largest income comes from the United States (USD 62.99M), followed by Canada (USD 16.36M) and Australia (USD 10.66M). France (USD 7.25M), the United Kingdom (USD 7.67M), and Germany (USD 4.88M) contribute less. Based on these findings I recommend loyalty campaigns to maintain dominance in the U.S. and campaigns that highlight urban and recreational cycling to boost growth in Canada and Australia.

In France and Germany, cycling culture is well established (road cycling in France, e-bikes for sustainable mobility in Germany). Campaigns should therefore be highly niche focused on targeting these specific audiences.

- **Sales Channels**

After analyzing the sales channels, I identified that the main channel is resellers, representing 73.26% of sales, followed by internet sales with the remaining 26.74%. Maintaining strong relationships with distributors is key to sustaining and increasing sales volume. For this reason, I suggest developing a B2B strategy that includes sales volume incentive programs, reseller training, marketing kits to support product promotion, and exclusive promotions for distributors during key seasons.

On the other hand, internet sales have significant growth potential. My recommendation to leverage this opportunity is to run segmented advertising campaigns (Facebook Ads, Google Ads, and/or Instagram) focused on bicycles and accessories. Additionally, remarketing strategies and special online offers could be effective. It is also important to mention that in the United Kingdom, France, and Australia, most sales are made online, so special attention should be given to digital sales campaigns in these three countries.

- **Customer segmentation**

When analyzing the sales records, I noticed that most of the customers who purchased products over the three years analyzed (15,993) are returning customers, meaning they purchased more than once from the store. It is important to maintain the trust of these customers. To achieve this, I suggest implementing a rewards program for repeat purchases, exclusive offers for frequent buyers, and personalized product recommendations based on previous purchases.

To convert unique customers (2,492) into returning ones, I recommend a retention and activation strategy. Email marketing with incentives for a second purchase could be highly effective, as well as digital remarketing to remind them of previously viewed products and limited-time offers.

- **Seasonality**

When analyzing seasonality, I found that each year in October and December sales show a significant decline compared to other months. This indicates a recurring downward seasonal pattern that can be explained by several factors:

- In the U.S., Canada, the U.K., France, and Germany, October marks the arrival of autumn: shorter days, lower temperatures, and more rain. This discourages bicycle and accessory purchases because many people stop cycling outdoors.

Meanwhile, in Australia, it is spring, but the peak cycling season (December to February) has not yet started. Additionally, in Western markets, many consumers tend to postpone major purchases in October while waiting for Black Friday promotions.

- In December, the Northern Hemisphere (U.S., Canada, U.K., France, Germany) faces winter: snow, frost, and very limited daylight hours. This reduces the motivation to cycle and purchase related equipment. Moreover, December is the holiday spending season, where consumption priorities shift to gifts, food, technology, and entertainment, rather than bicycles or accessories. An interesting fact is that Australia is the only country where sales increased in December, since it is summer there, the ideal season for cycling.

To counteract the seasonal sales decline, I suggest offering small discounts on accessories and components to maintain sales flow. It is also a good time to promote stationary bikes and indoor training accessories in colder markets. Likewise, positioning products as Christmas gifts through emotional campaigns could boost December sales, especially bicycles.

On the other hand, every year in August, November, and February, sales experience a significant increase. This indicates a recurring upward seasonal pattern explained by several factors:

- August: peak summer in the Northern Hemisphere, with ideal cycling conditions and long vacations in Europe, boosting bicycle and accessory purchases for travel and recreational activities.
- November: customers take advantage of Black Friday and Cyber Monday to make large purchases (bicycles and high-cost equipment). The discount culture is highly influential in the U.S. and extends to Canada, Europe, and Australia.
- February: in the Northern Hemisphere, cyclists prepare for spring and make early purchases of bicycles and accessories, while in Australia it is peak summer, when cycling activity is at its highest.

To continue boosting sales during these months, I recommend running summer and vacation-focused campaigns highlighting bicycles and accessories for long trips and tourism. During Black Friday and Cyber Monday, strong discounts on premium bicycles and components, along with urgency-driven online campaigns, could be effective. In February, campaigns focused on season preparation and healthy lifestyle themes would be ideal.

- **Sales Channels Distribution**

When analyzing sales by channel and product category, I noticed that 100% of component sales are made through resellers. I propose launching a campaign to strengthen the relationship with distributors, which could include POP materials to highlight products in stores, incentives and training for resellers, and in-store demonstrations.