**Power BI project report**

**First project – map visuals**

On this project our main purpose is visualizing the company’s actions by the regions on a map. Here we focused on financial measures and sales of the enterprise.

First of all, all the measures we made are mentioned in the Measures Selection table. There are three main measures, which are creating the slicer: Total Profit, Total Revenue and Quantity Sold. It can be chosen what the quantity sold is, what the total profits are or what the total revenue from the sales is. Then we combined the information with the Territory data (Country/Region) to get the visuals of the map, table and treemap. To make the data switch within the visuals with the slicer we created such measures as Map, Table and Treemap Measures. For easily tangible visuals we created Map color, Table color and Map title measures, so that each slider option would have its own matching color and title.

While changing the buttons on the slicer we can see that the map illustrates regions and amounts of the chosen category. The table view shows the numeral values on the bottom left, categorized by regions thanks to the hierarchy and providing precise data. The treemap shows the biggest product subcategories in the specific region – bigger rectangles represent bigger values – sales, profits or revenue.

Some interesting discoveries we made: tires and tubes and bottles and cages sales are the highest! Meanwhile, road and mountain bikes bring high returns and profits to the company. Thanks to the map visualization we found that clients from Canada sell more items, but they contribute less to the total revenue and profit. On the other hand, Australian clients sell less, but they produce higher revenues. On the table view it can be seen that France and Germany have nearly equal values throughout the different sections. We can also say that the slicer helps to bring the insights together, makes it more interactive and makes the data easy to compare.

**Second project – multi-graph analysis**

The second project focuses on specialized analysis of the Pacific region. The graphs provided in the project focus on the Pacific region, with the exception of the first graph (Distribution by Area), which also provides an overview of sales across North America, Europe in addition to the Pacific.

The project’s main goal is to find out and understand what the main groups are in that certain region, whom to cater to and what product categories should be the main focus. This project as well as this report aim to identify important consumer, demand and sale data and trends. The Pacific region currently has the lowest sales figures compared to the other regions, with only 18k orders. This could be caused by different factors. For one the demand in that region for the products could be lower or the purchasing power could be weaker.

This project features a new calculated column: a birth year range, specifically <1961, 1961-1970, 1971-1980, 1980>. This helps narrow down differences between different age groups and also find specific age groups to market to. The largest share of sales is attributed to individuals born between 1961 and 1970, with those born before 1961 being second in line.

Key insights from the visuals:

* "Distribution by Area" (Funnel Chart): The sales are strongest in North America and Europe, but the Pacific region lags behind. To understand why, we used a Decomposition Tree, which revealed that most sales come from older customers (born before 1980) and that small equipment and add-ons are the most frequently purchased category rather than primary products.
* "How Sales Have Improved by Age Group" (Waterfall Chart): Looking at 2020-2022, sales have generally increased across all age groups. However, people born between 1971-1980 remain underrepresented, suggesting that the approach to attract them might need to be changed
* "General Facts to Keep in Mind" (Stacked Area & Pie Charts): This section answers key business questions:

1. Who buys the most? (Income levels) → Most of our customers are in the "Average" and "Low" income groups, so we should focus on affordable pricing and bundles.
2. What do people buy the most? → Accessories are often purchased in bulk, while clothing is less popular.
3. Who are our key buyers? → Parents tend to buy more than non-parents, making family-oriented promotions a strong opportunity.

Most of the customers are on the older side. The data suggests that the store attracts people born before 1980. So while they should continue to keep their focus on them, there is an opportunity to reach the younger demographics