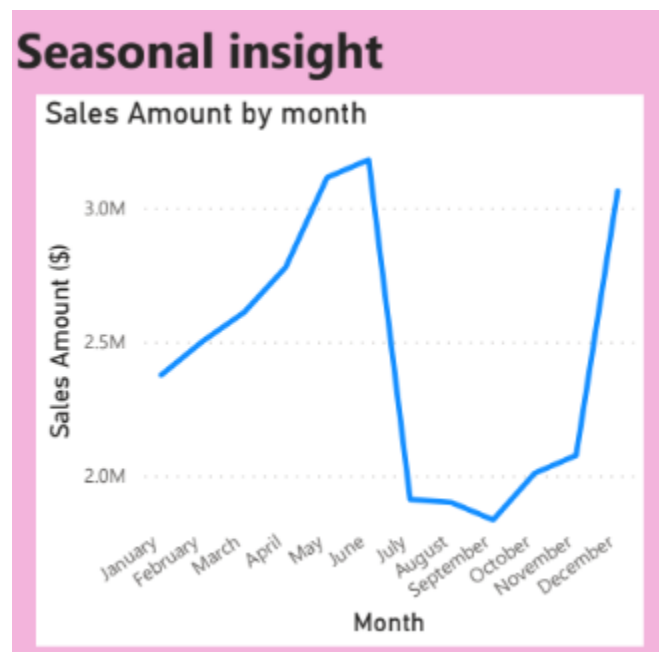


Visualization is one of the most important parts of the data pipeline. Particularly because it is one of the last steps of the pipeline, which includes spending time collecting data, analyzing data, creating models and extracting insight from the data. Thus, if visualization is not delivered to the intended audience (manager, stakeholder, etc.) clearly and productively, it will not be as effective as it should be, or even wasteful

The data we used to make an analysis and create a visualization dashboard is called “Internet Sales”, a data set consisting of the details of transactions from an anonymous organization, with several join tables including details of customer, product, sales territory, etc. We decided to focus our analysis and visualization on marketing, with the target audience as Marketing Manager. The information we will be presenting is about the possible patterns found in the data, so the marketing department can exploit these patterns to increase sales, or discover the hidden ongoing marketing issues.

The first thing we want to talk about is the leftmost pink section of the dashboard, the Seasonal Insight section. It reports the total sales in each month (or each quarter) of the year, giving the information about the potential trend in our data.



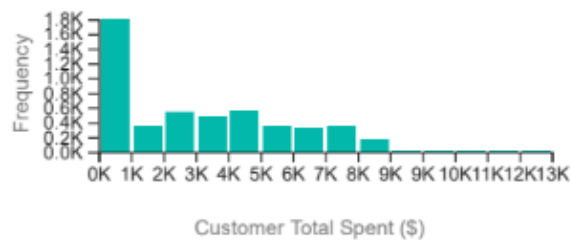
The 2nd section, middle top in red, is Customer Insight, reporting statistics related to the customers, which tell the decision maker about the characteristics of the customers that use our service. There are 5 visuals in this section, including a scatter plot of customer yearly income vs his/her total spent, a histogram plot of total spent of our customers, and another 3 plots is the bar chart characterized by income range, age range, and gender.

Customer insight

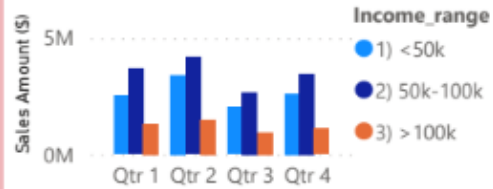
Relationship between Yearly Income and Total Spent of Customer



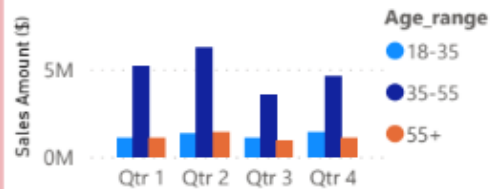
Distribution of Customers in Total Spent



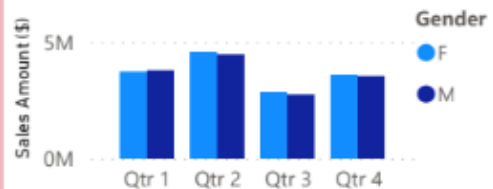
Sales Amount by Income



Sales Amount by Age



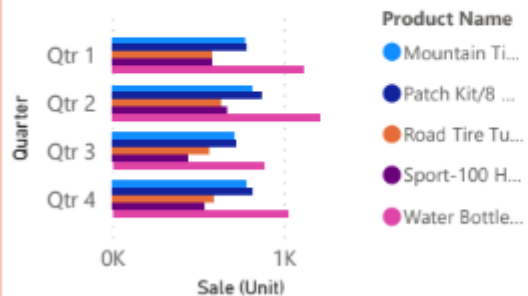
Sales Amount by Gender



The 3rd section, Bottomless in orange, is Product Insight. It reports the characteristics of the products according to the number of orders. We want to focus on better selling items to gain an understanding on what people want, as well as exploit this knowledge to potentially boost sales. Two visuals are presented here. The first one on the left shows the top-5 selling products, grouped by quarter (or month, year). The second one on the right shows all time top-5 selling products in the table format.

Product insight

Best Seller Item (No. of Order)

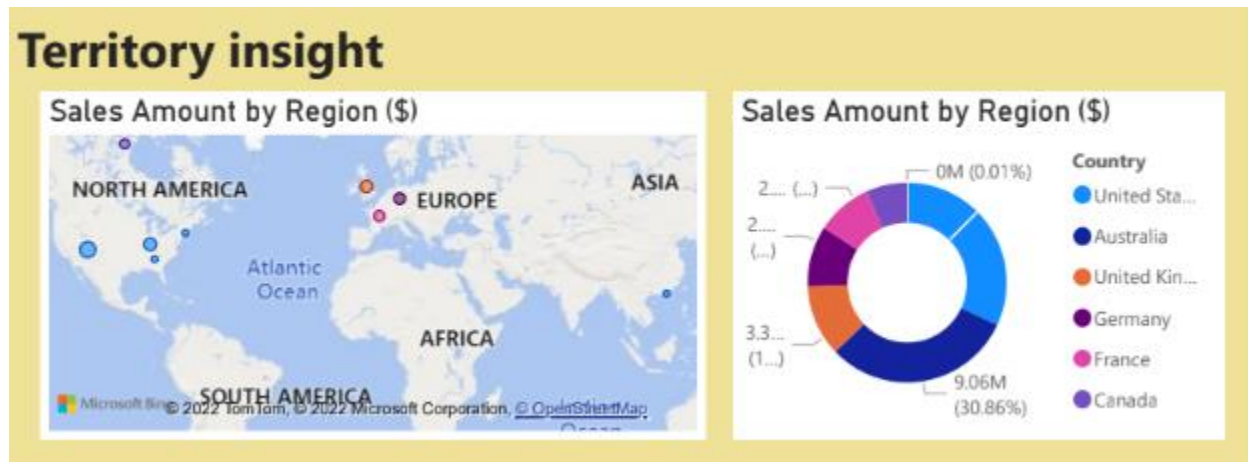


Best Seller Item (No. of Order)

Product Name	Order (Unit)
Water Bottle - 30 oz.	4244
Patch Kit/8 Patches	3191
Mountain Tire Tube	3095
Road Tire Tube	2376
Sport-100 Helmet, Red	2230

The next section, Bottomright in yellow, is Territory Insight. The left one is the map, showing the sales from each region using the size of the circle, colored by each region. The

right one shows the proportion of sales from each region in the donut chart fashion, with the same color as the left map



Finally, the top right shows the high-level numbers, including average spent per person and total sales quantity. The top area of this section is the filter to choose what data to be processed and shown. It includes all data by default, we can adjust it to only include a specific year or a specific quarter.

Year, Quarter

☒ 2005

☒ 2006

☒ 2007

☒ 2008

☐ Qtr 1

☐ Qtr 2

☐ Qtr 3

☐ Qtr 4

Average Spent per Person (\$)

1.59K

Yearly Sale Quantity (Unit)

60K

The final dashboard can be seen below. The fully-featured dashboard can also be accessed online via this [link](#) (Power BI Pro and email domain “@ait.asia” is required for access)

