

## Visualization 101: Translating customer data into 360 degree view

### Overview

In the past few years, the retail sector has seen a tremendous change. Major domestic players have stepped into the retail arena with long term, ambitious plans to expand their business across verticals, cities and formats. There has been a substantial rise in the consumer spending by the young population as well. With the advent of technology and increase in the utilization of e commerce websites, the competition has increased exponentially. As the industry has grown considerably in the past few years, the data that is generated has also grown. E-commerce grew 16% last year in the U.S. and continues to provide new sources of data which includes product information, log files, transaction data, loyalty card information, spending patterns and comparator data from competitor businesses. Management and

best utilization of this data becomes significantly challenging for a business.

### About the client

A leading e commerce retailer, our client continues to dominate in the Fortune 500 companies list while maintaining its top position in the retail business. E commerce as an industry has evolved in the retail sector over the past several years, and still continues to grow. Our client operates in 28 countries with more than 11,000 physical stores and e commerce websites in 11 countries. Our client's strategy of price leadership by keeping the everyday prices low has led the business to start expanding in the digital sphere. The business now focuses on making the customer experience seamless for both physical stores and digital platform.

The four factors that drive the growth of our client's business:

- Large sales volume as a result of a substantial client base and scale of operation.
- An effective supply chain system that leads to higher productivity and reduced outlays.
- Low operational and overhead costs.

- Minimum supplier prices by leveraging bargaining power.

a solution where they could find the proper insights for making the correct business strategies.

## Problem Statement

With the advent of technology and ongoing digital boom, a retailer faces a great number of challenges to keep the business productive and profitable. Economic pressure on the retail industry has increased due to the growth in the number of e-commerce websites. **With more than 11000 physical stores and an e-commerce website, the major challenge that our client faced was that of inventory monitoring. They had to spend a considerable amount of time tracking the stocks.**

Since the marketing trends are changing rapidly, e-commerce sector is very fickle innature. To take the right business decisions, a business must have proper insights on revenue by store, location, region, product line and other factors. Getting the right product on the right shelf of the right store is very critical for a retail business. Due to the large scale of operation of our client and the huge amount of data to be managed for 11000 retail stores, they were in need of



## Client expectations

Being a leading e-commerce retailer our client has a vast business stretch. Managing 11000 physical store while maintaining to strive in the digital sector is a demanding charge. With the increasing number of retail outlets the inventory level that a business has to manage also becomes tedious. Our client spent a significant amount of time managing the stocks. This resulted in the disruption of the smooth running of the business. The company sought to build a



solution which would enable its demand planning analysts to provide timely, accurate forecast data to store managers for dynamic optimization of inventory levels at different store locations.

## **Strategy and Implementation**

At Loginworks the Power BI consultants leveraged Microsoft Power BI Logistics Dashboard to provide intuitive and interactive rich visuals, and self-service capabilities required to empower client's operations team.

The dashboard that we provided as a solution presents data from three different store locations providing insights in the form of categories, sub categories, total product counts and UPCs (Unique product counts).

Our solution makes it possible to drill down into the data to check specific products, UPCs and ZIP details. Our dashboard provides a summarized representation of 80 million items of data from different store locations in a single frame. We leveraged Microsoft Power BI to visualize the large volume of data from across the various stores in a compact manner. This enabled the client to get hold of all the insights required

for business decision making at a single interface.

## Methodology

By scraping the retailer's store data for zip code 27513 we were able to produce 30 columns of data.

Using the data produced by data scraping we created a visual graph that presented the results in a simple, easily readable format, which could also be customized according to a particular selected value from the original dataset.

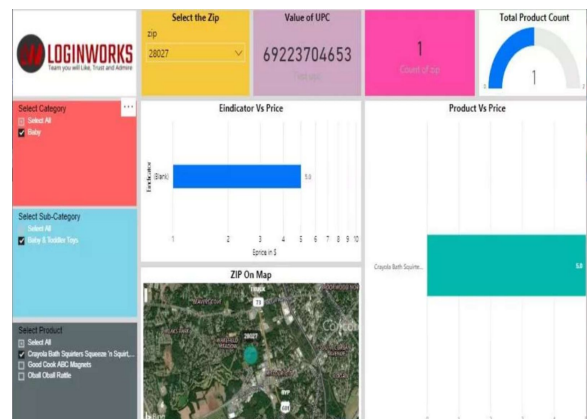
Using the relationship between the different columns of the dataset we were able to produce the counts in different categories of products. For example, the chart below shows the price counts of different indicators.

## Technology used

Although there are various business intelligence tools like Microsoft Power BI, Tableau, Google data studio, our client in this case required a solution in which all the information about their various retail outlets was available at a single interface. For which, we used the Power BI tool to create an

interactive, informative visual which displayed the right kind of insights required by our client. We showcased parameters like categories, sub categories, UPCs etc which are very critical for a retail enterprise to take informed decisions.

## A glimpse at the dashboard:



In this dashboard we are showcasing categories, Subcategories, Products and their unique product count (UPC) which vendors can view at any point in time to assess the counts. With the help of map pointers we are showcasing different store locations across 28 countries. The users can click on any particular store to check the category, sub category and products in each store. These detailed insights enables client to highlight ways in which they can improve their business efficiency.

## Results derived

To survive in the ever increasing competition in the retail sector, the executives and managers must have insights into the complete information to take meaningful decisions for their business to flourish. With sophisticated and easy to use dashboards, the client is now able to access the absolute information and has full insights into results and critical issues.

They are now able to quickly analyze the data. Reporting supports swift decision making to adapt to the changing market. Business Intelligence for a retail enterprise is crucial for the success of a business. Without the assistance of a business analyst or a programmer, a suitable reporting solution for retail provides insight into how actual results compare to plan numbers, revenue by store, location, region, product line and other factors.

