



A Case Study on

Forecasting Supply and Demand Through Data-Driven Analytics

How a Leading Lighting Manufacturing Company in Australia Improved Marketing Campaigns and Increased Revenue with DataHyv's Data Warehousing and Analytics

THE GOAL

Forecasting Demand and Supply for Effective Supply Chain Management of the Company

BACKGROUND

From cutting cost to keeping customers satisfied, forecasting has always been a crucial component of supply chain management. It helps companies assess if the product will have a market. The appropriate amount of stocks determine what prices to set despite the continuous fluctuation which may avoid unnecessary inventory expenses.

Demand and supply forecasting is essential in any company as it facilitates critical business activities like financial planning and budgeting, sales and marketing, inventory management, production planning, risk assessment and risk mitigation planning which then improves business efficiency and profitability. While supply and demand forecasting is undeniably crucial in any business, it's also one of the most difficult aspects of supply chain management.

Demand and supply forecasting is both an art and science. This aspect is quite complex requiring knowledge, data and information on different variables. General knowledge about supply, demand, price, trends, competitors, as well as consumer behavior are needed to be gathered and refined into a centralized data hub, which must then be analyzed in relation with other information to be used to generate meaningful insights.

DataHyv eliminates the complexity of demand and supply forecasting by building a data warehouse for the company which will serve as the centralized platform for all data needed that are coming from disparate sources.

So, here's how DataHyv helped a leading lighting manufacturing company in Australia be able to forecast demand and supply that helps improve accountability for the forecast and enables continuous improvement across the company.

GOALS AND OBJECTIVES

GATHER ALL THE NECESSARY DATA AND CONSOLIDATE IN A DATA WAREHOUSE FOR A MORE ACCURATE DEMAND AND SUPPLY FORECASTING

IDENTIFY WHERE THE CUSTOMERS WERE IN THE SALES FUNNEL AND SUCCESSFULLY LEAD THEM THROUGHOUT THE PROCESS THEREBY INCREASING THE COMPANY'S CONVERSION RATE AND SALES

FACILITATE THE COMPANY'S CRITICAL BUSINESS ACTIVITIES BY PROVIDING THEM MEANINGFUL BUSINESS INSIGHTS NECESSARY FOR PLANNING AND DECISION-MAKING

PROVIDE CONTINUOUS IMPROVEMENT ACROSS THE COMPANY'S PERFORMANCE, OPERATIONS, PROCESSES AND PROFITABILITY

Top Challenges for Lights Manufacturers

**FORECASTING DEMAND AND
SUPPLY FOR A WIDE
SELECTION OF PRODUCTS**

**KEEPING UP WITH THE
EVOLUTION OF TECHNOLOGY
AND TAKING ADVANTAGE OF
THE LATEST TRENDS**

**DESIGNING OF PRODUCTS
BASED ON THE SPECIFIC
NEEDS OF THE TARGET
MARKET**

**PRODUCTIVITY AND
WORKFLOW OPTIMIZATION
TO LESSEN MATERIAL AND
LABOR COST**

THE CHALLENGE

To identify the solutions needed by the company, DataHyv first determines the pain points as well as the strengths and weaknesses of the forecasting method of the lighting company.

The product production is complex as the company had to consider several aspects of the product design such as heat dissipation, thermal engineering, lighting intensity and color temperature, among others. With the complexity and degree of customization in this type of industry as well as added pressure on ensuring product quality and lead time required for production, this lighting company finds it challenging to analyze the data on consumers demand and they cannot rapidly respond to changes to demand and supply.

For the leaders of the lighting company, failure to accurately forecast the demand and supply will entail negative consequences on their business's operations, growth, and reputation. Inaccuracies in supply and demand forecasting will lead to unnecessary inventory and production costs, serious drawbacks in terms of dissatisfied customers, inability to meet demand resulting to lost sales, bad word-of-mouth, and inefficient workflow.

This is the main reason why the lighting company sought the service of DataHyv to build and integrate a data warehouse and data analytics platform to aid them in forecasting demand and supply.

THE APPROACH

of DataHyv

As forecasting demand and supply requires analyzing historical and present data with regards to the company's sales, customers, suppliers, inventory, trends, products and operations, DataHyv built a data warehouse that will serve as the centralized platform for all these data and analysis.

By extracting the data from DEAR Inventory of the company as well as the data from Google Analytics and CRM tool which is Sharpspring, in the data warehouse, DataHyv were able to uncover the untapped sales opportunities, and more importantly, the underlying problems of the lighting company.

Since the lighting company's forecasting method is internally centered- which focus on sales, inventory and operations only, DataHyv provided the lighting company the opportunities for improvement by giving them a wider view of their business by integrating all the company's internal data from DEAR Inventory as well as external data from Google Analytics and CRM.

After extracting all the necessary data from disparate sources into the data warehouse, DataHyv analyzed the data and created a forecasting model for the lighting company.

Throughout this process, DataHyv worked closely with the company leaders and decision makers to ensure that the data warehouse provides them what they specifically need for demand and supply forecasting.

About DataHyv's Data Warehousing and Analytics Solution

A data warehouse is a unified comprehensive database that merges all the business information coming from one or more data sources. The data that flow through the data warehouse system are as follows:

1. Structured Data
2. Semi-structured Data
3. Unstructured Data

By merging all this data in one place, an organization can analyze its customers, business process, and performance more comprehensively. As having all the data in a single source ensures all the information available has been considered. Through data warehousing, business data is being transformed into information and making it available to users across the organization in a timely manner to make a critical decisions.

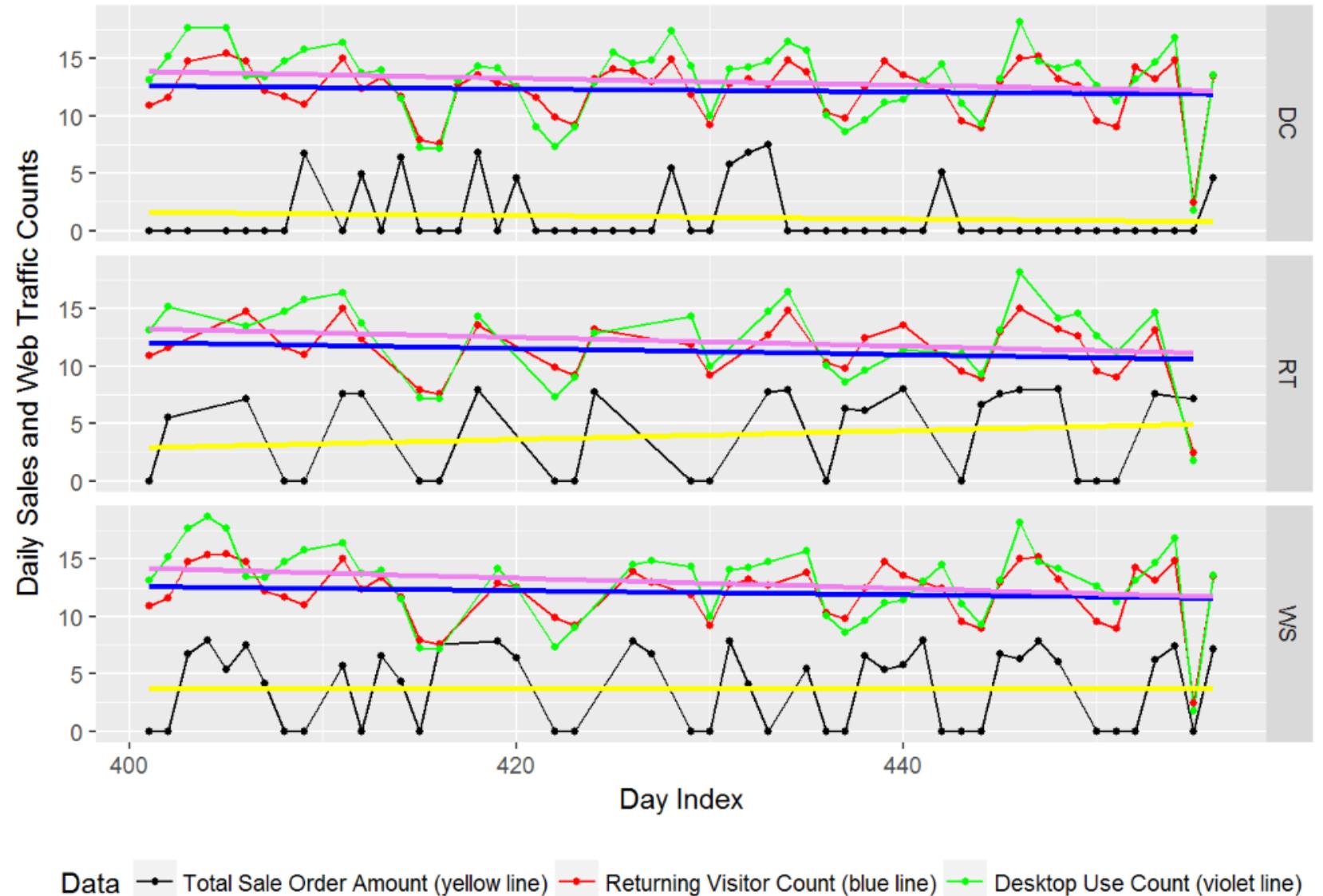
DataHyv's cost-effective data warehouse allows business users to quickly access critical data from different and unrelated sources all in one place. It offers added support for data, in that they are designed to track, manage, and analyze information, in order to provide a more-actionable insights.

THE RESULT

The sample graph is extracted from the data of the lighting company shows the relationship of its total sales amount and its web traffic data. By analyzing the graph, DataHyv found out that the increase in the company website's returning visitor is correlated with the increase in sales. This provided the company an insight that the new visitors of the website are not being successfully converted to sales. By knowing this, the lighting company realized that there is a need to adjust their marketing campaigns for old and new products for launch in order to increase the conversion rate.

With all the data consolidated into the data warehouse, the lighting company can now easily access data for tracking changes on demand and supply enabling them to respond readily and rapidly.

Relationship of Total Sales Amount and Web Traffic Data



90%
INCREASE
LEAD
CONVERSION

100%
INCREASE
ACCURACY OF DATA
AND FORECAST

80%
INCREASE
OPTIMIZATION
OF NEW PRODUCT
LAUNCH

50%
INCREASE
PROFITABILITY



contact@datahyv.com

DataHyv Company

Cebu City

+63 9171436224