Software Requirements Specification

for

Model to Increase the volume of operations for a freight forwarding company

Version <1.0>

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Problem Statement

Which is the correct Strategy for Increasing Operations' Volume in a 20%, for the following Year?

1.2 Intended Audience and Reading Suggestions

This document is written for the project managers, pricing managers, and other user involved in the project.

The remaining sections of this document provide a general description of the problem an why is it important to be addressed. Section 2 is going to provide background of the problem and the insight delivered from the company. Finally is going to cover the data description used to develop the model.

1.3 Detailed Problem Definition

The problem of how to grow the volume of operations is going to take into account the CodeDestinationAirport (text), Airline (text), AgentCode (Text) as independent variables. As well as ChargeableWeight(numeric) and Qty of Shipments as dependent variables.

1.4 Purpose and Motivation

The company its no data driven, the KPIs they are currently using are very basic, and the decision making process its based on feelings and experience. As the company already has a considerable amount of data collected, this project is looking to prove them how they can use data analysis tools to support the decisions and continue to grow their business and operations.

1.5 Problem Scope

The scope of this project is to analyze the relevant parameters to design a prescriptive model that answers the proposed question from the management and also could be adjusted to be used to solve other questions.

The project its going to consider company and industry data from 2012 – 2016.

1.6 Project Success

The ultimate goal of this project is to prove the company how they can use their data for its advantage, showing how they can negotiate better deals with suppliers and how they can grow it operations volume, so they can scale and translate this kind of analysis to different areas.

1.7 Project Failure

The company does not want a model that its too complicated to understand or replicated in the future.

1.8 References

https://www.transtats.bts.gov/DL_SelectFields.asp

2. Background

2.1 Previous Academic Approaches

No academic works addressing this problem were found.

2.2 Non-academic Approaches

The work "Game-theoretic Analysis of Air-cargo Allotment Contract" about how contract allotments work, and how a freight forwarder would want to pre-book capacity in bulk with an airline to achieve a discount rate.
Concluding that volume discount are also common in the air cargo industry.

2.3 Previous Institutional Approaches

This job it's the first approach to analytics for the company.

2.4 Client Insight

- Need to grow volume of operations
- Need to negociate better airline rates
- Historic data owned by the company

2.5 Design and Implementation Constraints

The data used for the analysis is from 2012 – 2016 as the company does not want to risk business sensible information.

2.6 Assumptions and Dependencies

- The company has a constant volume of operation growth over the years
- Airlines rates could be lowered
- Database its sufficient to conduct the analysis
- There is a correlation between the target variables.

3. Data Description

3.1 Data Sources

Air Export Dataset

Parameter
CodeDestinationAirport
Airline
AgentCode
Year
Month
Chargeable_weight

Table II

Statsb 2012 – 2016

Parameter
FREIGHT
CARRIER_NAME
ORIGIN
DEST
YEAR
MONTH

Table III

3.2 Independent Variables

Independent Variables

- ***CodeDestinationAirport (text)***

It represents the airports to which the cargo is sent

- ***Airline (text)***

It represents the airline used to send the cargo

- ***Agent Code (text)***

It represents the code used to identify the client

- ***Qty Shipments (numeric)***

Sum of the # of shipments

Dependent Variables

- ***Chargeable_weight (numeric)***

It represents the Weight and dimension of the cargo being sent.