# Machine Learning Meets Term Life Insurance: Targeting High-Value Customers

# 1. Introduction

## Overview of the Problem

HashSysTech Insurance is a modern insurance company which has adopted a progressive and active approach to advertising and offering term Life Insurance Policies. Of all the targeted promotional methods, using the telephone has always been an efficient way of reaching the target clientele. However, the costs that are incurred in such campaigns are relatively high, therefore calling for efficiency in the use of the available resources. To counter this challenge HashSysTech intends to embark on research to establish customers that are more likely to be receptive to term life insurance products so that the company can focus its telemarketing efforts on those customers.

## Objectives of the Analysis

The objective is to establish an accurate model that can be used to predict the customer conversion for term life insurance so as to enhance the company’s marketing strategies and in extension create efficiency in the course of business. This predictive model shall be used in project Green light, a prospect of identifying customers who have high propensity to responses to telemarketing campaigns. This data analytics assignment seeks to:

1. Learn more about the given set of data and use the obtained knowledge to identify patterns in customers and connection with insurance products.
2. Develop a machine learning model for analyzing the chance of a consumer opting for term life insurance so that the company can improve its marketing strategies.
3. Tabulate and analyze the collected data with the help of several statistical approaches and ML algorithms that would be helpful for HashSysTech Insurance in decision-making.

The analysis will focus on the following tasks:

* Exploratory analysis involves the use of up rather simple processes such as statistical tables and graphs creation.
* Mainly data checking which involves; handling missing values and outliers.
* How to train machine learning models for the purpose of making predictions.
* Using the implements to analyze the model and its results, this is vital to assess the extent to which the model has fulfilled its function in addressing business problems.

## Dataset Overview

This analysis has been done using the dataset that includes the information that HashSysTech Insurance collected during previous telemarketing campaigns. These campaigns were in regard to term life insurance products and comprise various fields associated with the customers-Their demographic information, contact information, history of the campaigns. The main objective is to use this information to build a model that can accurately estimate the odds of a customer’s subscription status. This binary variable represents whether or not the customer accepts the insurance offer.