

# **A STITCH IN TIME ADDS NEW CUSTOMERS**

**ABISHEK GANESH  
UNDER KAY YUT CHEN**



# DATA

- Incident data; Describes the number of incident that occurs for a particular Customer.
- No of Rows: 54448
- Columns: Calendar Year Month, #Cases, No of Escalation, No of parts used, No of response missed, NO of single Visit Missed, SAID
- Conversion Data: Describes the number of customers who extended the contacts.
- Row used: Renewal Date, SAID, Status
- No of Rows: 16066



# DATA CLEANING

- Incident File: Made sure that each SAID and Year Month are unique.
- Conversion File:
- Multiple SAID Renewals we changed to only the most recent conversions.
- Removed Null Values
- Merged Incident and Conversion file to one file and removed the null values.
- Final Data Count: 50684



Attributes	Coeff	P-Val	Decision
a	-1.91668601	0	Selected
b	0.02458774		
Beta	0.32412297	0.0104836535285915	Selected
No of Escalation (ge)	-6.13528418	0	selected
Number of single visit missed (gv)	12.91777872	0.233741487937478	
Number of response missed (gm)	3.33534501	0.106212914810881	

## MODEL

Full Model:

$$Y = \text{Sum}(-\exp(\text{beta}*(\text{tcp}-t)) \log(1+\text{cit}) [1 + \text{ge}*(1+\log(\text{Escalation})+\text{gv}*\log(1+\text{visi} \\ \text{t\_missed})) + \text{gm}*\log(1+\text{response\_missed}))])$$

Selected Model:

$$Y = \text{Sum}(-\exp(\text{beta}*(\text{tcp}-t)) \log(1+\text{cit}) [1 + \text{ge}*(1+\log(\text{Escalation})+\text{gv})])$$



# INFERENCES AND SUGGESTION

- The conversion of a customer probability on time between the incident and escalations.
- Using this model, We can tag various customers based on priority to help the sales team better target the customer.
  - Label customers based on incidence and escalation for targeted advertising.