Case Study: *Adewale Johnson's Journey with SafeSure Insurance Nigeria*

Designed by Folorunso Ajala
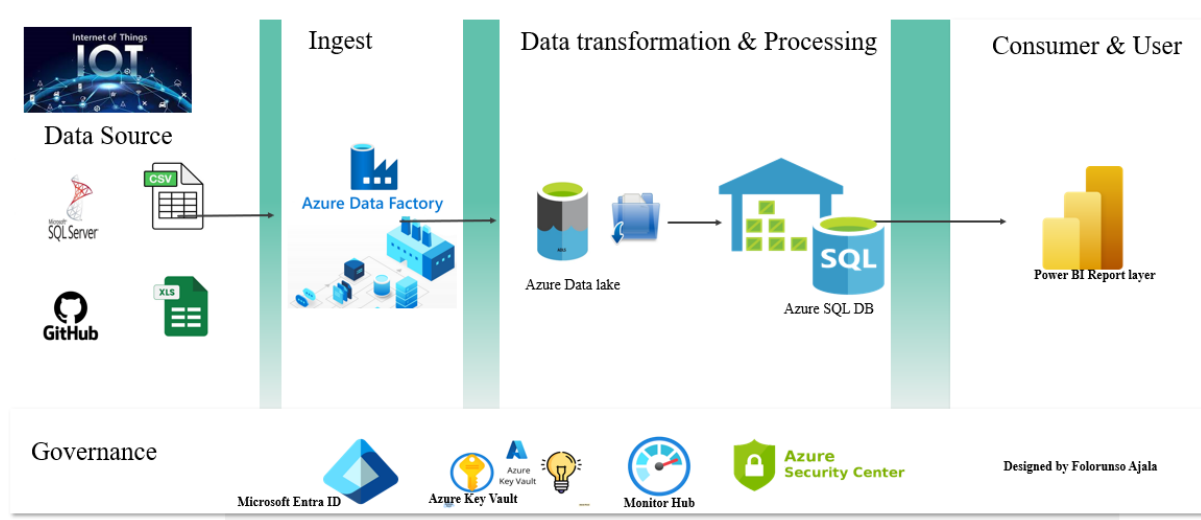
Background

SafeSure Insurance Nigeria is one of the country's fastest-growing insurance companies, providing a range of products — from auto and health coverage to property protection and life assurance.

Their vision is to make insurance more accessible and transparent through digital channels. The company operates across major cities such as Lagos, Abuja, Port Harcourt, Kano, and Enugu.

Each branch uses different systems:

- The **Sales and Product team** keeps product data in CSV files (GitHub repository).

- The **Operations team** manages daily transactions and claims in **SQL Database** on-premises

- The **Incident reports** from customers are uploaded into **ADLS Gen2**, often with inconsistent formats and date styles.

To modernize operations, SafeSure is building an **Azure Data Factory (ADF)** pipeline that automates data ingestion, cleans data in **Azure SQL**, and sends it to **Power BI** for real-time analysis.

The Customer: *Adewale Johnson*

Adewale Johnson is a 38-year-old civil engineer who lives in **Port Harcourt, Rivers State**.

He purchased an **Auto Shield policy** from SafeSure Insurance in **March 2022** after buying a Toyota Corolla.

Adewale wanted basic coverage just enough to protect him in case he caused an accident. He chose a **Third-Party** policy because it was affordable, costing ₦45,000 per year.

Field	Value
CustomerID	CUST028
FullName	Adewale Johnson
Gender	Male
DOB	1986-06-12
City	Port Harcourt
Country	Nigeria
Email	ade***.johnson@gmail.com
Phone	+23467745123
JoinDate	2022-03-11

The Product: *Auto Shield*

Field	Value
ProductID	PROD01
ProductName	Auto Shield
Category	Vehicle

Field	Value
Premium	₦45,000
CoverageType	Third Party
DurationMonths	12

Auto Shield is one of SafeSure's most popular policies. It covers damages caused to another person's vehicle or property in case of an accident.

Policy Purchase

Adewale met **Agent Chinedu Okafor**, one of SafeSure's most reliable field agents operating in Port Harcourt.
Chinedu helped Adewale register and submit the required documents.

Field	Value
PolicyNo	POL0107
CustomerID	CUST028
ProductID	PROD01
AgentID	AGT009
StartDate	2022-03-15
EndDate	2023-03-14
Status	Active

Transactions

After signing up, Adewale made an initial payment through an online transfer.
The system automatically logged the transaction in the company's **SQL** operational database.

TransactionID	PolicyNo	CustomerID	ProductID	TransactionDate	Amount	PaymentMethod	Channel
TRX00109	POL0107	CUST028	PROD01	2022-03-15	₦45,000	Transfer	Online

TransactionID	PolicyNo	CustomerID	ProductID	TransactionDate	Amount	PaymentMethod	Channel
TRX00345	POL0107	CUST028	PROD01	2023-03-12	₦45,000	POS	Agent

The Incident

On **August 7, 2023**, while driving home from a project site during heavy rainfall, Adewale's vehicle skidded on a slippery road and collided with a small delivery truck.

There were no injuries, but both vehicles sustained damage.
Adewale's car had a broken bumper and a cracked headlight.

He immediately reported the incident to his agent, Chinedu, who advised him to file a formal claim through SafeSure's online portal.

Incident Record (ADLS Gen2 feed):

Field	Value
IncidentID	INC0150
ClaimID	CLM0098
IncidentDate	2023-08-07
IncidentType	Vehicle Collision
Severity	Medium
Description	Front bumper and headlights damaged due to skid on wet road

The report file was uploaded to **Azure Data Lake Storage (ADLS Gen2)** under /ADLS_Data/Incident.csv.

Claim Submission

Adewale submitted his claim the next day.
The operations team recorded it in their **SQL database InsuranceClaim** table.

| ClaimID	PolicyNo	ClaimDate	ClaimType	ClaimAmount	Status	SettlementDate
CLM0098	POL0107	2023-08-08	Accident	₦120,000	Approved	2023-08-22

The claim was verified and approved after two weeks.

SafeSure paid ₦120,000 to Adewale's mechanic for repair costs — recorded in the SQL transaction log.

Renewal

In March 2024, satisfied with SafeSure's fast response, Adewale renewed his policy.

RenewalID	PolicyNo	RenewalDate	Amount	PaymentMethod
R0035	POL0107	2024-03-15	₦45,000	Transfer

This renewal record was uploaded from a branch system as part of a **Renewal.csv** file. ADF picked it up and appended it to the master Renewal dataset.

Connecting the Dots How the Data Flows

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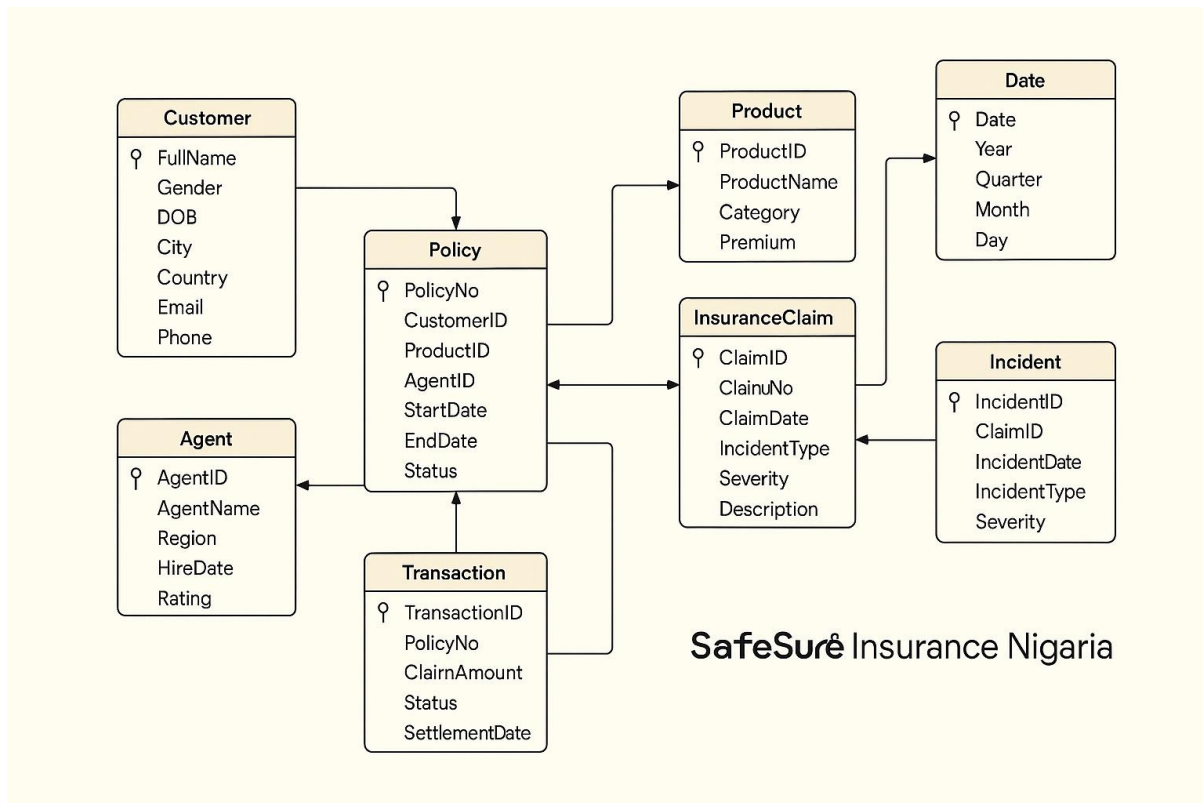
TABLE-BY-TABLE STORY & CONNECTIONS

1. Customer Table (GitHub)

- **What it represents:** All individuals or companies that hold at least one policy.

Use case in analysis:
To segment customers by city, gender, and policy volume.

2. Product Table (GitHub)

- **What it represents:** Different insurance packages sold by SafeSure.

    o   Auto Shield → Vehicle insurance

    o   Health Secure → Health plans

    o   Home Protect → Property cover

    o   Life Cover → Life assurance

    o   Travel Guard → Short-term travel cover

3. Agent Table (GitHub)

- **What it represents:** Field agents who sell and manage policies across Nigeria.

4. Date Table (GitHub)

- **What it represents:** Calendar table covering 2020–2024 for time-based reporting.

5. Policy Table (SQL)

- **What it represents:** Master table for each insurance policy defines the relationship between a **Customer**, a **Product**, and an **Agent**.

Use case:
To calculate active vs expired policies, and revenue by agent/product.

6. Transaction Table (SQL)

- **What it represents:** Records of all premium payments and renewals made by customers.

Use case:
To compute total premiums per product, city, and agent.

7. InsuranceClaim Table (SQL)

- **What it represents:** Claims raised against active policies.

Use case:
To analyze claim frequency, claim ratio, and settlement performance.

8. Incident Table (ADLS Gen2)

- **What it represents:** Real-world events that triggered a claim (e.g., accidents, fire, hospitalization).

Use case:
To identify the most common incident types and severity patterns.

9. Renewal Table (ADLS Gen2)

- **What it represents:** Renewal records uploaded from branch offices.

Use case:

To measure renewal rates and customer retention.

| Table	Data Source	Description	How it Links
Customer	GitHub CSV	Adewale's profile	CustomerID connects to Policy
Product	GitHub CSV	Auto Shield policy details	ProductID connects to Policy
Agent	GitHub CSV	Chinedu Okafor's info	AgentID connects to Policy
Policy	SQL	Contract between Adewale & SafeSure	Links Customer, Product, and Agent
Transaction	SQL	Premium payments	Linked to PolicyNo
InsuranceClaim	SQL	Claim record after incident	Linked to PolicyNo
Incident	ADLS	Accident report	Linked to ClaimID
Renewal	ADLS	Policy renewal file	Linked to PolicyNo
Date	GitHub	Calendar data	Joins to TransactionDate, ClaimDate, etc. for reporting

Business Insight Derived from the Data

After cleaning and integrating the dataset in **Azure SQL**, SafeSure can answer questions like:

Business Question	SQL / Power BI Insight
How long did it take to settle Adewale's claim?	DATEDIFF(day, ClaimDate, SettlementDate) → 14 days
What is Adewale's total premium payment?	₦45,000 + ₦45,000 = ₦90,000
What is the claim-to-premium ratio?	₦120,000 ÷ ₦90,000 = **1.33 (133%)** – loss case
Which product category does this belong to?	Vehicle Insurance (Auto Shield)
Which city had the most incidents in 2023?	Port Harcourt (from Incident.csv)
Which agent sold the policy?	Chinedu Okafor (AgentID: AGT009)

Report /Dashboard Wireframe
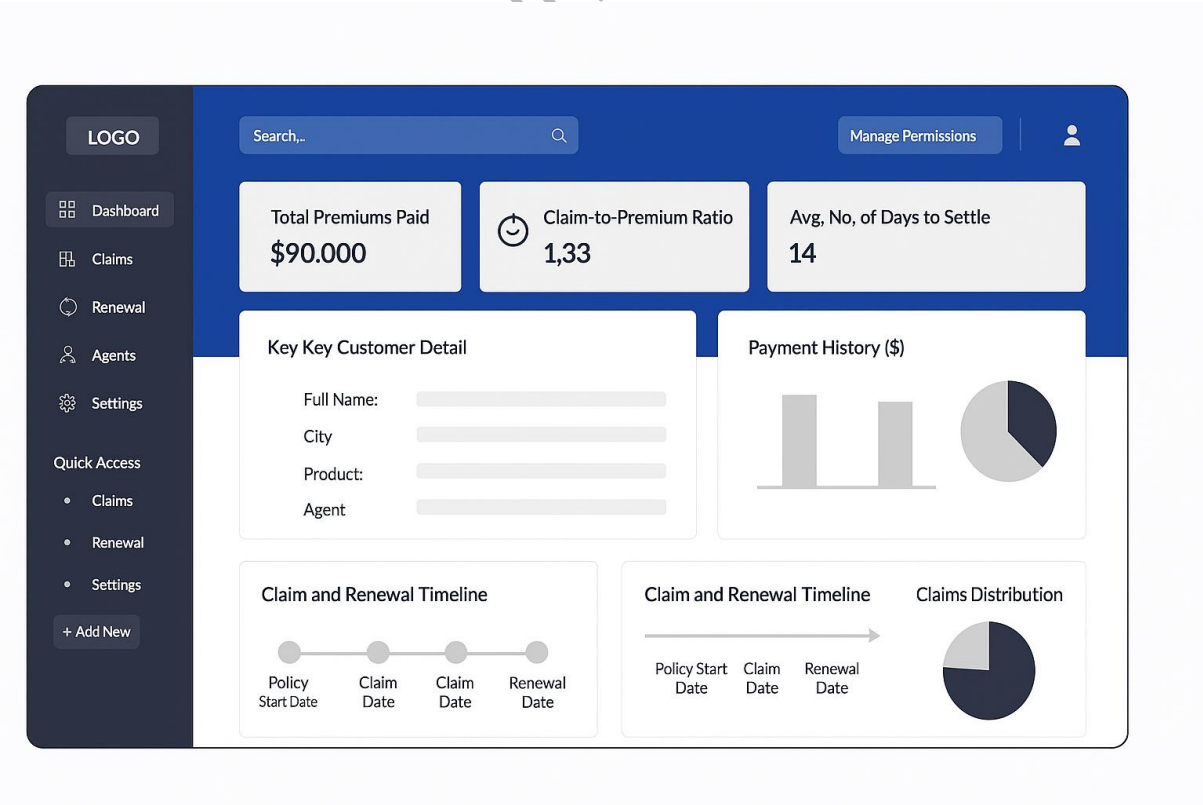
Learning Summary for You

1. **Data Engineering View:**

   o Ingest messy data from 3 sources (GitHub → SQL → ADLS).

   o Automate pipelines in ADF (use event triggers for incidents).

2. **SQL Data Cleaning Practice:**

   o Fix ₦ symbols and comma-separated amounts.

   o Standardize inconsistent date formats.

   o Remove duplicate customer records.

3. **Analytics Perspective:**

   o Visualize Adewale's journey in Power BI:

      ▪ Policy timeline

      ▪ Claim settlement time

      ▪ Renewal history

      ▪ Agent performance

Final Reflection

This single customer story encapsulates the entire insurance process:
Purchase → Payment → Incident → Claim → Settlement → Renewal.

It mirrors how modern data teams integrate and automate workflows in Azure using:

- **ADF Pipelines** (for orchestration)

- **Azure SQL** (for cleaning and transformation)

- **ADLS Gen2** (for raw and curated storage)

- **Power BI** (for storytelling and business insight)

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