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**Projet Life Insurance**

Explainability Ai

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**1. Introduction**

**1.1 Project Context**

LifeSure Insurance is a prominent player in the insurance industry, facing increasing pressure from both clients and regulatory bodies to incorporate sustainability and social responsibility into its business model. As the market evolves, customer expectations shift towards modern, ethical, and sustainable insurance policies. In response, LifeSure Insurance has decided to transition from traditional policies to innovative, customer-centric solutions that align with these contemporary demands.

To achieve this transformation, LifeSure Insurance requires an advanced data visualization tool that provides actionable insights into customer behaviors, preferences, and expectations. By leveraging data-driven decision-making, the company aims to develop sustainable policies that resonate with its target audience, ensuring long-term growth and competitiveness in the industry.

**1.2 Objectives**

The primary objective of this project is to design and develop an advanced data visualization tool that enables LifeSure Insurance to:

* Analyze customer behaviors, needs, and expectations to guide policy development.
* Identify emerging trends in sustainability and social responsibility within the insurance sector.
* Enhance decision-making by providing intuitive and interactive visual representations of data.
* Support the company's transition towards modern, customer-focused, and sustainable insurance policies.
* Improve customer engagement and satisfaction through data-driven insights.

This project aims to provide a comprehensive, data-driven approach to help LifeSure Insurance navigate the evolving landscape of the insurance industry while fostering sustainability and customer satisfaction.

**1. Data Collection and & Integration**

**2.1 Data Sources**

To develop an effective data visualization tool, this project will utilize multiple datasets that provide insights into customer segmentation, insurance claims, and corporate environmental impact. The datasets used include:

* [Insurance Claim Analysis](https://www.kaggle.com/datasets/thedevastator/insurance-claim-analysis-demographic-and-health): Contains demographic and health-related insurance claim data, which helps analyze customer claims patterns.
* [Customer Segmentation Data](https://www.kaggle.com/datasets/ravalsmit/customer-segmentation-data): Provides information on customer demographics, behaviors, and purchasing patterns.
* [Corporate Environmental Impact](https://www.kaggle.com/datasets/mannmann2/corporate-environmental-impact): Offers data on corporate sustainability efforts and environmental impact.
* [Caravan Insurance Challenge](https://www.kaggle.com/datasets/uciml/caravan-insurance-challenge): A dataset for predicting insurance policy purchases based on customer attributes.

By integrating these datasets, the project aims to uncover valuable insights that will enable LifeSure Insurance to create data-driven, sustainable, and customer-focused insurance policies.

**2.1 Data Preparation & Cleaning**

Before utilizing the datasets, a comprehensive data cleaning and preparation process will be undertaken to ensure accuracy and reliability. This includes:

* Checking for and handling missing or null values to prevent inconsistencies in the analysis.
* Removing extreme values or outliers that could skew the insights and mislead decision-making.
* Deleting unused columns that do not contribute to the analysis to optimize data processing efficiency.
* Standardizing data formats and ensuring consistency across datasets for seamless integration.
* Handling duplicate entries to maintain data integrity.
* Performing exploratory data analysis (EDA) to identify potential patterns and anomalies before visualization.

These steps will ensure that the data used in the visualization tool is clean, structured, and ready for meaningful analysis, ultimately supporting LifeSure Insurance in making informed, strategic decisions.