

INSURANCE PORTFOLIO ANALYTICS – POWER BI PROJECT REPORT

Executive Summary

This report provides a comprehensive analysis of the insurance portfolio using Power BI. The objective is to evaluate portfolio performance, identify revenue opportunities, mitigate risk exposure, and improve customer retention. Findings indicate a strong active policy base, uneven sales contribution across zones, declining premium trends, and underutilization of policy loan benefits despite widespread eligibility.

Business Questions addressed through dashboards

Business Focus	Key Questions
Retention & Lapse Rates	What are the primary factors driving policy lapse, and how do tenure and payment frequency influence long-term policy persistency?
Sales Performance	Which regions and agents contribute the highest premium, and what strategies can be applied to maximize agent productivity and performance consistency?
Premium & Revenue	How does premium collection vary across policy types and payment frequencies, and are there identifiable seasonal trends impacting revenue generation?
Underwriting	To what extent do underwriting costs affect overall profitability, and which products demonstrate disproportionately higher underwriting expenses?
Loan Utilization	What proportion of policies are loan-eligible versus actively utilizing the loan facility, and does loan eligibility or utilization contribute to improved customer retention?

Data Model:

The data model follows a star schema design, where the Fact table captures policy transactions, and multiple Dimension tables provide business context for customer, policy types, sales agents, and geographic attributes. This design ensures optimal performance, simplified DAX logic, and a scalable foundation for portfolio analytics, sales performance tracking, and premium trend analysis.

Table Type	Table Name	Description / Business Role
Fact	FCT Insurance_Policy_Table	Stores all policy-level transaction records including premium, dates, status, and financial attributes; core analytical table for the model.

Dimension	DM Customer_Detail_Table	Customer master containing demographic and profile information for segmentation and retention analysis.
Dimension	DM Policy_Type	Defines the high-level category of each insurance product (e.g., Endowment, Whole Life, Universal, Term).
Dimension	DM Policy_Protection_Plan	Product variant master detailing specific policy plans and their benefits.
Dimension	Date	Time intelligence table enabling month-, quarter-, and year-level reporting for premium trends, persistency, and maturity analysis.
Dimension	DM Insurance_Agent_Table	Contains agent information used for sales performance evaluation and productivity metrics.
Dimension	DM Regional_Manager	Regional-level hierarchy structure mapping agents to regional management for performance visibility.
Dimension	DM Zonal_Manager	Zonal-level hierarchy structure supporting escalation of performance metrics to zone heads.
Dimension	Region	Maps customers and policies to state/region for geographic premium analysis and market opportunity insights.

Dashboard Analysis (POWER BI)

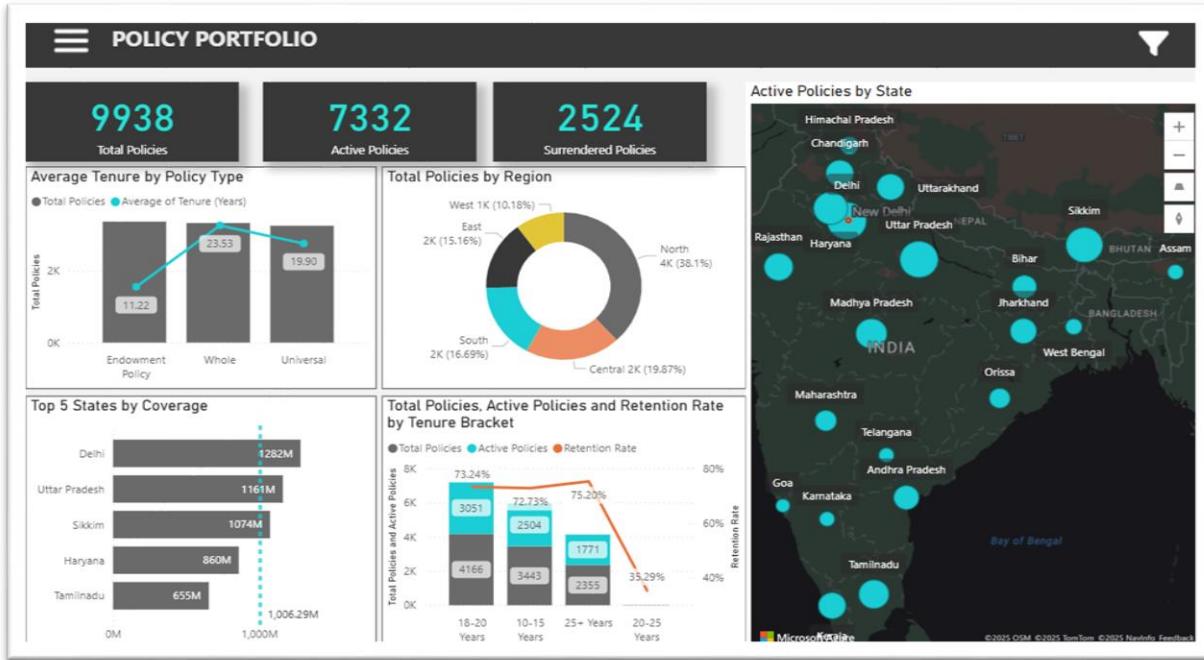
Portfolio Health Dashboard



The KPI panel at the top shows that **7332** i.e. **73.7%** of policies remain active, showing a strong and stable portfolio. The lapse rate stays near **1.08%**, positioned at the lower end of the gauge, suggesting disciplined renewals and effective policy servicing.

Another visual highlights that a small group of top agents is driving a major share of sales, pointing to performance concentration rather than uniform contribution.

Policy Portfolio Dashboard

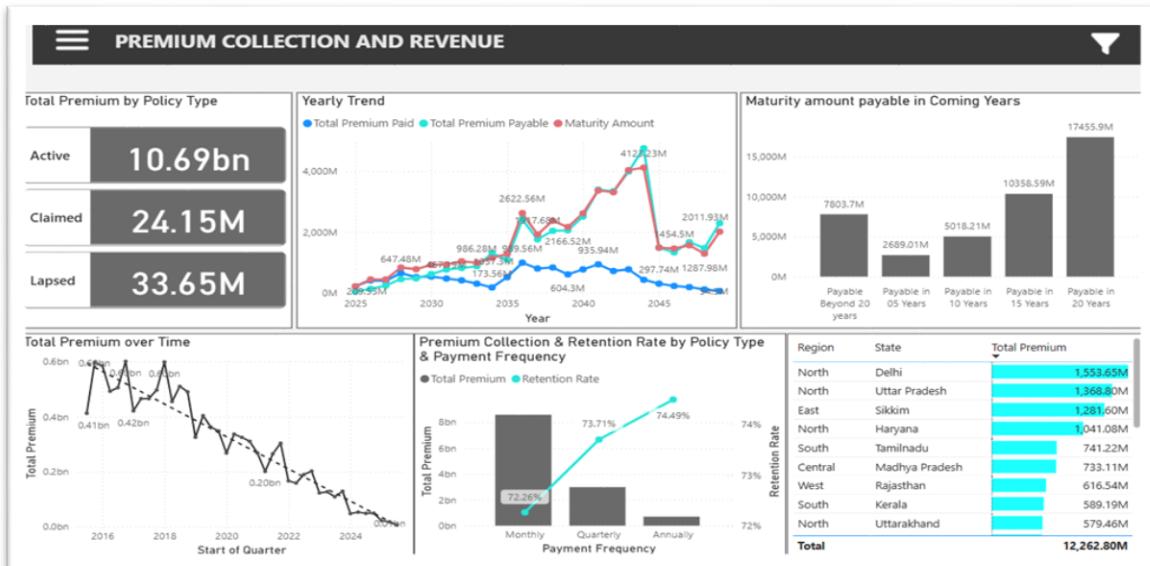


The premium heat map clearly shows North and Central regions leading premium generation, with the darkest and widest zones.

The state-wise bars confirm that the top five states alone contribute nearly half of the total coverage, as their bars tower above the rest.

The donut chart shows East (15.16%) and West (10.18%) trailing behind. These regions are not weak markets- they simply present untapped growth potential and can be developed with targeted sales.

Premium Collection & Revenue Dashboard

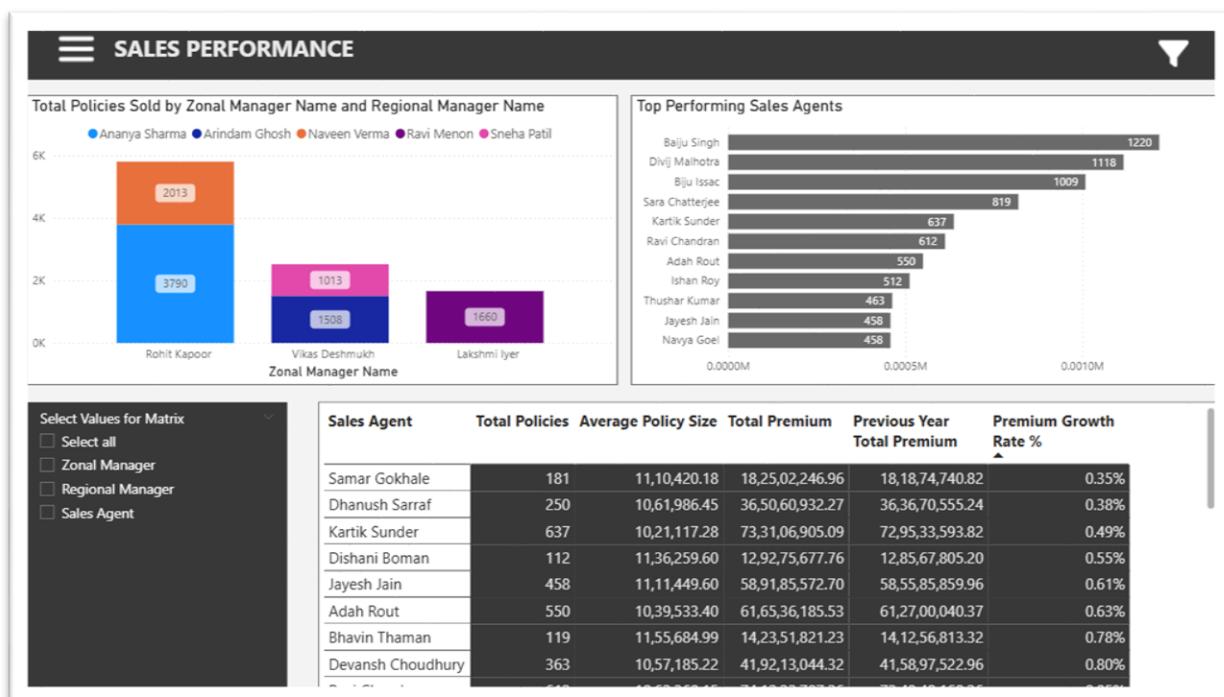


The premium trend graph highlights a declining pattern — premium collections peaked around 2016–2018 and have declined since, currently almost 66% below the peak level.

This reflects the need to **reactivate revenue momentum** through product innovation, customer reacquisition, competitive pricing adjustments, and digital engagement strategies. The **premium frequency donut** is dominated by **Monthly premiums (60–65%)**, overshadowing Quarterly and Annual modes. This ensures steady inflow but also **adds frequent servicing and collection overheads** for the company.

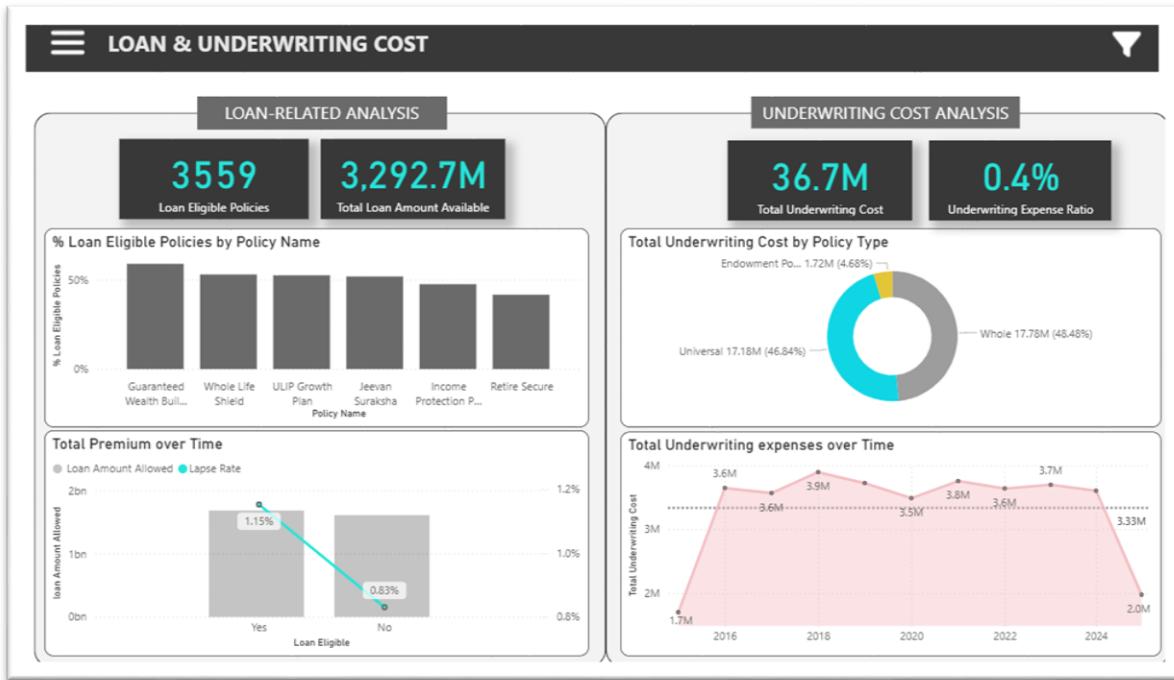
The **maturity liability visuals** show a heavy payout exposure **15–20 years into the future**, which will require robust long-term liquidity planning.

Sales Performance Dashboard



The hierarchical funnel (Zonal → Regional → Agent) shows clear disparities in performance — **top performers are far ahead of mid-tier sales agents**, resulting in a steep drop-off as the funnel narrows. This indicates a strong leadership core but a **wide gap between top producers and the rest**, making performance coaching, contest incentives, and targeted mentoring viable opportunities to boost revenue.

Loan & Underwriting Expenses Dashboard

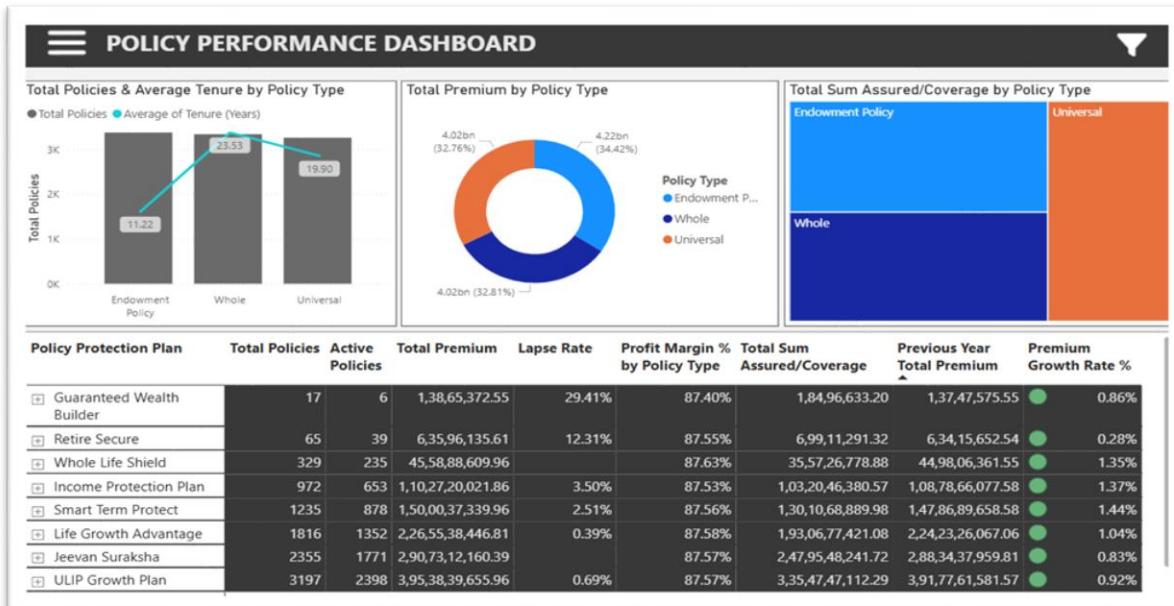


The loan eligibility vs utilisation chart reveals a sharp contrast — a very large number of policies qualify for loans, yet only a small percentage actually use them.

This indicates low customer awareness, not low value. Highlighting the financial benefit and convenience of policy loans during customer conversations or through digital nudges may lift utilisation noticeably.

The underwriting expense ratio visual sits at 0.4%, far below industry expectations — a clear indicator of operational excellence.

Policy Performance Dashboard



The **tenure comparison chart** makes it immediately clear that **Whole Life policies hold the longest average tenure (~23.5 years)**. These bars stand significantly higher than Term and Endowment, highlighting long customer relationships and stable revenue over decades.

The **policy plan distribution** further shows that **premium collection** from all policies is almost equal that is close to 4 billion despite having totally different tenure period

Business Recommendations

1. Reignite premium momentum through product redesign, digital engagement campaigns, and personalised renewal reminders.
2. Expand into East and West regions with targeted marketing and agent incentivisation programs.
3. Launch performance coaching programs to elevate mid-level agents and reduce revenue concentration risk.
4. Promote awareness of policy loan benefits via email campaigns, app notifications, and branch-level conversations.
5. Maintain underwriting excellence while preparing for future digitisation through automation and AI-based risk scoring.

Future Enhancements

- Add claim analytics to assess risk severity, fraud probability, and claim cycle time.
- Integrate customer sentiment analysis from CRM feedback to support retention.
- Build churn prediction and lapse probability models using machine learning.
- Introduce agent performance scoring that factors in persistency ratio, claim rate, and customer satisfaction.
- Implement automated alerts for high-risk lapsation, delayed payments, and claim surges.
- Add a unified customer 360-degree view combining policy, payment, claim, and communication history.
- Build an A/B campaign impact measurement dashboard to evaluate renewal and retention interventions.
- Include Natural Language Query (NLQ) so executives can ask questions directly in the dashboard.