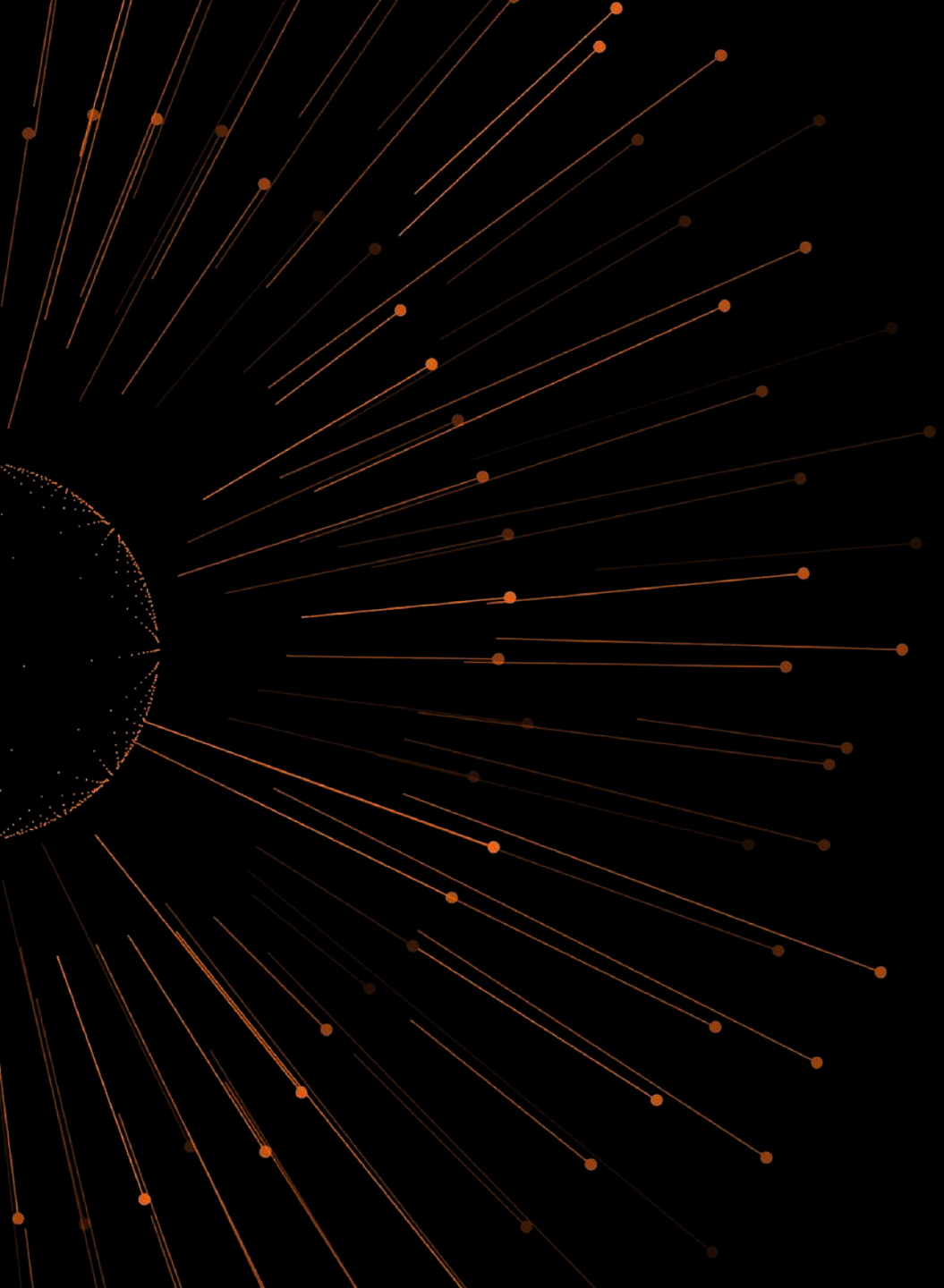

LUMIQ

FSI Data & Analytics Specialists

FSI Case Studies Repository

Information • Insight • Intelligence

www.lumiq.ai

Summarized Case Studies in FSI

Banking Experience

68M customers, **$223B** in assets and **1B+** transactions

IDFC FIRST Bank

- **Hybrid Cloud data platform**
- **Customer MDM & Customer 360** - Hyper personalization, Offer engine, KYC repo
- **Early Warning System, Collections**
- Performance analytics - Employee scorecard,branch analytics
- BI and Dashboards + Regulatory reporting
- **100+ analytical use cases**

AXIS BANK

- **Personal Finance Management & Nudge Serving Framework** for retail banking
- **Xsell and Up Sell Engine for 35mn customers**
- Corporate banking analytics
- AI/ML model industrialisation on cloud

- **Data platform design and Implementation for** analytical and BI needs - 14+ source systems
- **Data Governance and Data Security controls** – data observability
- **Implementation of Banking Data Models**

kotak Kotak Mahindra Bank

- **Data platform with focus on AI/ML & BI**
- **AI/ML Feature mart** across customer, transactions, loans, liabilities & more
- **Fraud detection** for very high velocity, large volume and small ticket transaction
- **Instant Underwriting for Consumer Durables**
- Data observability platform implementation

RBL BANK

- Customer data platform, warehouse modernisation
- 10+ use-cases offer engine, journey tracking and drop off interventions; centralized campaign engine, KYC repository
- Contact centre intelligence – speech to text, sentiment analysis, Document analysis & summarisation for UW for corporate entities skey-phrase extraction e.g., Annual Reports, Stock Statements, Stock Audit Reports
- Open banking Cloud native Journeys

#FSI #NBFC

Insurance Experience

Representing **100M** customers, and **295B** last year sum assured

HDFC Life

- **Implemented Asia's first IRDA-approved cloud data platform** for consolidation and unification (with de-duplication) of customer data spread across systems like CRM, PAS/PMS, etc.
- Enabled **30+ data led customer initiatives**
- 14% increase in Agents Productivity (attributed to timely customer insights)

HDFC ERGO

- **Data Platform design and development with migration of on-premise DWH**
- Use cases development like Sales App, Fraud Model, Customer 360, Retention, MIS

Future Generali Total Insurance Solutions

- **Lumiq emPOWER FSI Data Platform implementation**
- Data Ingestion from 40+ systems – Structured, unstructured, batch real time
- **Insurance Data Model and KPIs**
- Design and development of **200+ reports and dashboards**

Edelweiss Tokio life

- **Lumiq emPOWER FSI Data Platform implementation**
- Data Ingestion from 15+ systems – Structured, unstructured, batch real time
- **Insurance Data Model and KPIs**
- **Business specific data marts**
- Design and development of **250+ reports and dashboards**
- **AIML models for Funnel Optimization, Lead Scoring, Lead Allocation**

care HEALTH INSURANCE

- **Lumiq emPOWER FSI Data Platform implementation**
- Data Ingestion from systems – Structured, unstructured, batch real time
- Reporting Data Model created for automating Sales, Claims and IRDA Reporting
- **Lumiq Drishti IDP Platform** for automated **data extraction from KYC, Forms, medical documents**

Canara HSBC LIFE INSURANCE

- Implemented **LUMIQ Genius platform to enhance customer Lifecycle**
- **Lumiq Drishti IDP Platform** for automated **KYC and automated data extraction, face verification, sign matching and document forgery**
- **AIML based underwriting (UW) engine**

Insurance Experience

Representing **100M** customers, and **295B** last year sum assured

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Canara HSBC Life Insurance

- **Genius** platform **to enhance customer Lifecycle**
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Edelweiss Tokio life

- **Data Platform implementation**
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- **Business specific data marts**
- Design and development of **250+ reports and dashboards**
- **AIML models for Funnel Optimization, Lead Scoring, Lead Allocation**

Bharti AXA

- **Data Lake design and implementation**
- **Migrating existing DW to** newly created Data Lake
- Creating analytical and reporting layers for reports development
- **Design and development of reports and dashboards** for enterprise-wide consumption via BI tool

7+ years

Delivering Data & Analytics on cloud for Life Insurers

Lending and other Experience

representing **100M** customers, and **295B** last year sum assured

FINTECH

- **Large scale On-premise DWH migration to cloud**
- 20+ years of historical data **(200TB+)**data with **25GB daily incremental data volumes**
- **Consolidated 50+ SQL Instances into a single DWH with schema and code base rationalization**
- 60% Reduction in Licensing Cost
- Brought down brokerage calculation to **8 hours from 6-8 days**
- **Enabled innovation - Insta Brokerage**

HDFC MUTUAL FUND

- **Lumiq emPOWER FSI Data Platform implementation**
- Real-time and Change Data Capture (CDC) enabled data ingestion pipeline for both historical data migration and new data coming from 14+ systems
- Data Model and data marts creations for 80+ reports with **reverse engineering on CAMS data** to reduce dependency on CAMS

UGRO CAPITAL

- **Design and Development of enterprise-wide data platform**
- Data ingestion from multiple sources with job orchestrations and DQ for accelerated reporting and insights

TVSCREDIT

- **Migration of 6 real time App Score models from on-premise to Cloud**
- Design and implementation of **Data Lake on Cloud and creation of Sales Data Mart**

CLIX

- **Implementation of Lumiq De-dupe engine AURUM** (supports very high TPS (sub 2 seconds)
- **AIML and fuzzy logics driven** de-dupe algorithm to identify and remove duplicate records and to handle complex cases like phonetically similar names , face matching address attributes, etc.

LUMIQ
Case Studies in FSI

On-Prem DWH Migration to Cloud

#1 Registrar & Transfer Agent (RTA) in Southeast Asia | 130M Investor Folios

Challenges

- On-prem warehouse built over 20+ years having 200TB+ data with 25GB daily incremental data volumes leading to high licensing costs
- 50+ SQL server instances & code bases - one for each 28+ AMCs. 2000+ stored procs - long lead time to change and high cost of maintenance
- Each AMC had its own instance and reporting (incl. Brokerage and Regulatory) was completely manual, excel driven reporting process leading to high month end processing loads frequently marred by data inconsistencies and manual errors
- Expensive re-runs, manual process for adjustments; frequent delays and TAT breaches

Solution

- Consolidated disparate data instances of 28+ AMCs into a single cloud warehouse with real-time CDC enabled data ingestion
- Rationalized and consolidated multiple AMC specific schema and code bases into a SINGLE schema and Code base for all 28+ AMCs
- Leveraged Lakehouse architecture enabling segregation of compute and storage providing seamless scalability
- Enablement of Instant brokerage – daily on-demand brokerage payout for agents
- Brokerage Reports – AMC specific to standardized Brokerage reports with UI customizations as per AMC needs; Downstream APIs
- Streamlined regulatory reporting eliminating data inconsistencies
- Enablement of self-service reporting

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Outcomes + Benefits

60%
Reduction in Licensing Cost

32X
Reduction in TAT for month end processing (6-8 days to less than 8 hours) & Regulatory reporting (from Days to hours)

Zero
unplanned downtime

24x7
Self Service Enablement

CAPEX to OPEX
model for infra

On-Prem DWH Migration to Cloud for enterprise data & analytics needs

Leading Health and Wealth Enterprise in USA | 14M+ customers

Challenges

- Existing 3 on-prem data warehouses (handling 400+ TB of data with 20GB daily incremental volume) fulfilling data and analytics needs of 30+ internal and external applications.
- Each warehouse has its own technical stack(Cloudera and Exadata) leading to scaling and management challenges
- SFTP driven data ingestion from 20+ source systems (1000+ files per day) where a single file delay impacts the whole processing flow
- Data overlap and duplication issues (same data present in multiple data warehouse)
- Direct Query on data warehouse leading to unpredictable load

Solution

- Consolidation and rationalization of three disparate data warehouses into a single data warehouse with standardized data model and rationalized code base
- Enablement of event driven processing for future needs
- Rationalization of data ingestion/feeds to avoid data overlap and duplication
- Consolidation of transformations across Stored Procedures and Cloudera into new ADF and Databricks flows
- Enabled parallel run - Cloud Datawarehouse providing data to on-premise data warehouse fulfilling data needs of 30+ applications (till the time they are completely migrated, in approx. 12 months)
- Subject wise API approach for standardize data consumption

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Outcomes + Benefits

20%

Reduction in TAT for Ingestion to consumption layer data processing time leveraging parallel processing

63X

Reduction in assets after consolidation to a single warehouse and dropping of associated data pipelines

Smooth change management

for consuming apps

Enabled change data consumption (CDC)

from query based to API based

On-Prem DWH Migration to Cloud for enterprise data & analytics needs

Leading Indian Investment Management Company | 11M+ Investor Folios

Challenges

- No standardized data ingestion mechanism for data (300+ GB data, with 5GB daily incremental data volume) from 7+ source systems (e.g., receiving data from CAMS via emails or manually downloads from other source systems)
- Lack of data collaboration among departments, resulting in multiple data silos
- Excel-driven reporting process with embedded data transformation logics, resulting in limited data insights
- Regulatory reporting was done by leveraging Excel-based workbooks and complex KPIs from a BI tool which takes a lot of time and prone to human error
- Data unavailability resulting in the slow development and adoption of data-driven use cases

#FSI #NBFC

Solution

Built a cloud-based data platform with the following features:

- Real-time and Change Data Capture (CDC) enabled data ingestion pipeline for both historical data migration and new data
- Platform-native data quality controls and checks to flag and process any data inconsistencies, resulting in a single version of truth
- Reverse engineering on CAMS data and designed facts and dimensions and KPI sheet required for reporting purpose
- Standardized data models and data marts creation for Sales, Finance, Risk, Investment, accelerating design and development of 80+ reports
- API-driven downstream integration with enterprise applications
- Ad-hoc data exploration with functionality for self-service BI, eliminating the need for Excel-driven reporting processes
- Incremental use case development, including Distributor 360, Agent Nudges, and Automated Campaigns

Outcomes + Benefits

60%
Reduction in TAT for report refresh

Zero
dependency on RTA for processed data for reporting

Self-service
enablement

Standard and Single
Source of Data across enterprise

Near real time data
processing

Hyper-personalization to enhance customer loyalty

Leading Indian Life Insurer | 40M+ Customers

Challenges

- Ineffective marketing campaigns resulting in poor conversion rate & low customer adoption
- Limited personalized selling due to customer data present in silos across departments
- Inconsistent product promotions across multiple channels leading to diminished customer experience
- No tracking system to determine the effectiveness of campaigns
- No targeted campaigns based on customer segmentations (demographic, regional, occupational, etc.)

Solution

- Unifying customer data from different source systems to create a single version of the customer (SVOC)
- Creating a customer propensity model using past data to identify high-responder customers for digital campaigns
- Implementing end-to-end life cycle AI-ML model management to identify the preferred customer response channel, message, and timing
- Engaging cross-sell and upsell via broadened product recommendations, which include product families, bundles, and other related products

#FSI #NBFC

Outcomes + Benefits

23%
Uptick for pre-approved products

9%
Reduction in Campaign Costs

17%
Increase in cross selling marketing initiatives

Omnichannel experience
for achieving improved CSAT scores

SVOC accelerated
customer analytics

Dynamic nudges for consistent product recommendations across channels

Leading Private Bank in India | 20M+ Customers

Challenges

- Need for a dynamic nudge engine to send nudges and prompts, ensuring a consistent multichannel customer experience and effective personal finance management
- The existing system proved unscalable due to the 35 million+ customer base and high sectional loads of 3000 transactions per second (TPS) during peak hours.
- The static nudge generation framework was not adaptable to changing customer preferences.
- Any small code changes in the static nudge framework were a tedious task.
- There was no payload encryption in the existing framework, as mandated by regulators.

Solution

Built a dynamic nudge engine platform (real-time nudge creation and serving layer) for effective personal finance management by:

- Creating a dynamic nudge engine via the deployment of a cloud-native tech stack
- Implementing a serving layer that allows nudges to be imported from external tools or processes, thus providing a single experience for customers independent of the platform
- Implementing dynamic scaling to ensure high TPS and resilience to increased loads
- Utilizing nudge expiry and knock-off mechanisms for dynamic nudge prioritization to ensure non-repeatability of static nudges
- Implementing payload encryption along with TLS 1.2 to ensure the anonymity and security of PII data

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Outcomes + Benefits

3000
TPS Tested in production

20%
Uptick in Call to action (CTA)

Zero
Unplanned Downtime in 3 Months

PII Data Protection and Payload Encryption (TLS 1.2)

Reduction in Nudge Lifecycle Management

Instant underwriting engine for quick financing of consumer durable loans

Large Indian Private Sector Bank | 32M+ Customers

Challenges

- Need an instant underwriting engine to quickly assess and approve financing for the purchase of consumer durables
- Not able to manage a high volume of requests due to high footfalls (~1000 Transactions Per Second (TPS) during sales and festival periods) resulting in loss of potential business
- Inefficient quick background checks in peak periods resulting in high default rates
- Real-time eligibility checks and executions not available for generating offers

Solution

Built an instant underwriting engine to generate the best offers in real-time (based on historical customer data, eligibility) using AI/ML modelling by:

- Integrating with the source system (Salesforce) through API for real-time data ingestion
- Computing the best offer based on the backend data store and ML model
- Embedding flexible code logic that allows for changing variables and values dynamically
- Ensuring payload encryption with TLS 1.2
- Leveraging a cloud-native serverless architecture for high scalability and to manage high footfall

#FSI #NBFC

Outcomes + Benefits

1k+
TPS managed with less than 30 sec overall response time

10%
Conversion of transaction into EMI

Secure API integration
to various other touchpoints

Flexible API architecture
which became basis for other such APIs

Speech Analytics (Contact Center Intelligence) for Sentiment Analysis

Leading Indian private sector bank | 12M+ Customers

Challenges

Regarding voice-based customer interactions (which includes contact center call records, dialer data for call metadata, agent information, etc.), the following challenges were observed:

- Inability to audit large call volume due to agent non-compliance and difficulties in monitoring customer frauds
- Difficulties in improving agent performance, training needs, and retention
- Absence of framework to measure customer sentiment, evolving needs, competition, and improve NPS
- Necessity of enhancing Xsell, upsell, and retention efforts

Solution

Built a speech-to-text analytics and sentiment analytics engine with the following features:

- Complaint analysis using keyword extraction from multiple sources
- Daily voice recording analysis to identify any shifts/trends in customer interaction
- Transcript analysis and agent interaction analysis for audit assessment and call optimization
- Real-time integration for in-call nudges
- API-driven pay-as-you-go service deployed on the cloud

#FSI #NBFC

Outcomes + Benefits

100%
Audit Coverage

40%
Improvement in Net promoter score (NPS)

100%
Voice driven **sentiment** analysis

Better assessment of training
needs of call centre agents

Enhancement in daily review process

Redesigned customer journeys and built customer data platform for digital customer acquisition

Leading Indian private sector bank | 12M+ Customers

Challenges

- The release of a new financial product was delayed due to inherent complexities in existing systems
- The turnaround time for existing products was also high due as they must go through complete development cycle
- There was no mechanism to track customer journeys and identify journey drop-off cases
- An ad-hoc process was in place to exchange information between customers and agents, leading to confusion and delays in communication and status updates

Solution

- Rearchitected and redesigned cloud-native customer journeys by leveraging headless content management systems (CMS) and consolidating APIs for open banking. This allowed for flexible and single code-based journeys that can be easily integrated with any channel or application
- Created a customer data platform with centralized KYC, an offer engine, journey tracking, and drop-off interventions
- Additionally, developed a centralized campaign engine with inbound and outbound integrations

#FSI #NBFC

Outcomes + Benefits

12
New Products Launched in 8 months (reduced development efforts)

3 Wks
from 3 Months (Reduced Product Rollout Duration)

Increase in Customer Visibility and decreased drop-off

Multiple system integration with single point leading to **reduced testing** time of new products

Sales funnel optimization and dynamic agent allocation to improve conversion rate

Leading Life Insurance Organization | 70k+ Agents | 500K+ Customers

Challenges

- Too many leads coming from multiple channels (website, contact center, aggregators) pose challenges, such as determining which leads to focus on and spending too much sales effort on potential leads resulting in inefficient bandwidth utilization and agent productivity issues
- Traditional rule based or human methods of scoring leads are ineffective and error prone
- Agent allocation was done manually and was often based on the manager's personal instincts leading to poor conversion rate

Solution

- Created an AI/ML model-based funnel optimization solution that can predict the likelihood of fixing appointments based on lead attributes, information provided during call center conversations, and historical appointment conversion of the leads
- AI/ML driven lead ranking/prioritization which gets enriched as more information on leads are gathered move through the sales funnel
- The AI/ML model also helps in allocating the lead to the best-suited agent based on lead propensity and agent attributes matching (affinity), as well as agents' geography/area mapping along with preferred mode of channel

#FSI #NBFC

Outcomes + Benefits

15% - 20%
Increase in warm leads

5k
Productivity improvement of Contact Center Agents

30%
Increase in Sales Agent Productivity

Higher Lead Conversion

Increased ROI
of lead generation programs

Aadhaar masking to secure private confidential information of customer

Leading Life Insurance Organization | 4M+ Customers

Challenges

- Masking first 8 digits of Aadhaar number before storing Aadhaar data in the database was made mandatory by the regulatory bodies (UIDAI, RBI, IRDA, etc.)
- It was an operational and regulatory challenge to mask all existing documents and to implement a process to mask Aadhaar digits present in multiple formats (PDF, TEXT, WORD, JPEG, etc.) before onboarding new customers
- Identifying the Aadhaar number in documents (proposal, claims, etc.) other than Aadhaar documents was adding to the complexity and led to low masking accuracy

Solution

Implemented LUMIQ's DRISHTI - Intelligent Document Processing Platform for automated Aadhaar masking of the documents stored in Document Management System (DMS). Key features of DRISHTI are:

- Cutting-edge document processing to address the poor scan quality of documents and enhance the overall document/image quality
- Post-processing module to classify document types, mask the Aadhaar numbers anywhere appearing in the document – Aadhaar document, claims forms or proposal form etc.
- Masked documents (Aadhaar number masked) ready for downstream consumption – Applications or Business process

#FSI #NBFC

Outcomes + Benefits

98%
Accuracy observed in Aadhaar masking

90%
Reduction in Manual Intervention

2.5 million
Documents processed

Ease of manual corrections
through the dashboard

Improved Customer TAT

Operators' bandwidth freed
for higher-priority tasks

Automated Customer Onboarding and KYC Process

Leading Life Insurance Organization | 4M+ Customers

Challenges

- Handling multiple formats of KYC documents (PAN card, Aadhaar Card, Passport, Driving License, etc.)and Financial documents (Bank Statement, Cheque, Passbook, ITR, Form 60, and Salary Slips) leading to inefficiency and frequent data entry errors
- Inefficiency in document processing and data extraction from handwritten documents
- Face verification (customer image v/s image in documents) and signature verification was not available

Solution

Implemented LUMIQ's DRISHTI - Intelligent Document Processing Platform for automated KYC document classification and data extraction for customer onboarding and Income verification

- Deep learning architecture using textual and vision embeddings for document classification and information extraction
- Cutting-edge document processing to address the poor scan quality of documents and enhance the overall document/image quality
- Leveraged business/domain logics (like get bank address from IFSC code rather than use bank address extracted from document) to lift model accuracy by 5-10% for each document class and each extracted field
- Phenomes and syntactic co-relation for names matching and extraction

#FSI #NBFC

Outcomes + Benefits

- **71%**
  Auto KYC verification
- **63%**
  Reduction in Manual effort
- **Instant real time**
  customer verification
- **Paperless workflow**
- **Instant evaluation of**
  additional supporting documents

Data Lake creation for unification of customer data and insights

Leading Indian Life Insurance Company | 2.5M+ Customers

Challenges

- Customer data was stored in multiple systems (like an underwriting system, policy admin system, agent management system, lead management system, login system, etc.)
- Direct query on source systems was putting a load on source systems
- Multiple data silos create challenges to derive customer insights and analysis in the form of reports and dashboard

Solution

- Designed and implemented a cloud-based enterprise data lake that serves as a trusted and up-to-date source of data for building enterprise use cases across AI, BI (reports and dashboards), and DI (secure sharing of data within the enterprise and with business partners)
- The data lake ingests data from multiple source systems (including PAS/PMS, CRM and others), and processes and stores the structured, unstructured, and semi-structured data coming in batch, real-time, and near real-time
- This helps accelerate the unification of customer data to create a Customer 360 view, including de-duplication of customer records

#FSI #NBFC

Outcomes + Benefits

50%
Reduction in time to roll out new business initiatives (example hyper-personalized campaigns)

Unified view
for all customer data

Enabled Customer policy tracking for
new business initiatives

Data Warehouse Migration & Automated Reporting

Leading Indian Life Insurance Company | 2.5M+ Customers

Challenges

- Enterprise data resided in fragmented silos, making it difficult to identify and access data for downstream users' consumption for analytics and reporting needs
- The MIS team was unable to meet the organization's analytics needs due to their inability to handle multiple report/dashboard requests in a day
- Frequent data issues such as data inconsistencies, unavailability, and different representation of the same KPIs made it challenging to determine which data to trust
- Limited Industry specific KPIs.
- Freeze date capability was not available (required for tracking the incremental change in revenue from policy premium change from one date to another)

Solution

- Designed and implemented a cloud-based enterprise data lake that ingests data from multiple source systems, including PAS/PMS, CRM, to make data available for processing and storing structured, unstructured, and semi-structured data that comes in batch, real-time, and near real-time
- Created a Reporting Mart on top of the Data Lake as a new layer, which facilitates the creation of reports from facts and dimensions
- Created enterprise wide & centralized industry specific KPI/metric store, meta data management and Data modelling
- Built a Consumption layer on top of the Reporting Mart, providing the functionality to generate automated reports and handle multiple reports per day

#FSI #NBFC

Outcomes + Benefits

80%
Effort Reduction in manual report generation

Reduction in TAT
for reports generation

Multiple reports can be generated on the fly

Standardization of KPIs
along with KPI tracking Ability

Data Platform Modernization serving enterprise data needs for analytics

Leading Life Insurance Company | 1.5M+ Customers

Challenges

There are 40+ source systems (CRM, PAS/PMS, Website, Applications, 3rd Party, ERP, etc.) that provide data for enterprise which needs to be consumed across AI, BI, and DI use cases (structured, unstructured, and semi-structured data).

- Requirement is to manage and process batch and stream data ingestion, data processing, jobs orchestration, and monitoring
- No standard enterprise KPIs/Metrics leading to inconsistency in representation
- No platform for AI model development and deployment
- Reporting is currently done manually for 350+ regulatory reports leading to frequent data unavailability and data inconsistency issues

Solution

Implemented LUMIQ emPOWER - FSI Data Platform for:

- Enterprise-grade data ingestion mechanism which can handle and process any variety of data (structured, unstructured, semi-structured) coming at any speed – batch, real-time, near real-time)
- One-time data migration from existing on-premise data warehouse and loading incremental data (change data capture)
- Enterprise data catalog for quick and NLP-based data discovery, Data Schema, Data Quality, and end-to-end data lineage view
- Supplying trusted and most recent data for the design and development of 50+ non-regulatory reports, 15+ dashboards, and 105+ regulatory reports) including Self-service BI on Data Studio and/or Looker
- Supplying data for AI model development and deployment on Vertex AI

#FSI #NBFC

Outcomes + Benefits

- Automated creation of business and regulatory reports **significantly reducing manual efforts**
- **Reduction** in operational costs (as compared to on-premise DWH)
- **Enabled self-service BI and reduction in TAT** for month-end processing of reports

Data Platform Modernization serving enterprise data needs for analytics

Leading Health Insurance Company | 800K+ Customers

Challenges

- Enterprise data was residing in fragmented silos and multiple internal teams were accessing it. Due to this, it was difficult to identify and access the data for consumption by downstream users for analytics and reporting needs
- Data Governance and Data security was not properly enforced (who can access, who can edit/update data, etc.)
- No availability of trusted data which can be used by the data science team for building AI/ML models
- Need for enabling standard, scalable & secure data exchange with API integration across internal & external applications

Solution

Implemented LUMIQ emPOWER FSI Data Platform for:

- Data ingestion mechanism which can handle and process any variety of data (structured, unstructured, semi-structured) coming at any frequency – batch, real-time, near real-time
- One-time data migration from existing on-premise data warehouse and loading incremental data (Change Data Capture)
- Enterprise data catalog for quick and NLP-based data discovery, Data Schema, Data Quality and end-to-end data lineage view
- Unified standard insurance data model that acted as a foundation for creating subsequent data models for advanced analytics, business intelligence & data exchange
- Built standard low-latency & scalable data APIs for data integration from multiple applications starting from claims, which helped to remove dependency from manual process of data syncing & helped to achieve data integration to new APIs

#FSI #NBFC

Outcomes + Benefits

70%
Reduction in time taken for making data available for claims processing

Improved user experience & faster Performance

Single source of truth of data & consumption readiness for organization-wide applications

Enhanced data governance & faster accessibility of data resulting in higher confidence of BUs in solving complex data challenges

Collection Analytics to optimize the collection process

Leading NBFC in India | 9M+ Customers

Challenges

- The client had a non-targeted mass collections strategy having high operational costs and lower collection performance
- No visibility on complete 360o view of customer data and no analytics to support treatment-based strategies for collection cohorts
- Need for analytics-driven collections strategy to score and segment customer accounts by exposure, risk, behavioral factors, willingness to pay and preferred contact channel

Solution

To cater to the needs of the client, LUMIQ helped by creating a solution that addresses:

- Rollover prediction: Prediction of movement of customer accounts between collection buckets (30 to 60, 60 to 90, 60 to 30 & so on)
- Delinquency prediction: Identification of probable 90 Days Past Due (DPD) accounts
- Pre-delinquency management approach which shall enable institutions to plan and take proactive measures in terms of collection efforts to prevent assets from later-stage delinquency
- Channel Prediction: Identification of the most probable strategy to which the customer will respond
- Behavioral segmentation, treatment allocation & strategy performance

#FSI #NBFC

Outcomes + Benefits

- **~40 millions INR**
  Savings in first 6 months by optimizing representation
- **20%**
  Lift in Self Pay
- **2x**
  Improvement of Realization representation
- **Omnichannel experience enablement**
- **SVOC -** Acceleration of all customer-driven initiatives
- **Improved CSAT scores**

Dedupe engine to improve quality of customer data

Leading NBFC in India | 3M+ Customers

Challenges

- Existing de-dupe was difficult to customize (adding or modifying new configuration/parameters was a challenge), leading to low de-dupe efficiency
- Very difficult to search customer details as data was spread across enterprise in data silos and in multiple formats (e.g., Anuj Vyas, Anuj V, Anuuj V), posing a challenge to derive financial exposure per customer
- There was no golden profile of the customer making it difficult to trust customer data. Very difficult to merge customer records
- Friction in customer onboarding processes - existing customers being treated as new customers

Solution

- Architected and implemented cloud based de-dupe engine with self-learning capability based on open-source technology with high scalability and real-time integration with core systems (LOS, LMS and other systems) providing easy customization of engine - easy integration of new sources, prioritization of sources to handle scenario like same record coming from multiple systems
- AIML and fuzzy logics driven de-dupe algorithm to identify and remove duplicate records and to handle complex cases like phonetically similar names , face matching address attributes, etc.
- Merging of customer attributes (as per the source prioritization) to create golden profile of customer records (UCIC)
- Correct assessment of risk exposure & householding value per customer enabling faster approvals and conversion rateAbility to identify unique and partial matches in real time or batch mode – supports very high TPS (sub 2 seconds)

#FSI #NBFC

Outcomes + Benefits

25%
Reduction in total number of records

18%
Improvement in process of linking multiple records to single unique profiles

500TPS
Faster processing of records through dedupe engine

Instant Customer loans identification for providing moratorium

Provided all-in-one portal for Customer Services

Cloud data platform for accelerating customer centric use cases

Leading Indian Life Insurance Company | 40M+ Customers

Challenges

- Customer data was spread across organization in multiple data silos within multiple departments creating challenges for rolling out internal customer centric initiatives and partner initiatives
- There was no unified customer view amongst multiple departments due to which customers were often approached/targeted with irrelevant/conflicting offers/recommendations
- There was huge lag in data propagation (flow of data from CRM to Business Application like Sales App) due to non-standard ways of data sharing between systems/applications

Solution

- Implemented IRDA-approved cloud data platform for consolidation and unification (with de-duplication) of customer data spread across systems like CRM, PAS/PMS, etc. paving the way for rollout of 30+ data led customer initiatives
- Created robust API based Data as a Service (DaaS) layer for exchanging unified customer view/data with multiple business departments, systems and with external partners/vendors
- Created products recommendation and nudge engine for hyper-personalized product recommendations across channels

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Outcomes + Benefits

- **40%**
  increase in lead response (due to seamless flow of data between systems)
- **14%**
  increase in Agents Productivity (attributed to timely customer insights)
- **Significant** Cost Reduction
- **Single** version of Truth across enterprise

Offer Engine reducing data engineering efforts and increasing revenue

Leading financial services marketplace provider | Offering 1300+ financial products and services

Challenges

Rolling out personalized products offers throughout the month was challenging due to following reasons

- Data Integration challenges – Data required for generating offers was scattered in multiple internal data silos (multiple data pipelines creating manageability issues) and co-relating it with external data like bureau data
- Inaccurate, incomplete, or inconsistent data leading to incorrect or irrelevant offers (data was not in standardized format, frequent data quality issues - handling missing fields/values, cleaning garbage data)
- High latency between data collection, processing/unification and rolling out offers was very high as this entire process was manual (excel/dump-based approach). At every stage data was transformed manually. TAT for rolling out offer was 7~14 days with equal time taken for offer re-run scenarios
- Another complexity was how to serve/roll out generated offers to customers at high TPS (very high speed) across multiple channels – Website, App, SMS, WhatsApp, Social Media (limited offer acceptance/rejection/ignore visibility)

Solution

- LUMIQ designed and implemented state of the art offer engine with automated data pipelines, ingesting data in batches and in real time
- Orchestration of data transformation logics/jobs eliminating manual efforts required
- Predictive Models - machine learning algorithms to predict which offers are most likely to be effective for each customer
- Designed an omni-channel offer serving layer which can handle thousand of offer rollout across channels per seconds (website, app, SMS, social media, etc.)

Outcomes + Benefits

70%
Reduction manual efforts required for data preparation

12%
incremental increase in revenue

Higher conversation rates of rolled out offers

Reduced marketing cost **(due to optimized offers and serving)**

Data Platform Modernization serving enterprise data needs for analytics

Large Indian General Insurers | 15M+ Customers

Challenges

- Customer was looking for a single, scalable, and consolidated cloud-based data platform to unify data from various source systems (16+) for reducing dependency on existing on-premise DWH
- Existing on-premise DWH had frequent scalability and performance issues. Some ETL jobs taking more than 12+ hours to complete
- Frequent downtime/crashing of business-critical apps
- There was no mechanism for handling and processing real time, near real time and unstructured data
- Because of lack of trusted data accelerating rollout of strategic uses case like new Sales App, creating C-30 view, building AIML models was getting delayed

Solution

Implementation and customization of LUMIQ emPOWER FSI Data Platform for

- Direct data ingestion from 16+ source systems coming in batches, real time or near real time
- Structured, Unstructured, Semi-structured data handling and processing with end-to-end Data governance and security
- Data Catalog providing easy discovery of data assets, Schema view and columnar level data lineage
- Data Quality module to configure and enforce data quality rules at table or column level
- Implementation of LUMIQ's General Insurance Data Model
- Proactive Data Incidents Management providing contextual information to data reliability engineers

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Outcomes + Benefits

Zero
Unplanned Downtime

60%
Reduction in time taken for making data available for consumption

Seamless enterprise-wide data discovery and Single Source of Truth

Accelerated use cases development for value realization

Proactive monitoring of data incidents resulting in improvement in Mean Time to Repair (MTTR) and Mean Time to Detect (MTTD)

Automated NEFT Verification for claims processing/refunds

Leading Indian General Insurance Company | 110M+ Customers

Challenges

All general insurance companies do NEFT verification for multiple reasons – refunds in case of rejection, validation of the financial identity of the applicant, etc. The following challenges were observed:

- Extraction of details from multiple document classes such as Bank Statement, Cheques, Passbook and NACH mandates was completely manual leading frequent data errors and longer processing time
- Manual process was done by an army of backend manual operators which was difficult to maintain from Capex point of view

Solution

Implementation of LUMIQ DRISHTI – Intelligent Document Processing Platform for automated document classification and data extraction required for NEFT verification.

- Pre-processing for documents/images like orientation correction, boundary detection, Quality improvement (adjusting contrast, saturation), removal of watermark (if available). This was done to ensure higher efficiency
- Post processing module to classify document types, extract account number, account name and IFSC code and supplying extracted data to downstream business applications/processed

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Outcomes + Benefits

97%
improvement in NEFT verification

50%
Reduction in TAT for claims processing

600K
Documents processed/year

Instant verification of bank accounts for refunds and reimbursements

Reduced expenditure on penny-drop verifications

Feature Mart to accelerate AIML model development and rollout

Large Indian Private Sector Bank | 32M+ Customers

Challenges

- Data scientists were spending more time and resources on feature engineering, This was resulting in less efficient use of resources, slower time to market, and less accurate models.
- Featured were built in isolation, there was lot of inconsistency in the features created, which was leading to inconsistencies in the models.Inefficient feature engineering for large datasets as codes are written on data science notebooks
- Difficult to manage developed features - keeping them up to date and relevant for model development
- The codebase became more complex, with multiple features being created independently, leading to increased technical debt.
- Steep learning curve for new members due to the complex data environment

Solution

- Created a centralized feature mart allowing data science team to use pre-built, reusable features (bureau, credit card, Taxation, Mobile Banking, UPI) to reduce the time and effort required for feature engineering.
- Implemented an automated feature generation framework to automatically generate features for new, incremental, and updated data.
- The segregation of feature engineering from prediction pipelines allowed refreshment of features on-demand or in batch mode.
- End to End tracking of feature and model lineage
- Implemented data governance practices to ensure data quality and consistency.
- Leveraged cloud capabilities for high scalability and on-demand workflows.

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Outcomes + Benefits

- **1500+**
  Features developed in 6 months
- **20%**
  Reduction in Model TAT
- **30%**
  Increase in Data Science team productivity
- **Agile** delivery - every 8 weeks
- **Freedom** from complex data transformation
- **Simplified** Model prediction pipelines

Real time payments fraud detection engine for UPI

Large Indian Private Sector Bank | 32M+ Customers

Challenges

- Identification and protecting customers from UPI payment fraud case was not done in automated and real time manner (No automated integration with various systems – Payment Gateway, RCU and Fraud grievance report unit)
- Scalability and manageability issues to process large volume of API calls through payment gateways
- Manual process for rules generation – no dynamic rules generation using statistics and machine learning
- Because of reactive and static rules many case were wrong identified as frauds and whitelisting such false-positive cases was a

Solution

LUMIQ designed and implemented highly scalable real time fraud engine for UPI Payments with

- Realtime API integration with payment gateway, RCU and other systems
- API serving layer which can process thousands of requests per second with sub second latency (under 200ms)
- Dynamic rules generation using statistical programming and capability to add external configuration rules
- Fail-safe design in case of over-decline of payments
- RCU integration for case creation and whitelisting
- Realtime fraud metrics dashboard
- APIs for creating, updating or disabling rules and whitelisting customers and suppliers

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Outcomes + Benefits

- **25%**
  Reduction in customer complaint
- **10**
  Patterns of fraud detection every month
- **>1**
  Million+ Frauds Prevented in 6 Months
- **No** failures in API Integration
- **Zero** downtime on Upgrade
- Significant **Reduction** Fraud complaints

Prospect Data Mart to run effective campaigns and improve conversion rate

Leading Indian NBFC | 2M+ Customers

Challenges

Marketing campaigns for vehicle lending product was not resulting in desired new customer acquisition rate

- Non-standardized prospect data (~250 million) provided by multiple partners in form of multiple files (~4K) and in various formats, such as CSVs, .xlsx, PDFs, and RARs. High attribute inconsistencies like DOB vs Data of Birth, Mobile Number Vs Contact.
- No mechanism to differentiate prospects from existing customers due to multiple redundant or duplicate records in the system
- There was no standard data validation checks leading to data quality issues in the system

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Solution

Designed and implemented a robust cloud-based Prospect Data Mart (PDM) for vehicle finance division, resulting in optimized campaigns executions with higher conversion rates

- Streamlined and standardized diverse range of file formats (.xlsx, PDF, RAR, etc.), into a standard file format (.csv) with formats validation and storage in a relational model.
- Developed a comprehensive Prospect Data Model, encompassing a wide array of attributes necessary for profiling prospects and handling missing attributes cases. These attributes included both direct and derived data points.
- De-duplication engine for identifying and eliminating duplicate records in Prospect Data Mart and Customer Data Mart. Prospects are assigned unique prospect IDs and are also referenced against existing records in Customer Data Mart
- Seamless access/query of unified, enriched and validated prospect data for running targeted and optimized marketing campaigns, offers and bureau feeds

Outcomes + Benefits

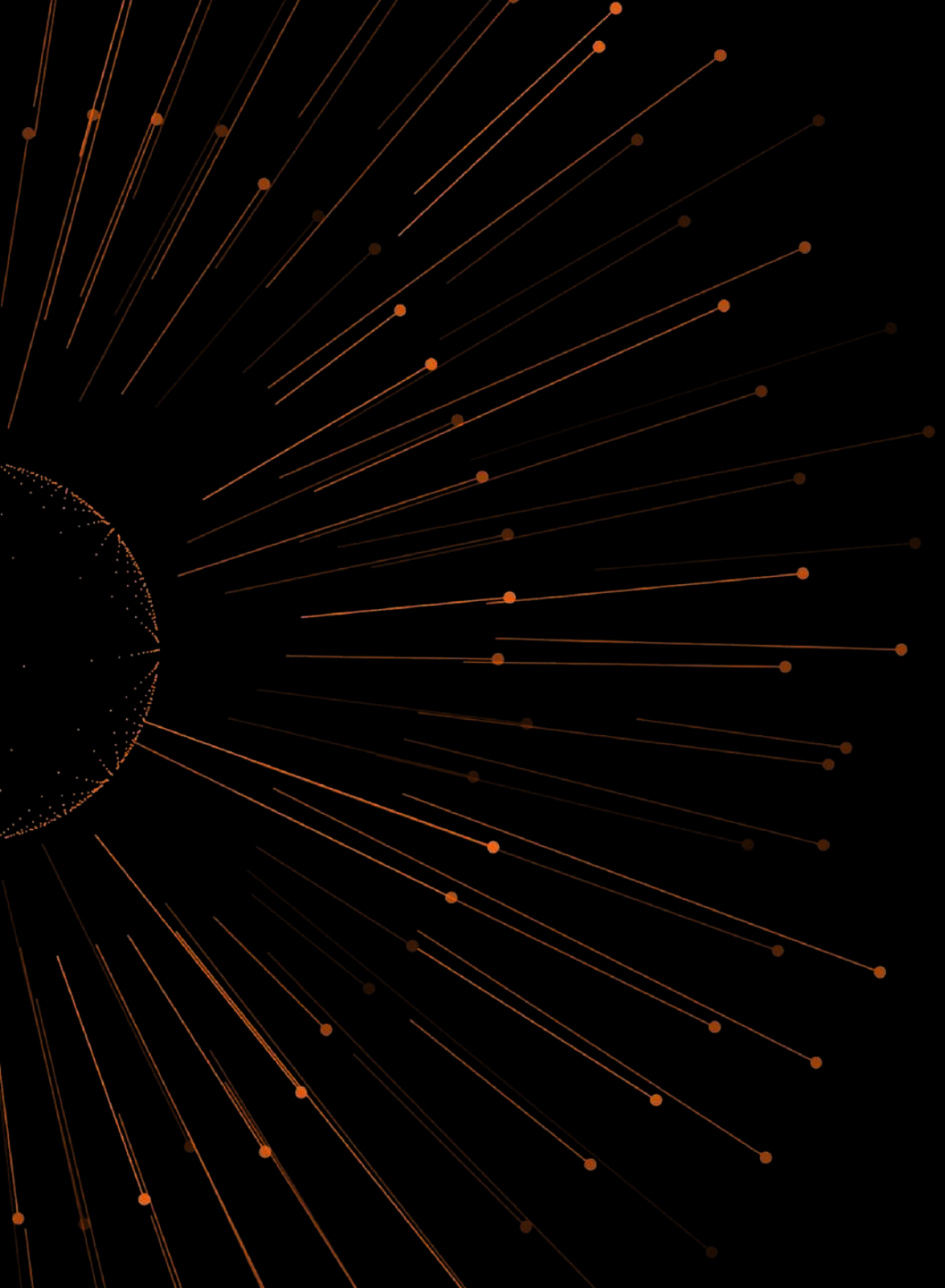
~250
Million prospect data points processed seamlessly

Zero Errors in unified and de-duped prospect data

Significant reduction in manual efforts (ingestion, validation, cleansing, unification)

Enriched prospect data with derived attributes for targeted marketing campaigns

Faster TAT for new campaigns and initiatives resulting in new customer acquisition



Thank you

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