

## IT Strategy Roadmap, Al-based Information Masking & Retrieval System

for Aditya Birla Health Insurance









## About Client

Aditya Birla Health Insurance is a joint venture between **India's 3rd largest private sector conglomerate** - Aditya Birla Group and one of South Africa's Largest insurance companies-MMI Holdings Limited.

The company offers digitally integrated insurance products & services with an emphasis on proactive health to help people beyond financial support. As of September 2019, Aditya Birla Capital Limited manages over **US\$ 42.18 billion** worth of assets through its subsidiaries and joint ventures.

Managing new business, support, and compliances was cumbersome through the traditional software applications.

## **Proble**ms

Despite adopting market-ready solutions, Aditya Birla Health Insurance was facing serious **scale-up issues** with business demands, process, and deliverables.

No set process to accommodate the new Government regulation on masking & storing sensitive information.

Identifying and extracting specific information from Aadhaar in a pool of customer policy documents was tedious.



## Solution

The extensive domain experience of Mantra Labs' senior management helped Aditya Birla Health Insurance to strategize their **business and technology roadmap**.

Mantra Labs also developed **Al-powered APIs** for information masking and retrieval system for the organization.

#### IT Strategy Roadmap

for requirement categorization, governance structure, digital assets along with cost benefit analysis.

#### **Document classification**

to identify Aadhar in a pool of customer policy documents.

#### Information masking

to protect confidential customer information (especially Aadhaar number) in the policy schedule.

#### Fetching the original document

for claims, policy renewal, and other insurance purposes.







## IT Strategy Roadmap Consulting



# IT Strategy Roadmap



The organization faced serious challenges with requirement fulfillment. User and business requirements were stacking and there was no strategy for improving processes. The operations also lacked clear distinction between the types of requests, their complexity and importance.

Mantra Labs studied the business, organization, and existing processes and proposed four major improvements.

- 1. **Requirement categorization and prioritization** according to new, support, and compliance requests.
- 2. **Improvement in governance** in terms of team architecture, supporting tools, and vendor management.
- 3. **Organizing redundant digital assets** like Sales and Renewal Journey, Premium Quotation API, Payment Gateways, etc.
- 4. Improving software that are not scalable and efficient.





### IT Strategy Roadmap Our Approach

| Understanding<br>clientís problem   | Understanding<br>organization<br>workflows   | Evaluating the<br>change request<br>and user<br>requirements          | Evaluating<br>organizational<br>processes   | Evaluating<br>software and<br>applications                                       | Delivering   |
|---|--|---|---|--|--|
| Discussions and meetings<br>with top management to<br>understand business,<br>organization, and goals | Multiple meetings with<br>stakeholders including<br>vendors; finance, Legal, risk<br>and compliance heads<br>Knowing software tools<br>being used<br>Products and applications<br>demonstrations | Existing products analysis<br>Market research<br>Competitors Analysis | Organization structure<br>Existing processes<br>Team structure<br>Governance<br>Different business software<br>being used | Efficiency<br>Resources consumed<br>Functionality<br>Scalability<br>Architecture | Actionable<br>Business & IT<br>Strategy<br>Roadmap |
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# 8~8

# IT Strategy Roadmap

System Evaluation





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# IT Strategy Roadmap

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ADITYA BIRLA

#### Excerpt from the Suggested Solution

| Requirement<br>Categorization  | Governance  | Digital Assets   | Applications  |
|--|---|--|---|
| ြ New  | Structure   | Scalable   | Tier – 3<br>Architecture  |
| Support  | ද්ටූරි Tool   | Optimized  | Service   |
| Compliance   | (O) Process   |  |   |
| Based on current demands,<br>requirements can be<br>categorized as - New<br>Business, Support, and | <ul> <li>UAT team should be in-house<br/>instead of managed by<br/>single vendor.</li> </ul>  | <ul> <li>7 digital assets were<br/>identified creating<br/>redundant instances.</li> </ul>   | • The core insurance software<br>needs to be upscaled to<br>service oriented, scalable,<br>tier-3 architecture. |
| Compliance and <b>priorities</b><br>need to be defined<br>accordingly.                             | <ul> <li>Project, Timesheet, code<br/>management and<br/>knowledge base tools are<br/>required.</li> </ul>  | <ul> <li>Replace those assets with<br/>scalable assets after<br/>identifying the best suit<br/>(Readymade product and<br/>solutions Vs Custom</li> </ul> | Required Email & SMS     Communication System     should be an application with     minimum interfaces.         |
|  | Create teams to decide<br>priority and deliverables for<br>new requirement and CRs. It<br>should comprise – business<br>representatives, technical<br>architect and PMO | • solutions).  | • Agent Distribution<br>Management System - need<br>for a full-fledged agent<br>management system.              |

![](_page_9_Picture_0.jpeg)

# RESULT

#### Mantra Labs' IT Strategy Roadmap

helped Aditya Birla Health Insurance conceptualize operational bottlenecks and streamline teams, applications, and digital assets.

![](_page_9_Picture_4.jpeg)

### Al-based Information Masking & Retrieval System

## **Document** Classification

In 2019, IRDAI (The Insurance Regulatory and Development Authority of India) made it mandatory to link the customers' Aadhaar number with their insurance policies.

Mantra Labs developed **document classification API** to identify a particular document from a pool of several customer policy documents (currently applicable for Aadhaar).

This API accelerates workflow by improving the throughput of document classification-heavy processes through automation.

![](_page_11_Picture_4.jpeg)

![](_page_11_Picture_5.jpeg)

![](_page_12_Figure_0.jpeg)

A REST API receives documents in real time. The document is then processed, and stored in a configurable file storage system under the same name as input file.

![](_page_12_Picture_2.jpeg)

## Information Masking

IRDAI has mandated insurance companies to protect and maintain the confidentiality of the information they collect.

Mantra Labs built an API for masking sensitive information from customer personal documents like Aadhaar.

Since Aadhaar image can come in multiple formats (full, split into two vertical halves, horizontally cropped, etc.), we first identified the relevant portion of Aadhaar using **face detection** technique and then used **OCR** for information extraction. **Speed:** Extremely Fast, as only the required cropped section is fed to the OCR.

**Efficiency**: Works accurately with different formats of Aadhaar.

**Customization**: Selective information masking possible as the system has already identified different parts of the document.

![](_page_13_Picture_8.jpeg)

![](_page_14_Figure_0.jpeg)

![](_page_15_Picture_0.jpeg)

## Fetching Original Document

This API retrieves the original customer document based on policy number, Aadhaar number, etc. for claims, policy renewal, and other insurance verification purposes.

![](_page_15_Picture_3.jpeg)

![](_page_15_Picture_4.jpeg)

![](_page_16_Figure_0.jpeg)

![](_page_17_Figure_1.jpeg)

## Solution

#### **Deployment Architecture**

- Unix platform to incorporate open source programming.
- Integrating software libraries like Scene Text
   Detection, OpenCV, etc., which are most
   compatible with Linux.
- Aditya Birla Health Insurance has widely adopted Windows OS, therefore deploying container approach with docker.

![](_page_17_Picture_7.jpeg)

## **key** Benefits

The Al-based Information Masking & Retrieval System incorporates following benefits to the organization.

![](_page_18_Picture_2.jpeg)

The document identification and masking system is **scalable** across the entire Aditya Birla Capital enterprise.

![](_page_18_Picture_4.jpeg)

**Time and efficiency gain** for processing sensitive documents, which could have taken days if done manually.

![](_page_18_Picture_6.jpeg)

A **future-proof automated process** is set, which is adaptable to further changes

in regulatory compliance.

![](_page_18_Picture_9.jpeg)

![](_page_19_Picture_0.jpeg)

- Domain Focused Products and Solutions for the Digital Insurer
- Real World Problem Solving using Artificial Intelligence and Customer Experience Consulting

![](_page_19_Picture_3.jpeg)

#### **Key Partnerships**

![](_page_19_Picture_5.jpeg)

![](_page_19_Picture_6.jpeg)

![](_page_19_Picture_7.jpeg)

![](_page_19_Picture_8.jpeg)

![](_page_20_Picture_0.jpeg)

## **Leading** Clients

![](_page_20_Figure_2.jpeg)

# Thank You

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![](_page_21_Picture_3.jpeg)

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![](_page_21_Picture_5.jpeg)

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![](_page_21_Picture_7.jpeg)

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