EMPLACING ANALYTICS FOR INSURANCE TRANSFORMATION

CARIBBEAN ACTUARIAL ASSOCIATION

BALANCING THE EQUATION · SHAPING A SUSTAINABLE FUTURE

CAA
THE 55rd ANNUAL CONFERENCE

Brief history of analytics in L&A

Early Days
Actuarial Tables &
Manual Calculations

Late 20th Century
Statistical Software &
Databases

2010s Onwards
AI & Machine
Learning

Mid-20th Century
The Advent of
Computers

The 2000s
Big Data &
Advanced Analytics

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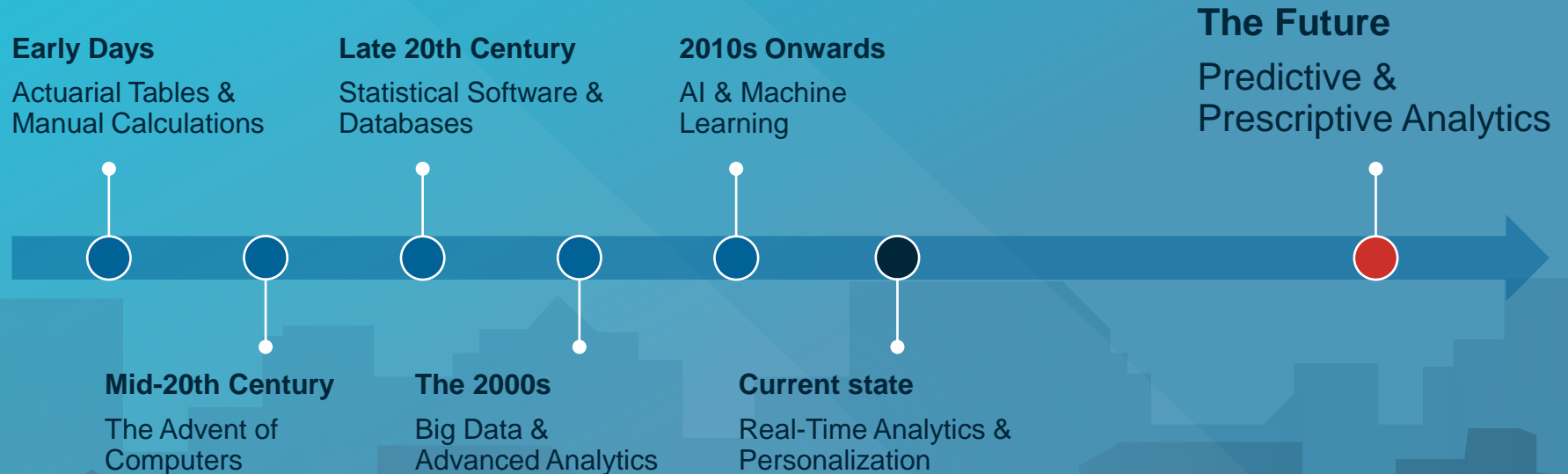
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Current state
Real-Time Analytics &
Personalization

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The Future
Predictive &
Prescriptive Analytics

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Intuition Based

The great decision shift

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Intuition Based

Data Driven

The great decision shift

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The great decision shift

Data Driven

| Risk Precision | Product Tailoring | Fraud Mitigation | Operational Streamlining | Market Agility |

⚠️ | Data | Privacy | Skill Gap | ⚠️

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L&A Analytics Use Cases

Fraud Detection

Pricing Optimization

Renewal Automation

Intelligent Automation

Chatbot Service

No-Touch Processing

Management Reports

Engagement Tools

Service & Support

Product Recommendations

Claims Assessment

Cross-Sell Optimization

FNOL Submission

Data Entry

Lapse Prediction

Behavioral Modeling

Lead Management

Risk Analytics

Anomaly Monitoring

Accelerated Procedures

Policy Summarization

Real-Time Tracking

Predictive Modeling

IT Support

Onboarding Simplification

Payment Processing

Reinstatement Streamlining

Risk Prediction

Virtual Advisors

Liability Forecasting

Targeted Marketing

Renewal Prediction

Churn Analysis

IFRS 17 Compliance

Usage-Based Pricing

Accelerated Procedures

Claims Automation

Autonomous Underwriting

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L&A Analytics Use Cases

Underwriting Support
- Autonomous Underwriting
- Behavioral Modeling
- Risk Analytics
- Accelerated Procedures
- Accelerated Procedures

Process Automation
- Intelligent Automation
- Claims Automation
- IT Support
- Data Entry

Sales & Marketing
- Lead Management
- Targeted Marketing
- Product Recommendations
- Cross-Sell Optimization

Claims Management
- No-Touch Processing
- FNOL Submission
- Claims Assessment
- Real-Time Tracking

Customer Support
- Policy Summarization
- Chatbot Service
- Virtual Advisors
- Engagement Tools

Pricing & Policy
- Dynamic Pricing
- Pricing Optimization
- Renewal Prediction

Fraud & Risk
- Fraud Detection
- Anomaly Monitoring
- Risk Prediction
- Churn Analysis

Operational Efficiency
- Lapse Prevention
- Reinstatement Streamlining
- Predictive Modeling

Regulatory Reporting
- IFRS 17 Compliance
- Management Reports
- Liability Forecasting

Customer Experience
- Service & Support
- Onboarding Simplification
- Payment Processing
- Renewal Automation

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L&A Analytics Use Cases

Underwriting Support	Process Automation	Sales & Marketing	Claims Management	Customer Support
Autonomous Underwriting	Intelligent Automation	Lead Management	No-Touch Processing	Policy Summarization
Behavioral Modeling	Claims Automation	Targeted Marketing	FNOL Submission	Chatbot Service
Risk Analytics	IT Support	Product Recommendations	Claims Assessment	Virtual Advisors
Accelerated Procedures	Data Entry	Cross-Sell Optimization	Real-Time Tracking	Engagement Tools
Accelerated Procedures				

Pricing & Policy	Fraud & Risk	Operational Efficiency	Regulatory Reporting	Customer Experience
Dynamic Pricing	Fraud Detection	Lapse Prevention	**IFRS 17 Compliance**	Service & Support
Pricing Optimization	Anomaly Monitoring	Reinstatement Streamlining	Management Reports	Onboarding Simplification
Renewal Prediction	Risk Prediction	Predictive Modeling	**Liability Forecasting**	Payment Processing
	Churn Analysis			Renewal Automation

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L&A Analytics Use Cases

Underwriting Support	Process Automation	Sales & Marketing	Claims Management	Customer Support
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Behavioral Modeling	**Claims Automation**	Targeted Marketing	FNOL Submission	Chatbot Service
Risk Analytics	IT Support	Product Recommendations	Claims Assessment	Virtual Advisors
Accelerated Procedures	Data Entry	Cross-Sell Optimization	Real-Time Tracking	Engagement Tools
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L&A Analytics Use Cases

Lapse Prevention

Dynamic Pricing

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Lapse Prevention

Insurers seeks to reduce lapse rate

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Lapse Prevention

Step 1
Prediction

Machine
Learning

Data Requirements

PAS/Actuarial System Data

Client Financial Data

Demographic/Economic Indicators & Data

Customer Interaction Logs

Historic Lapse Data

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Lapse Prevention

Step 2
Prevention

LLMs

Intelligent Process Automation

Personalized Communication	Early Warning Systems
Flexible Payment Options	Tailored Incentives
Loyalty Programs	Financial Hardship Assistance

Machine Learning

Data Requirements

PAS/Actuarial System Data

Client Financial Data

Demographic/Economic Indicators & Data

Customer Interaction Logs

Historic Lapse Data

Customer Feedback Logs

NPL Model Tuning Data

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Lapse Prevention

Step 3
Management Reporting

Dashboards

LLMs

Machine Learning

Data Requirements

PAS/Actuarial System Data

Client Financial Data

Demographic/Economic Indicators & Data

Customer Interaction Logs

Historic Lapse Data

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NPL Model Tuning Data

Prediction Augmented Data

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Lapse Prevention

Step 3
Management Reporting

Dashboards LLMs Machine Learning

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L&A Analytics Use Cases

Lapse Prevention

Dynamic Pricing

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Dynamic Pricing

Insurer seeks to achieve pricing that accurately reflects risk and customer value in real time

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Dynamic Pricing

Dashboards | LLMs | Machine Learning

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Dynamic Pricing

Step 1
Select Adjustment Criteria

IoT Hub

Lifestyle-Based Adjustments	Market Landscape
Behavioral Adjustments	Engagement Adjustments

Dashboards

LLMs

Machine Learning

Data Requirements

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Prediction Augmented Data

Policyholder Behavior IoT Data

Channel and Distribution Data

Digital & UW Channel Data

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Dynamic Pricing

Step 2
Model Development

IoT Hub

Dashboards

LLMs

Machine Learning

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Dynamic Pricing

Step 2
Model Development

- ● **Data Collection**
- ● **Risk Assessment**
- ● **Testing and Validation**
- ● **Technology Integration**
- ● **Pilot Program**
- ● **Feedback Analysis**
- ● **Full Implementation**

IoT Hub

Dashboards

LLMs

Machine Learning

Data Requirements

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Dynamic Pricing

Step 3
Management Reporting

IoT Hub
Dashboards
LLMs
Machine Learning

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Data Landscape

IoT Hub **Dashboards** **LLMs** **Machine Learning**

Internal Data

Structured

Digital & UW Channel Data

PAS/Actuarial System Data

Client Financial Data

Historic Lapse Data

Unstructured

Customer Interaction Logs

Customer Feedback Logs

External Data

Structured

Policyholder Behavior IoT Data
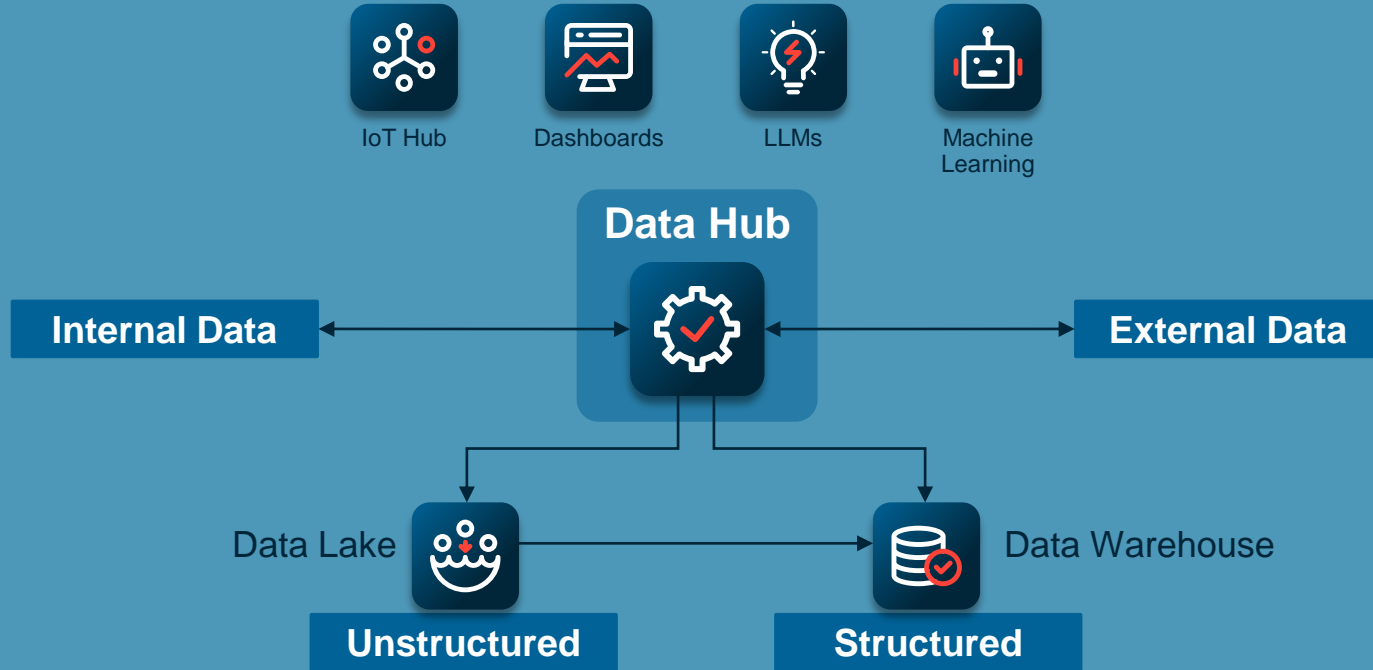
Demographic/Economic Indicators & Data

Prediction Augmented Data

Unstructured

Channel and Distribution Data

NPL Model Tuning Data

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Bedrock of the Analytics Journey

How to increase your chances of success

Foundation

Avoid the *'Infinite Data Lake'* Pitfall

Build Targeted Data Lakes (Specialized)

Rigorous Data Lifecycle Policy

Automated Data Quality Control

Execution

Start with the business

Diversify Data Sources

Partner with users

Work-flow integration & Adoption

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Enabling the digital transformation of life insurance and investment industries with strategic end-to-end solutions

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