

# Lesson 9: InsurTech

## Module 1: FinTech Fundamentals

Digital Finance

## Legacy Problems

- Manual underwriting
- Slow claims processing
- High operating costs (25-30%)
- Customer experience gaps

## Traditional Insurance: Key Pain Points

### Complex Products

- \* Difficult to understand
- \* Hidden exclusions
- \* Over-insurance common

### Slow Processes

- \* Lengthy applications
- \* Manual underwriting
- \* Paper-heavy claims

### Poor Experience

- \* Infrequent contact
- \* Adversarial claims
- \* Limited transparency

### High Costs

- \* Agent commissions (15-20%)
- \* Legacy IT systems
- \* Fraud losses (5-10%)

### Risk Assessment

- \* Limited data points
- \* Static pricing
- \* Cross-subsidization

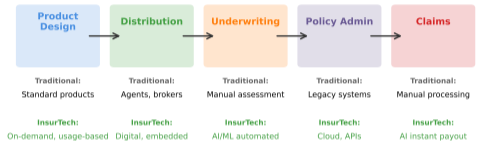
### Distribution

- \* Agent dependency
- \* Limited digital reach
- \* Channel conflicts

Source: mckinsey.com, deloitte.com (Insurance Industry)

**Insurance legacy systems struggle with 25-30% operating costs—InsurTech disrupts every step.**

## InsurTech Disruption Across the Value Chain



**InsurTech Impact: 40% cost reduction potential, 70% faster claims, 3x customer satisfaction**

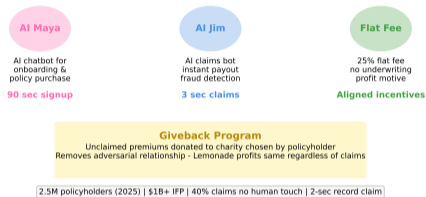
Source: mckinsey.com/industries/financial-services (2024)

InsurTech companies target specific pain points—from underwriting to claims to distribution.

## AI-First Insurer

- Founded: 2015
- 90 second policy purchase
- 3 minute claims (simple)
- Behavioral economics model

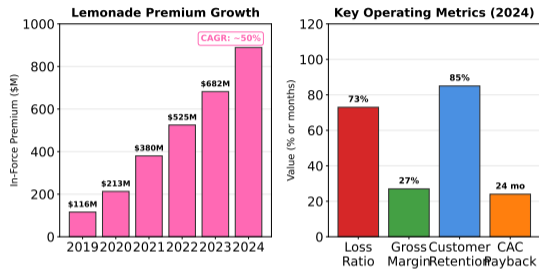
## Lemonade: AI-First Insurance Model



Source: [lemonade.com/blog](https://lemonade.com/blog), SEC filings (2024)

Lemonade offers 90-second policy purchase and 3-minute claims—AI-first from day one.

# Lemonade Business Model



Source: lemonade.com/investor (Q4 2024 Shareholder Letter)

Flat 25% fee model with Giveback charity donation—reduces fraud incentive through alignment.

## Behavioral Innovation

- Flat 25% fee
- Remaining to causes
- Reduces fraud incentive
- Community alignment

## Lemonade's Giveback Model



### Why It Works:

1. Removes conflict of interest - Lemonade earns same fee regardless of claims
2. Reduces fraud - customers less likely to defraud their chosen charity
3. Creates community - policyholders grouped by charity preference
4. Social impact - \$10M+ donated since 2017

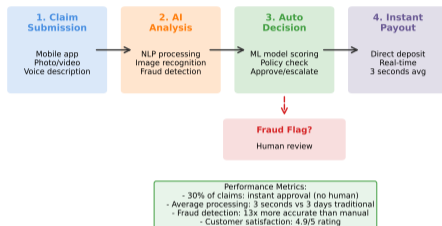
Source: [investor.lemonade.com](https://investor.lemonade.com), [lemonade.com/giveback](https://lemonade.com/giveback) (SEC Filings)

**Behavioral economics: customers donate unclaimed premiums to charity—reducing fraudulent claims.**

## AI Jim

- Computer vision analysis
- Anti-fraud detection
- Instant approval (40%)
- Human escalation

## AI-Powered Claims Processing



Source: lemonade.com, tractable.ai, mckinsey.com (AI Claims 2024)

**AI Jim approves 40% of claims instantly—computer vision and anti-fraud detection automate the rest.**

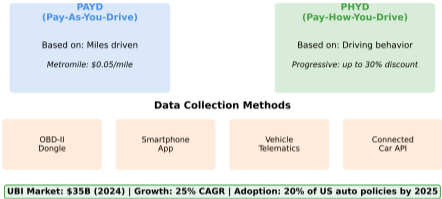
# Usage-Based Insurance (UBI)

## Telematics Revolution

- Pay-per-mile models
- Driving behavior tracking
- 30-50% savings potential
- IoT sensor integration

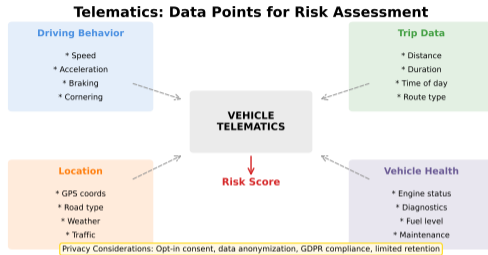
## Usage-Based Insurance (UBI)

Pay-How-You-Drive / Pay-As-You-Drive



Source: [ptolemus.com](https://ptolemus.com), [alliedmarketresearch.com](https://alliedmarketresearch.com) (UBI)

Telematics-based pricing offers 30-50% savings for safe drivers—IoT sensors track behavior.



Source: [risk.lexiplexis.com](http://risk.lexiplexis.com), [verisk.com](http://verisk.com) (Telematics)

**Hard braking, acceleration, speed, and mileage data determine personalized premiums.**

# Progressive Snapshot Program

## UBI Pioneer

- 14M enrolled drivers
- Average 16% discount
- Hard braking penalty
- Mileage-based pricing

## Progressive Snapshot: UBI Pioneer

Launched 2011 - First major US telematics program



### Scoring Factors:

- \* Hard Braking **High Impact**
- \* High-Speed Driving **High Impact**
- \* Night Driving **Medium Impact**
- \* Miles Driven **Medium Impact**

Program Results (2024):  
- 80% of customers earn a discount  
- 50% earn 10%+ discount  
- Average savings: \$231/year  
- Best drivers save: up to 30%  
- Only 20% see rate increase

Source: [progressive.com/auto/discounts/snapshot/](https://progressive.com/auto/discounts/snapshot/)

Progressive enrolled 14M drivers—average 16% discount through behavioral monitoring. [Source: Industry reports 2024]

## Index-Based Payouts

- Predefined trigger events
- No claims adjuster needed
- Weather derivatives
- Instant payout automation

## Parametric (Index-Based) Insurance

### Traditional Insurance

1. Event occurs
2. File claim
3. Adjuster inspection
4. Loss assessment
5. Negotiation
6. Payout (weeks/months)

#### Common Triggers:

- Weather: rainfall, temperature, wind speed
- Seismic: earthquake magnitude
- Financial: index, interest rate, commodity prices

**Benefits: Transparency, speed (hours not months), lower costs, no moral hazard**

### Parametric Insurance

1. Event occurs
2. Index triggered

#### 3. Automatic verification Key Innovation:

**No loss adjustment!**  
Payout based on trigger  
not actual loss

Source: swissre.com, munichre.com (Parametric Insurance)

Index-based triggers eliminate claims adjusters—predefined events trigger instant payouts.

## Parametric Insurance: Real-World Examples

### Caribbean Hurricane

Trigger: Cat 4+ hurricane  
Payout: \$50-200M  
*CCRIF (Caribbean)*

### Crop Weather

Trigger: Rainfall < threshold  
Payout: Per-acre coverage  
*ACRE Africa*

### Earthquake

Trigger: Magnitude > 6.0  
Payout: Tiered by severity  
*Global Parametrics*

### Flight Delay

Trigger: Delay > 2 hours  
Payout: \$50-500 instant  
*Revolut, Blink*

### Solar Radiation

Trigger: Solar output drop  
Payout: Revenue protection  
*kWh Analytics*

### Pandemic

Trigger: WHO declaration  
Payout: Business interruption  
*World Bank PEF*

**Parametric Market: USD 16B (2024) | CAGR: 12.6% | USD 35B by 2032 | Climate risk driving adoption**

Source: gminsights.com, srnsinsider.com (Parametric Insurance 2024)

**Weather, earthquakes, flight delays, and crop yields all enable parametric products.**

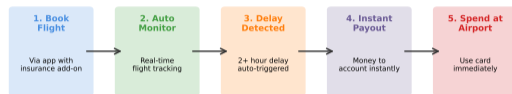
# Flight Delay Insurance

## Automated Payout

- Delay > 2 hours = trigger
- Flight data API integration
- Instant payment via app
- No claim form required

## Automated Flight Delay Insurance

Example: Revolut Travel Insurance



**Key Features:**

- No claim filing required
- Payout within minutes of delay
- Tiered payouts: 2hr=\$50, 4hr=\$100, 6hr+=\$200
- Data from FlightAware/Cirium APIs
- Blockchain smart contracts (some providers)

**Providers:**

- Revolut
- Blink Parametric
- AXA (Fizzy - discontinued)
- Etherisc (blockchain)
- Kolibri (API)

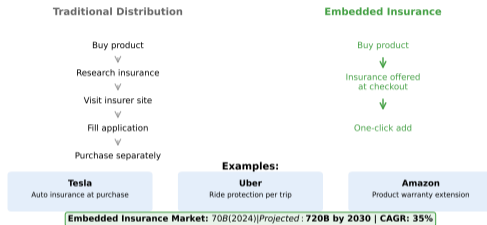
Source: [revolut.com](https://revolut.com), [blinkparametric.com](https://blinkparametric.com) (Flight Delay Insurance)

2+ hour flight delay triggers automatic payout—no claim form, instant API-based processing.

## Point-of-Sale Integration

- E-commerce checkout
- Travel booking sites
- Ride-sharing apps
- Device purchases

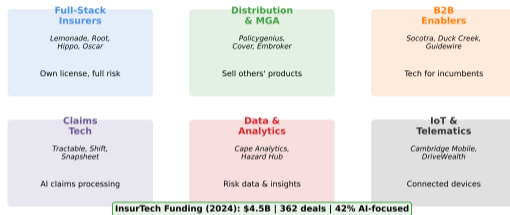
## Embedded Insurance: Insurance at Point of Sale



Source: simon-kucher.com, munichre.com (Embedded Insurance)

Point-of-sale insurance captures the moment of need—integrated into e-commerce and travel.

## InsurTech Market Segments

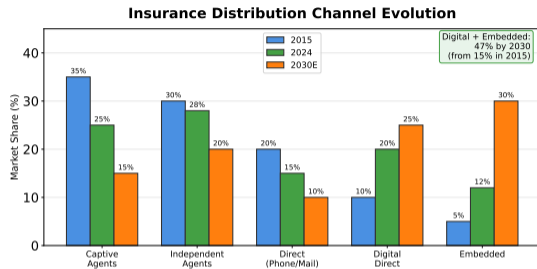


Source: [cbsights.com/research/report/insurtech-trends-2024/](https://cbsights.com/research/report/insurtech-trends-2024/)

Personal lines, commercial, life, and health each have specialized InsurTech disruptors.

## New Channels

- Digital brokers (PolicyGenius)
- Aggregators (Compare.com)
- White-label platforms
- API-first models



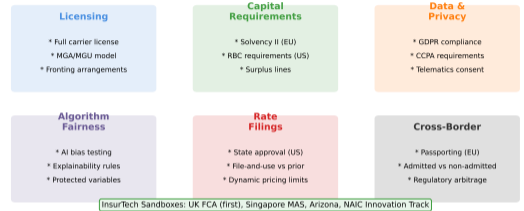
Source: mckinsey.com, deloitte.com (Insurance Distribution)

**Digital brokers and aggregators bypass traditional agents—API-first enables embedded distribution.**

## Compliance Burden

- State-by-state licensing
- Capital requirements
- Rate approval process
- Data privacy constraints

## InsurTech Regulatory Landscape



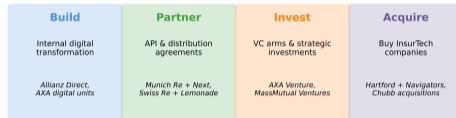
Source: naic.org, ektopa.europa.eu, fca.org.uk (Insurance Regulation)

State-by-state licensing and capital requirements slow InsurTech expansion—compliance is costly.

## Digital Transformation

- Partnerships with startups
- In-house innovation labs
- Acquisitions (MetLife → Versicherix)
- API platform development

## Incumbent Response to InsurTech Disruption



Incumbent Digital Investment (2024):

- Global insurers spent \$15B+ on digital transformation
- 70% have dedicated innovation labs
- 50%+ use AI in claims processing
- Average IT spend: 3-5% of premiums

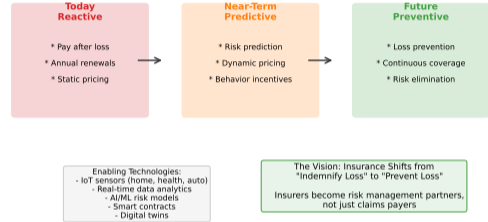
Source: deloitte.com, accentura.com (Insurance Outlook)

Traditional insurers partner, acquire, and build innovation labs—digital transformation accelerates.

## From Reactive to Proactive

- IoT risk prevention
- Health wearable integration
- Smart home monitoring
- Dynamic pricing

## The Future: Predictive & Preventive Insurance



Source: mckinsey.com, deloitte.com (Insurance Future)

**IoT and wearables enable prevention over coverage—from reactive claims to proactive risk reduction.**

## Key Takeaways

- **Lemonade:** Behavioral economics + AI reduces costs to 25%
- **UBI:** Telematics enables 30-50% personalized discounts
- **Parametric:** Automated triggers eliminate claims process
- **Embedded:** Point-of-sale integration captures moments
- **Future:** Predictive prevention over reactive coverage

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InsurTech transforms insurance from reactive claims processing to proactive risk prevention.