Demystifying the Use of AI & Analytics in Insurance
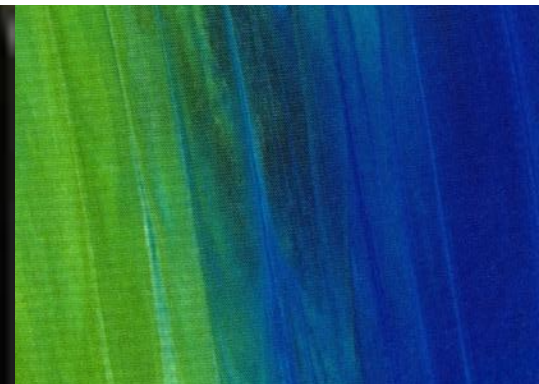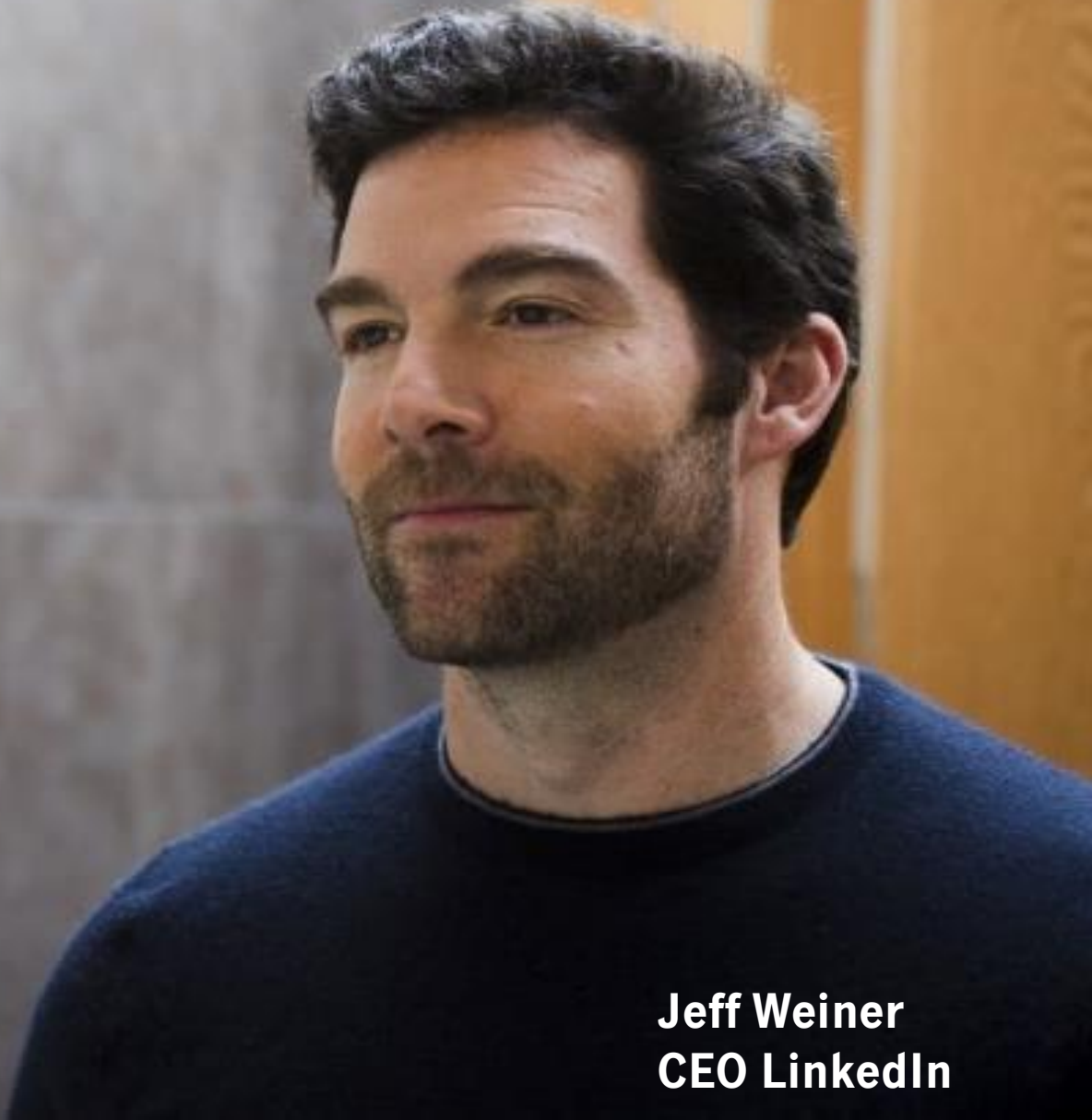
Spree Siu, Manulife Asia

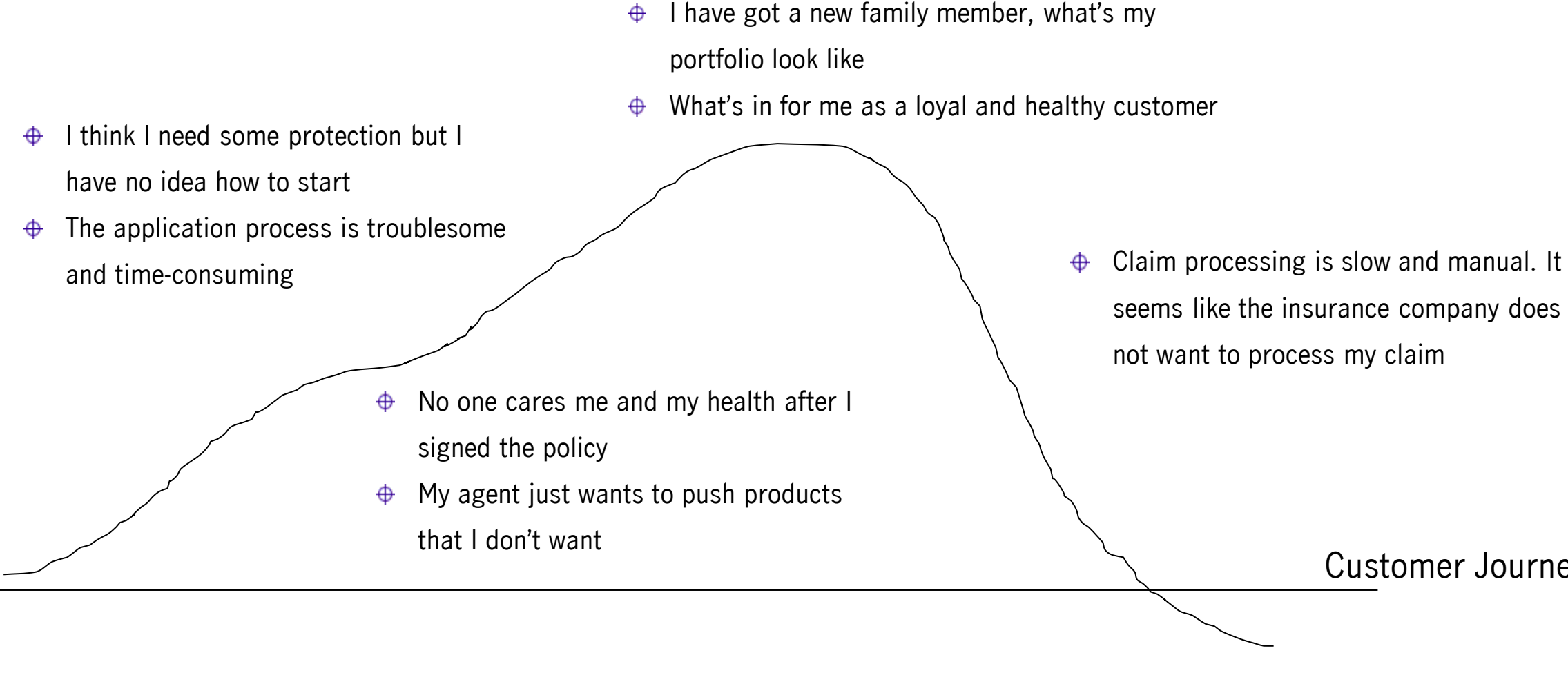**4th Jan 2019**

$$Trust = \frac{Consistency}{Time}$$

Jeff Weiner
CEO LinkedIn

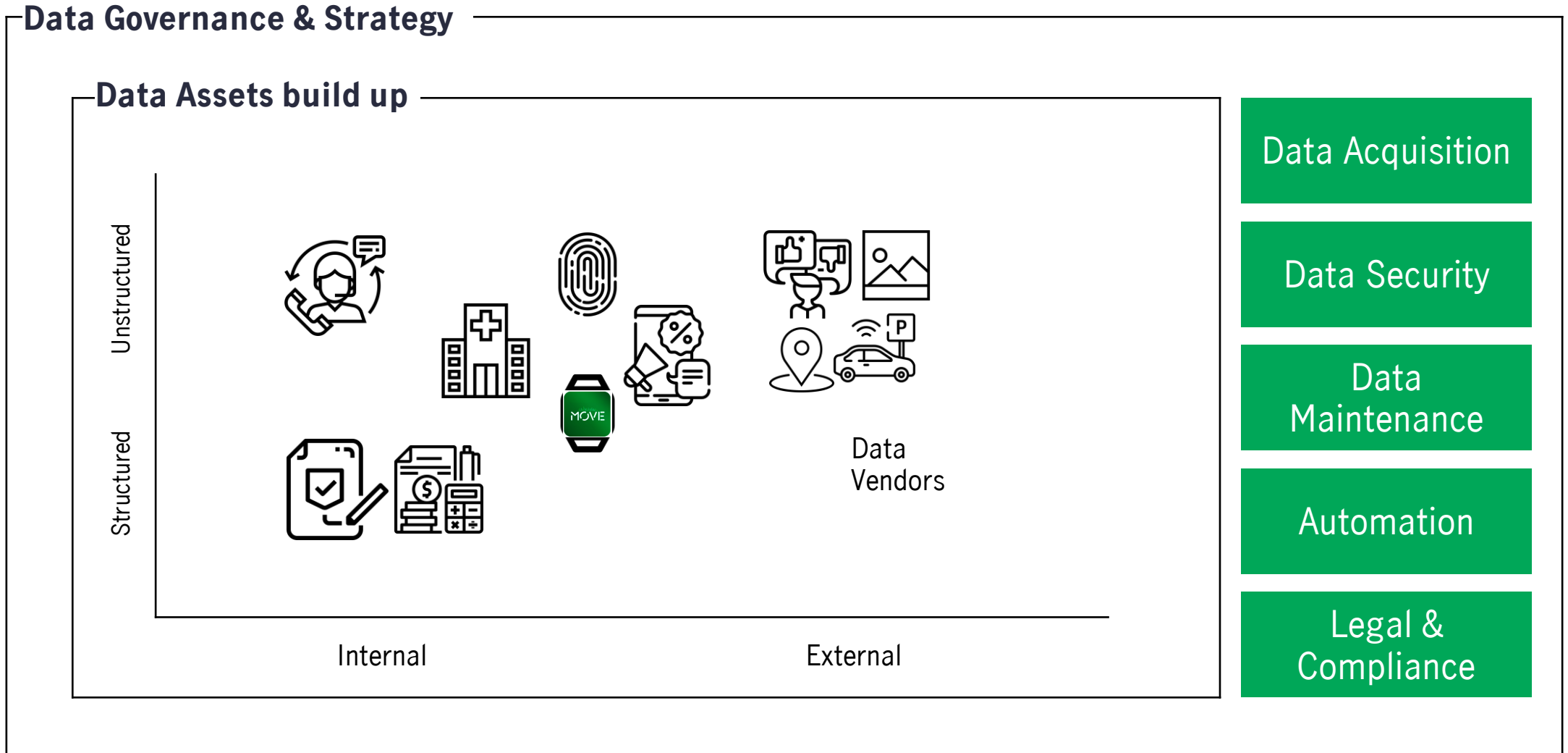# Can we do a better job with AI & Analytics along Customer Journey ?

Acquisition | Onboarding | Deepening | Retention / Winback

⊕ I have got a new family member, what's my portfolio look like

⊕ What's in for me as a loyal and healthy customer

⊕ I think I need some protection but I have no idea how to start

⊕ The application process is troublesome and time-consuming

⊕ Claim processing is slow and manual. It seems like the insurance company does not want to process my claim

⊕ No one cares me and my health after I signed the policy

⊕ My agent just wants to push products that I don't want

Customer Journey

Icons from Flaticon.com

Data is the new oil

David Parkins

Data is the new oil

Data Governance & Strategy

Data Assets build up

Unstructured

Structured

Data Vendors

Internal

External

Data Acquisition

Data Security

Data Maintenance

Automation

Legal & Compliance

Acquisition

Applying Digital Analytics on Prospecting

Flow path analysis to generate the insights as to identify what interested the customers, and the major source of leakage
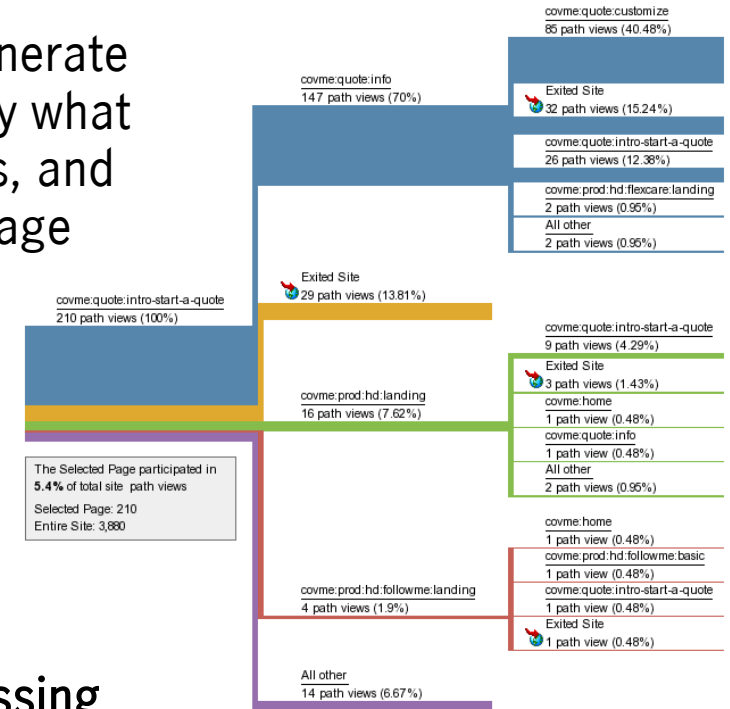
Adobe Analytics Suite / Google Analytics Suite

- Tagging webpages
- Capture audience, acquisition, behavioral, & conversions data
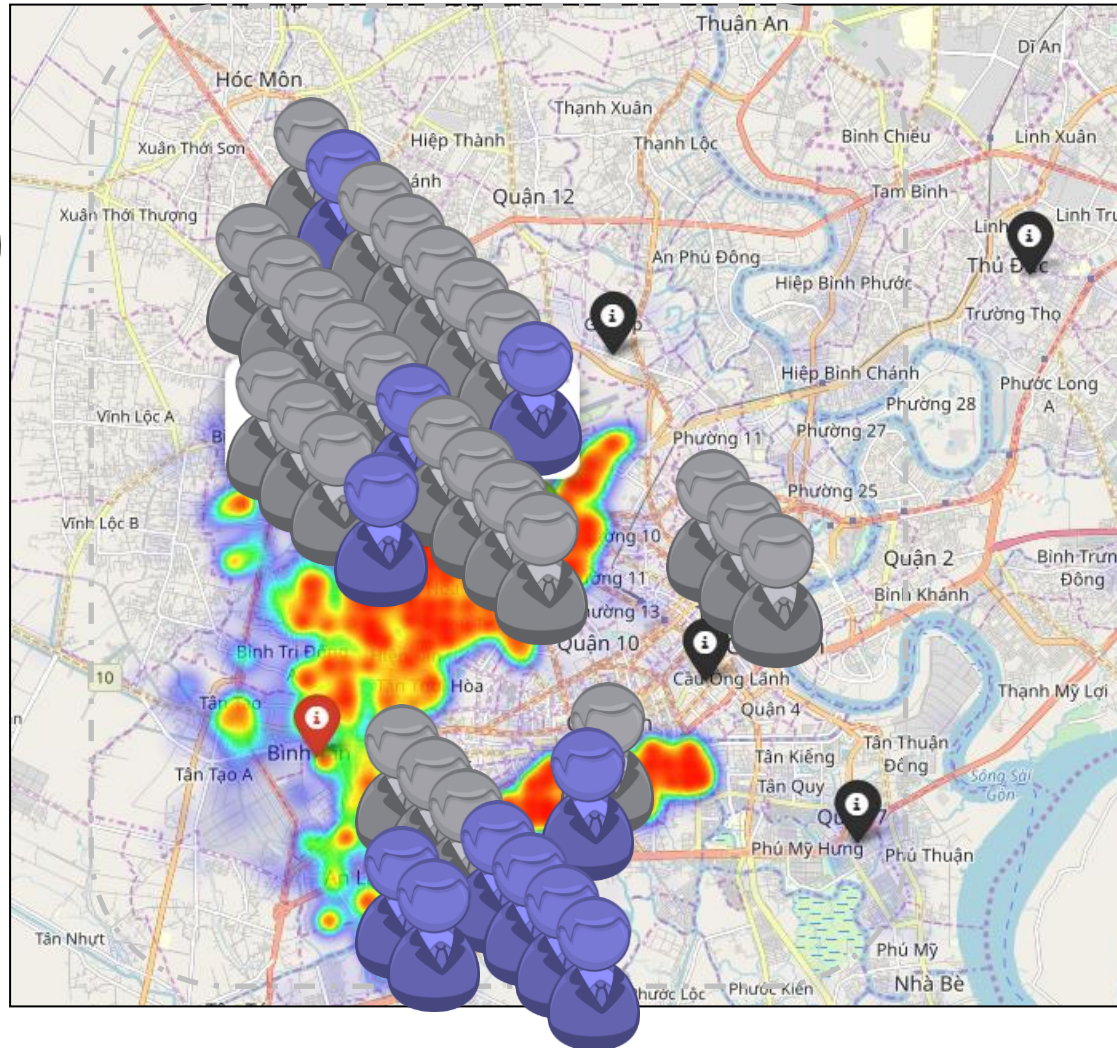- Click-stream analysis
- A/B Testing

Straight Through Processing to provide a paperless, hassle-free access to insurance, especially for simple products. Local regulations plays a critical role

Built in People-like-me Insights into Recommendation Process

Insurance Company Database

Product Recommender

For people like me, Man aged 30, with a lovely daughter and a dog, what insurance coverage should I have ?

Scenario : Man, aged 30

Family Status : Married with x1 Kid (F), Dog x1

Your Occupation ?

Your monthly income ?

Your residential district ?

Product Recommend : A (x%) , B (y%), C(z%)

How Underwriting is simplified with AI & Analytics

Underwriters: their job is to screen each insurance application, with the provided customer information, products and coverage amount applied, medical histories, proof documents, etc., to decide ACCEPT the application right away, or require PREMIUM LOADING, MEDICAL CHECK-UP, or even REJECT the application

How AI & Analytics helps

Replicate the thinking process of Underwriters and simulate the outcome prediction

Process more data, both structured / unstructured to enhance UW decision

Enhanced computation power speed up time-to-market

Loop-back enhancing the application process by building interactive app-form to capture product-relevant information

Guaranteed / Simplified Insurance Offer for Customers

Underwriters focus on non-standard cases allowing more time for investigation
- ❖ % case automated
- ❖ % misclassification
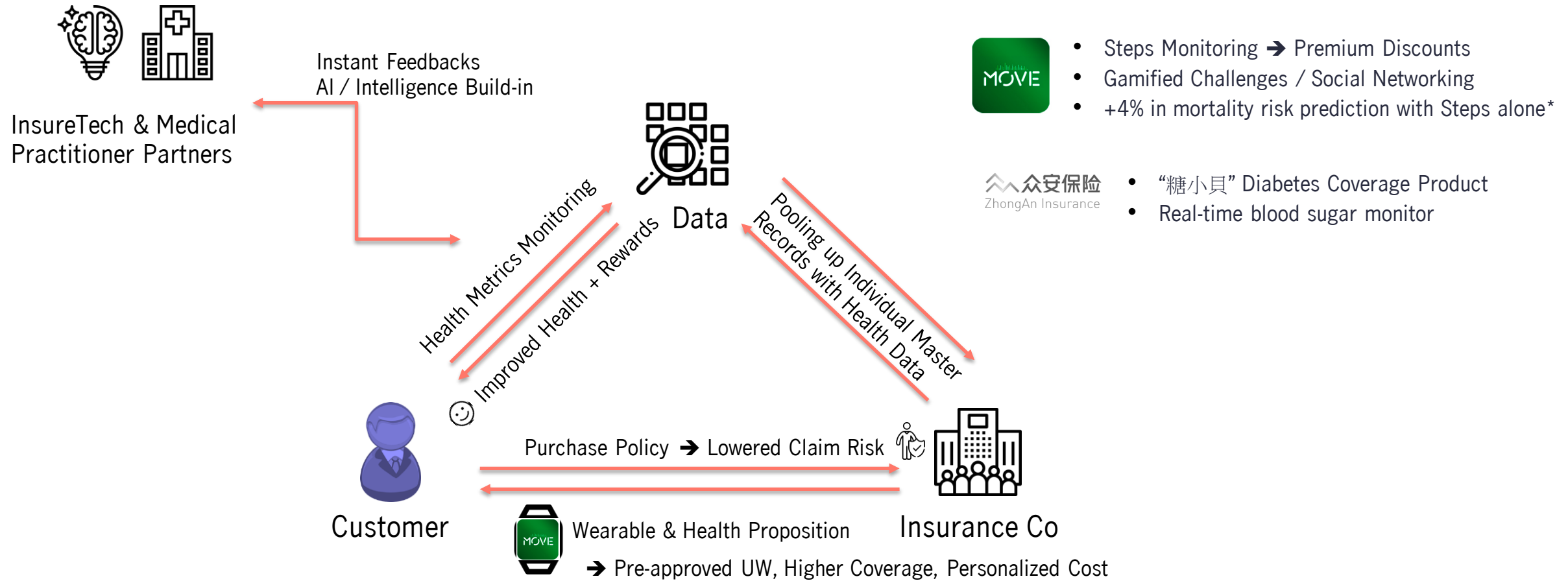
Onboarding / Deepening

How the Insurance / InsurTech Co. onboard & deepen with our customers

John Hancock turns the 156-year old life insurance business on its head

- The $400 billion U.S. life insurance industry risks irrelevance if it doesn't rethink the premise of the product.
- John Hancock is not longer selling traditional life insurance as of Wednesday.
- Its policies from now on will include a platform aimed at helping policyholders life longer, healthier lives.

COMMENTARY
Marianne Harrison
Published 4:21 PM ET Wed, 19 Sept 20
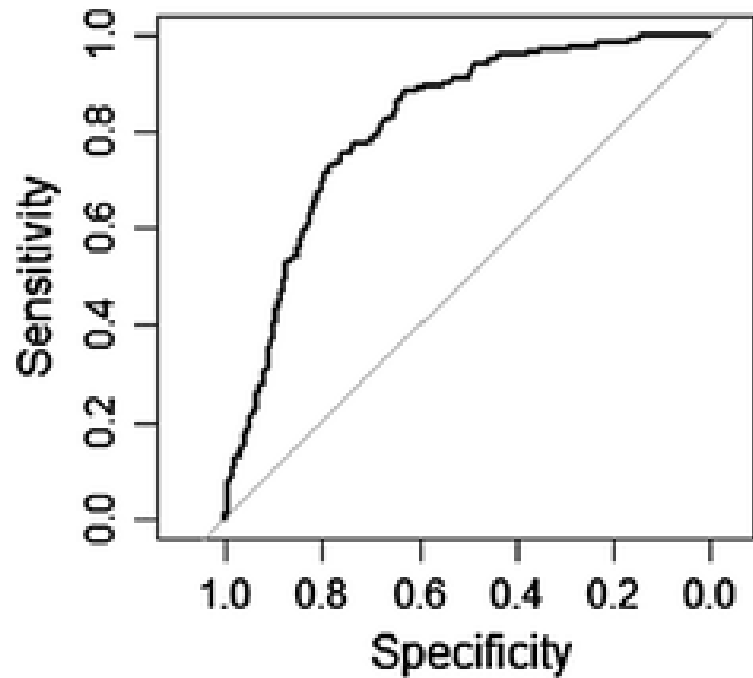
That's why John Hancock is transforming its 156-year old business model and will no longer sell traditional life insurance policies. Starting Wednesday, all of our policies will come with John Hancock Vitality – a platform designed to help policyholders live longer, healthier lives by giving people incentives to make healthier choices linked to physical activity, nutrition and mindfulness.

Data, AI & Analytics connects perfectly the Insurance Co. & Customers

InsureTech & Medical Practitioner Partners

Instant Feedbacks
AI / Intelligence Build-in

Data

Health Metrics Monitoring

Improved Health + Rewards

Pooling up Individual Master Records with Health Data

Customer

Purchase Policy ➜ Lowered Claim Risk

Insurance Co

Wearable & Health Proposition

➜ Pre-approved UW, Higher Coverage, Personalized Cost

MOVE
- Steps Monitoring ➜ Premium Discounts
- Gamified Challenges / Social Networking
- +4% in mortality risk prediction with Steps alone*

众安保险
ZhongAn Insurance
- "糖小贝" Diabetes Coverage Product
- Real-time blood sugar monitor

* From Munich Re Study

AI & Analytics to predict the Next Best Offer (NBO)

Objective : Look for the highest likelihood customer to _____

Machine Learning Tools : **SAS** **python** **R**

Algorithms : Logistics Regression / Random Forest / XGBoost **kaggle**

Outcome :
    Sales Conversion Rate : +20% to + 100%
    Insurance Premium : as high as +70% per case

Retention/ Winback

Claims Simplification, Automation, and Fraud Detection

Simplification

Paper form(s)

Digitized   www.claimsimple.hk

Analyzed Claims Records ➜ Decide claim limit and frequency

Invoice / Diagnosis ➜
Take pictures and send at ease

Automation

Loss adjuster

Machine learned

Automation / Semi-automation enabled by Machine learning and Deep learning

Business Rules can play a role : common sickness + reasonable claim amount/frequency + trustworthy medical practitioners

Claims Simplification, Automation, and Fraud Detection

Fraud
Detection

HK Federation of Insurers: Up to $15 in every $100 are fraud claims

Social Network Analysis application in fraud detection
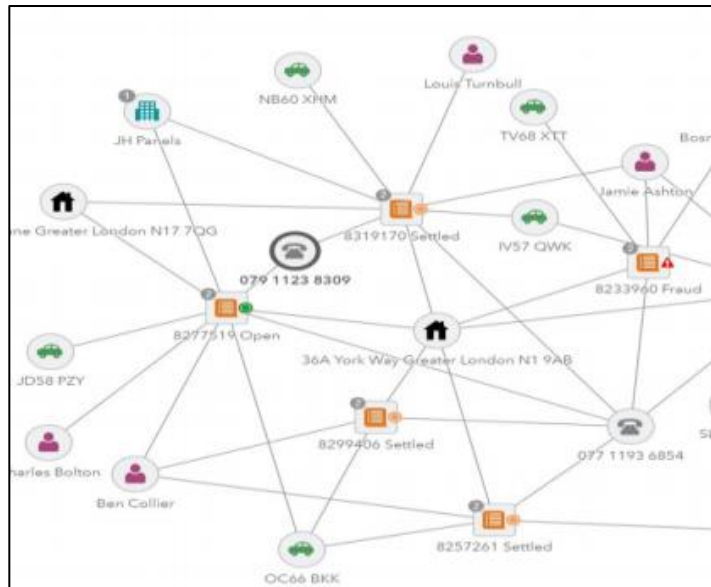
Trends of suspicious activities
- Linked insurance agent(s)
- Car dealer(s)
- Medical service provider(s)
- Historical claims records
- Submission peak time

Shift
Technology

HKFI : Covers motor, health and personal accident

Pooled massive claims, claimants and service providers information from participating insurers

Detect types of insurance fraud like multiple claims and syndicates

*Social network analysis is from SAS Institute

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Icons from Flaticon.com

Thank you

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