



Introduction to Fintech- ENT 306

PPT #6, IIITD, Monsoon 2025

Agenda: InsureTech

- Insurance as a Product
- Process: Insurance buying to claim settlement
- Underwriting
- Financials
- Insurance Market in India
- Digital Public Infrastructure in Insurance
- Deploying Insurtech in Customer Journey
- Regulations

Insurance



- What is Insurance?
 - A risk transfer mechanism
 - Insurer takes over the risk in return for a 'consideration' which is called Insurance Premium.
- Types of insurance
 - Life: 2 types of risk
 - Health/ Accidental Death/ Critical Illness/Disability
 - Motor/Gadget
 - Fire/Marine/Household
 - Travel
- What are the risks covered in each type?



How it works?

- Customer requests insurer for a quote. Provides all information
- Principle of Utmost Good Faith: Customer has a duty to disclose, accurately and fully, all **material facts** to the risk being proposed, whether requested or not.
- **Material Facts:** Any fact which, when disclosed, would have an impact on the decision of a prudent underwriter.
- Insurer does underwriting and quotes a premium
- Insured accepts the premium and signs the necessary documents.
- Insurance company sends the insured the insurance policy



How it works?

- Why is customer asked to 'make a request' for a quote?
- Information Asymmetry
 - The insurer can never know as much as the customer. The onus is on the customer to tell everything 'material'.
- If 'material facts' are not mentioned or hidden- claim can be denied later
- Past data used to decide on premiums
- Aim is to pool the risks and create a portfolio.
- Premiums should be equitable to customer and profitable to the company

Life Insurance: Types



- Term Insurance: Life covered for a specific term.
- Sum Assured given to dependents in case of death
- Whole Life Policy
- Endowment Plans: Combines life cover with investment. Payouts at specific times.
- ULIPs: Unit Linked Insurance Policy
- Group Insurance

Health Ins: Benefits



- Hospitalisation expenses
- Hospital daily cash benefits
- Maternity expenses
- Ambulance fees
- Critical Diseases: Specific Plans
- Health Plans for Senior Citizens
- Ayush Treatment might be covered
- Tax Benefits on premium paid.



Process Steps

- Proposal Form Filling: Customer gives all the information and asks for a quote
- Underwriting: Insurer may ask for additional information
- Quotation is given by insurer
- Customer agrees to the quotation and the product offered and pays the premium.
- Medical tests as required
- Insurance Policy is issued
- Regular premiums to be paid by customer
- Claim settled as per triggers.



Underwriting

LIFE INSURANCE

- Medical Underwriting
 - Age
 - Physical Details & Genetic medical history
 - Hobbies & Travel details
 - Occupation
- Financial Underwriting
 - Occupation
 - Income
 - Calculate 'Human Life Value': [HLV Calculator](#)

Underwriting: Outcome



- Whether the company is ready to give you life insurance
- What is the level of coverage- sum assured- it can offer
- Exclusions: Under what conditions the policy might not be valid
 - High risk activities
 - Pre-existing medical conditions
- What is the premium that you have to pay for insurance cover?
 - In some cases, company may agree to accept a higher risk life at a higher premium
- Ensure against
 - Adverse Selection
 - Moral Hazard



Insurance: Financials

INCOME

- Premium Income (+)
- Investment Income (+)

EXPENSES

- Acquisition Costs – Policy Issue Costs; Intermediaries payments (Commission & Incentives payouts, brokerage, referral fee) (-)
- Policy Maintenance Expenses – Premium Collection, Policy servicing, Investment management, claims processing etc.(-)
- Other Miscellaneous Expenses (-)
- Policyholders Benefit Payouts – death claims, health insurance claims, surrenders, maturities, partial withdrawals etc. (-)
- Tax payable (-)

Insurance: Financials



I-Pru Life Financials FY 24:

Insurance Market in India

Life Insurance

Penetration is the ratio of total insurance premiums to a country's nominal Gross Domestic Product (GDP), expressed as a percentage



Life

FY01

FY24

Players

5

25

Penetration (%)¹

1.8

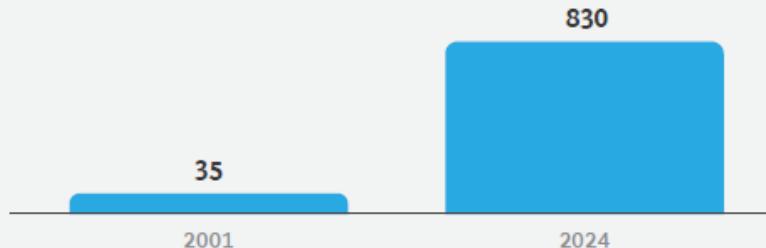
2.8

Lives covered (Cr)

5

31²

Life Insurance Premiums (₹'000 Cr)



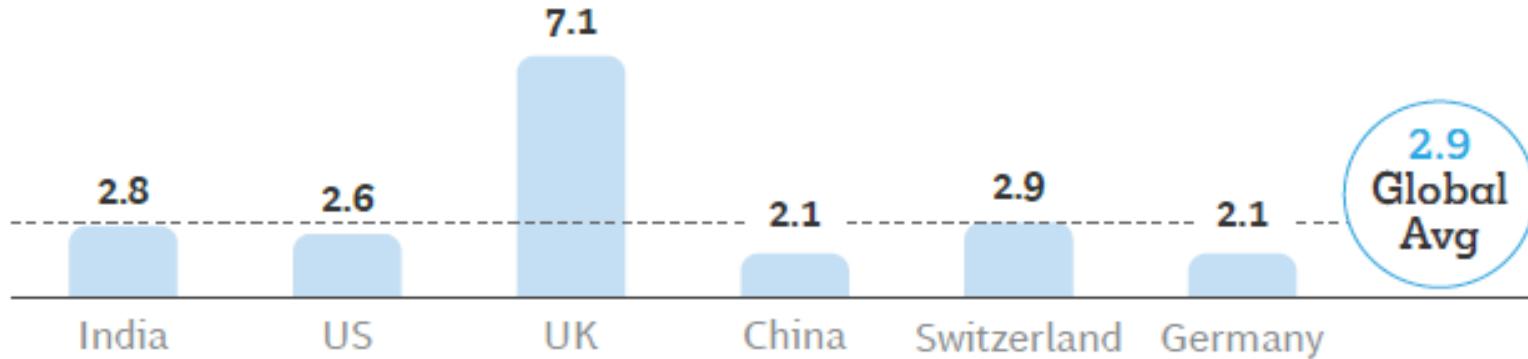
Reference: BCG Report Nov '24

Penetration: Life Insurance



Life Insurance penetration on par with global average

Life Insurance Penetration (% premiums to GDP, 2023)



Non-Life Insurance

Insurance other than Life Insurance. Example: Health, Fire, Marine, Motor, home, factory, shop, travel etc.

Also called General Insurance in India.



Non-life Insurance

FY01

FY24

Players

9

32

Penetration (%)¹

0.6

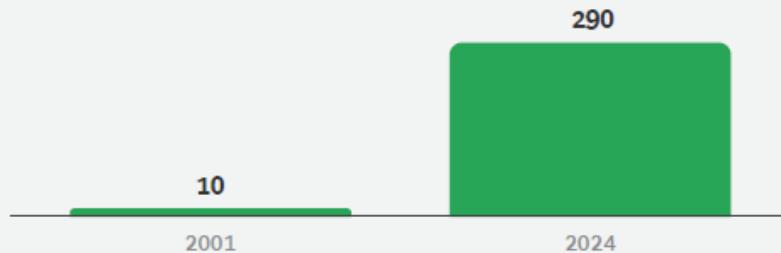
1.0

Lives covered (Cr)

4.3

57²

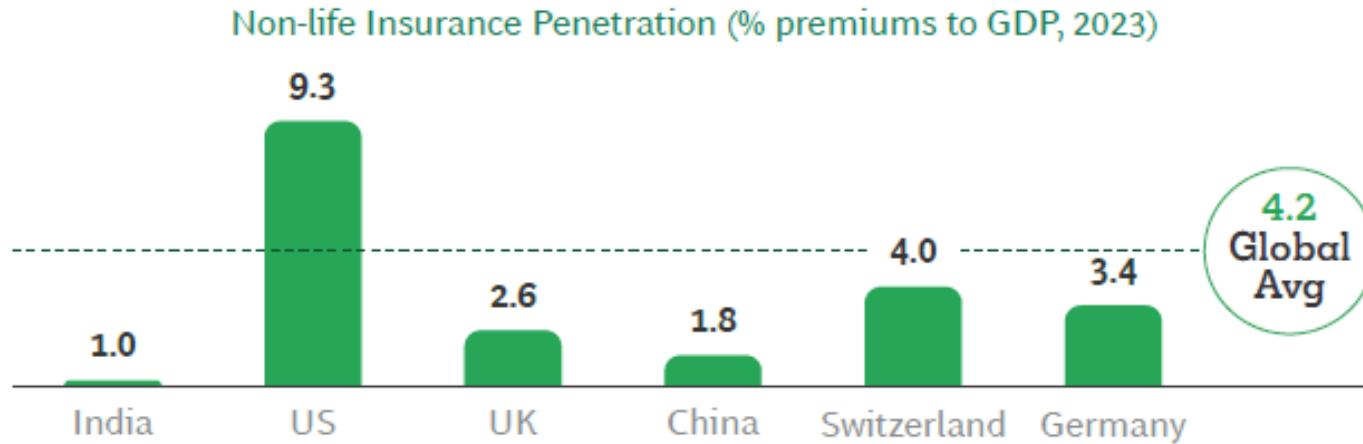
Non-life Insurance Premiums (₹'000 Cr)



Penetration: Non-Life Insurance



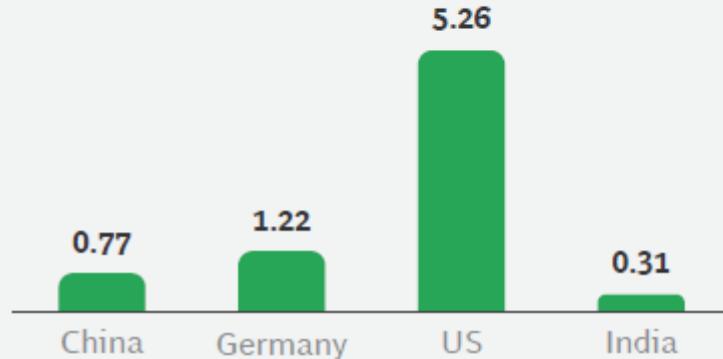
Need to enhance penetration;
Non-life penetration¹ significantly lower than global average



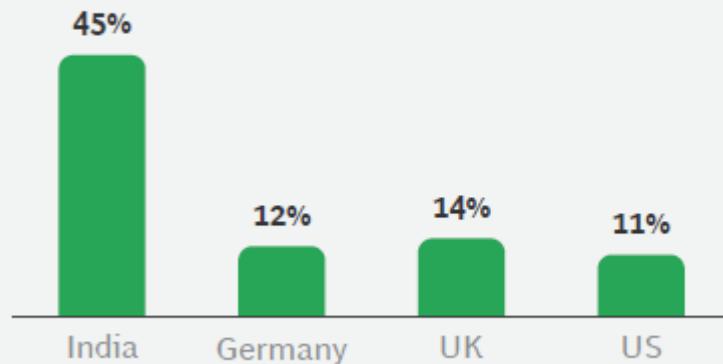
Health Ins.

Health Insurance – Low Penetration¹ and Inadequate Coverage

Health Insurance
Penetration (% premiums
to GDP, 2023)



Out-of-pocket medical
expense as a % of current
health expenditure²



Reinsurance



- An insurance company – Life or General- can keep a part of the risk with it and can buy insurance from a reinsurer for the remaining risk.
- This could be done at an individual policy level (for large insurance policies) or at a portfolio level.
- Examples of Reinsurers are: Munich Re, Swiss Re, Allianz Re, GIC Re (General Insurance Company of India) etc.
- Reinsurance helps an insurance company insulate itself from big losses due to sudden increase in claims due to one-off events. Ex: COVID-19

3

Digital Public Infrastructure

ABDM



Ayushman Bharat Digital Mission

- Integrated Digital Health Infrastructure across the country
- Open, standards based, interoperable system
- Supported by data, information and infrastructure services
- Connect all ABDM ecosystem partners
- Easy access to patient's medical records, history
- Enable digital consultation, storage of old medical records, proper diagnosis and treatment
- Ensure security, confidentiality and privacy of medical records

THE ABDM ECOSYSTEM



Reference: <https://pmjay.gov.in/ndhm>

ABDM Aims



Efficient



Inclusive



Timely



Accessible



Affordable



Safe

Claims Experience Now



Painful Claim Tracking and Reconciliation:

Tracking claims and reconciling them is a time-consuming, labor-intensive process that often leads to delays and errors



Uncoded Data for Insurers and TPAs:

Insurers and Third-Party Administrators (TPAs) receive uncoded, unstructured data, which requires manual digitization. This reliance on manual adjudication reduces efficiency and limits the ability to apply fraud analytics



Cumbersome Patient Experience:

Patients endure a complex and time-consuming claim process, with minimal communication, little transparency on the status of their pre-authorizations, and long wait times.



Delayed and Incomplete Data for Regulators:

Regulatory bodies face delays and receive incomplete data, which is further exacerbated by a lack of standardized coding, limiting their ability to perform meaningful analytics.

ABDM- NH CX



National Health Claims Exchange

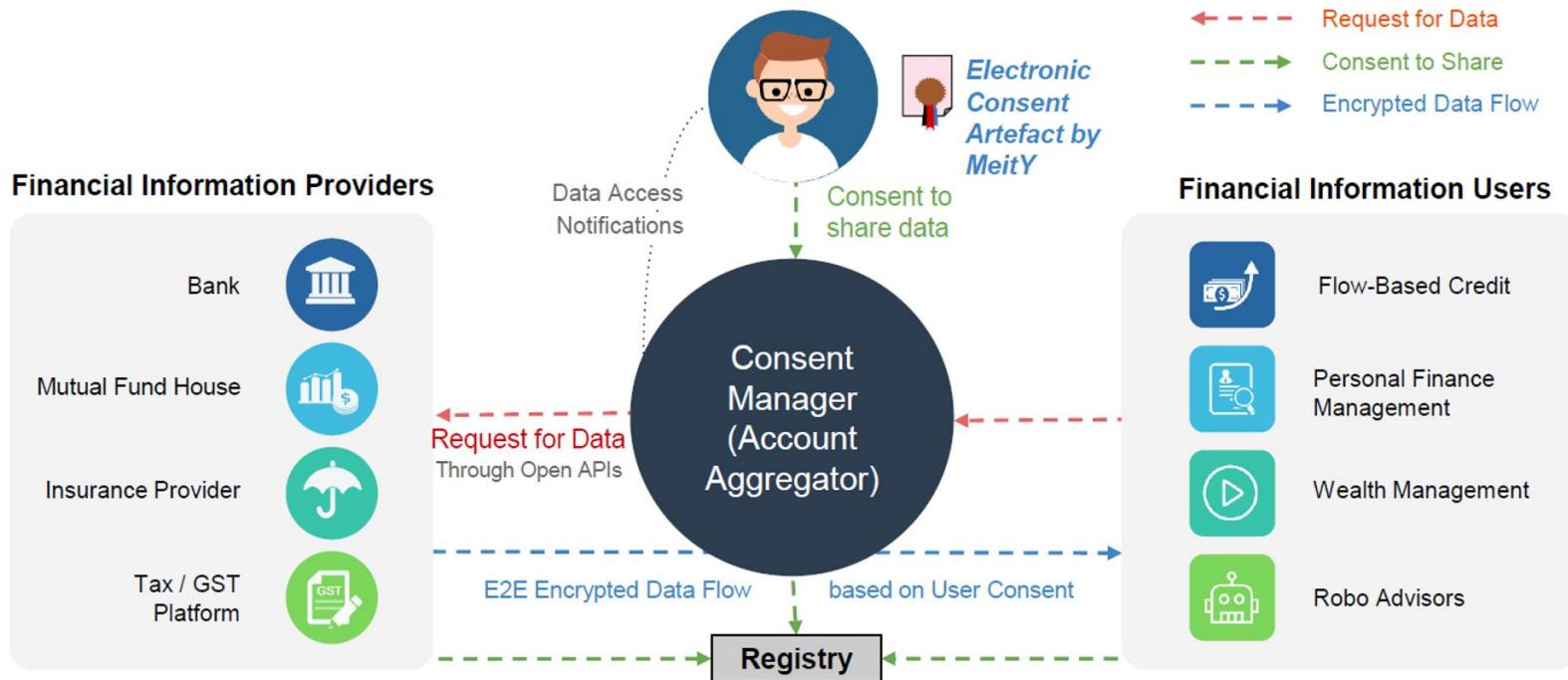
- Integrated Digital Health Infrastructure across the country
- To streamline the processing of health insurance claims
- Standardized communication protocol. Facilitates seamless sharing of health claim information among payers, providers, beneficiaries.
- Ensures interoperability across diverse systems
- Machine-readable, auditable, and verifiable exchanges of information

BIMA SUGAM



- DPI. Insurance Marketplace. Akin to E-com platform
- Facilitate sale, purchase, servicing, claim settlement, grievance redressal
- Open standards and interoperable platform
- Owned and managed by Bima Sugam- Insurance Electronic Marketplace – a non-profit. Under guidance of IRDA
- Similar to NCPI. Shares held by Life, General, Health Insurers

Account Aggregators



Deploying Insurtech in Customer Journey

4

Landscape



Full Stack Insurer	Aggregator	Distribution Platform ¹	Health and Wellness	Underwriting/ Customer Checks	Claims	Customer Service
Acko	InsuranceDekho Policy Bazaar RenewBuy Turtlemint	BharatSure, Bima Kavach, Bimaplan ² , Ensuredit, Gram Cover ² , Loop Health (Life and Health Insurance), MetaMorphoSys, OneAssist, ONeAssure, Onsurity, PazCare, Plum, Policy Boss, Riskcovry, Safetree, SecureNow, Symbo, Vital ² (Financial Software), WIMWIsure, Zopper	Alyve Health BeatO Even Goqii Livwell ^{2,3} MediBuddy Nova Benefits Zyla	Alwrite AutoWiz Fedo	Claim Buddy Claim Genius ³ RoadZen ³ Vitraya	121policy CoverSure Insurance Samadhan Insure My Team McXtra

Customer Acquisition



- Partnerships:
 - With large corporates, MSMEs
 - Affinity Channels: Leverages the trust that consumers have with established brands to promote insurance. Tie ups with Paytm, PhonePe, Flipkart, Amazon etc.
 - Financial products (Home loans, Microfinance, Wealth Managers)
- Embed in buying process:
 - Gadgets, Holidays, gym membership
 - Financial products (Home loans, Microfinance, Wealth Managers)
- Last Mile Delivery: Enable post offices and business correspondents to promote insurance.

Customer Acquisition



- Customized plans
- Data driven sharper pricing
 - Wearables data. Life & Health Insurance
 - Telematics. Motor Insurance
- Notifications, Proactive Nudging

PARTNERSHIPS

- Dashboards for end-to-end administration and management
- Comprehensive Platform for Claims & Service
- Real Time Tracking & Updates

Customer Onboarding



- e-KYC
- Digital Onboarding Journey
- Support in local dialects to field teams: Chatbots & Gen AI
- Quick query resolution
- Customer Education: Interactive content



Operations

- Improved Risk Assessment
- Enhanced Fraud Detection
 - Analyze large quantities of data to identify abnormal behaviour
- Automation of back-end processes
- Integration with Vahan for real-time vehicle details verification
- Telematics help monitor driving behaviour and better price motor insurance
 - Collects real-time data using GPS and onboard diagnostics ports. Speed, engine health, fuel consumption, braking habits and seat belt usage



Customer Service/Claims

- Use of chatbots quite widespread
- Digital life verification for annuity customers
- Online consultation for preventive care/ app based nudges for better health. Reduces long term costs
- Travel: Integration with Official Airline Guide to payout insurance linked to flight delays without waiting for customer request
- Use drones to establish losses. Agri Insurance/ Solar panel insurance
- Car Accident Claims: Faster processing of claims by using AI to analyze photos/videos uploaded by customers
- Frauds in wearables data?



Product Innovation

- Using technology to offer new products.
 - Microinsurance: Ola trips, cell phones
- BIMA VISTAAR
 - A composite insurance product offering life, health, accident and property coverage
 - Incubated by IRDA. To be rolled out in FY25
- Health & Wellness: Smart devices to track exercise, diet consultation, gamification, Gen AI for higher customer engagement
- Pay As You Go: Driving only on weekends, Theft insurance only on vacations.
- Example Video

INDIAN INSURTECH ECOSYSTEM



<https://the-digitalfifth.com/insurtech-ecosystem/>

* This Ecosystem is only representative and NOT exhaustive

Regulations

Regulatory Issues



- Facilitate innovations which benefit policyholders
- Impact of innovations on pricing needs to be assessed
- Customer consent regarding data collected using wearables
- Data Collection Standards.: Scope of collection and use of data
- Cost of wearables? Insurers should not sell them.
- First test innovations/wearables in a Sandbox or a Pilot
- Regulations to establish 'standards' for wearables
- Wearables data outsourcing, monitoring, security & storage
- Portability of data along with insurance policy



Thank You!