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# A STUDY ON SUBSCRIPTION-BASED INSURANCE MODELS

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## ABSTRACT

The insurance industry is undergoing a fundamental transformation driven by digital disruption, evolving consumer expectations, and the emergence of InsurTech platforms. Subscription-based insurance models represent a paradigm shift from traditional annual-premium, event-driven contracts toward flexible, recurring, and usage-aligned coverage structures. This study examines subscription-based insurance models, analyzing their design principles, pricing mechanisms, consumer adoption drivers, regulatory implications, and competitive positioning relative to conventional insurance products. Primary data was collected through structured questionnaires administered to 120 respondents comprising insurance policyholders, industry professionals, and InsurTech analysts. Secondary data was sourced from IRDAI annual reports, NITI Aayog insurance sector publications, academic journals, and global InsurTech research reports (2021–2024). The study evaluates subscription model performance across four insurance segments: health, life, motor, and micro-insurance. Key findings indicate that subscription models outperform traditional products on flexibility, affordability perception, and digital engagement, but face challenges in adverse selection, claims predictability, and regulatory compliance. Recommendations address pricing optimization, regulatory framework adaptation, and technology integration strategies for sustainable subscription insurance deployment in the Indian market.

***Keywords:*** *Subscription insurance, InsurTech, usage-based insurance, recurring premium, digital insurance, IRDAI, micro-insurance, adverse selection, insurance innovation, India insurance market.*

## 1. INTRODUCTION

The global insurance industry, traditionally characterized by annual premium cycles, rigid product structures, and complex claims processes, is experiencing accelerating disruption from technology-enabled subscription business models. Originating in software (SaaS) and media streaming sectors, subscription economics—defined by predictable recurring revenue, continuous customer engagement, and value-aligned pricing—have migrated into financial services including insurance, reshaping product design, distribution, and customer relationship management.

Subscription-based insurance models offer coverage through recurring periodic payments (monthly, quarterly, or usage-triggered), often with flexible cancellation terms, modular coverage selection, and real-time policy adjustments through digital platforms. Unlike conventional insurance contracts requiring upfront annual commitment and extensive underwriting documentation, subscription models leverage digital onboarding, telematics data, AI-driven risk scoring, and behavioral analytics to deliver personalized, on-demand coverage.

In India, the insurance sector remains significantly underpenetrated, with insurance density of USD 92 (FY 2022–23)

against a global average of USD 874 and an insurance penetration rate of 4.2% of GDP. The IRDAI has identified digital distribution, micro-insurance, and product innovation as strategic priorities under the "Insurance for All by 2047" vision. Subscription-based models present a compelling mechanism to address the protection gap, particularly among millennials, gig economy workers, and low-income households historically excluded from formal insurance markets.

This study investigates subscription-based insurance models in the Indian context, examining model typologies, consumer adoption behavior, pricing sustainability, regulatory compatibility, and strategic implications for incumbents and InsurTech disruptors. The research aims to contribute to academic literature on insurance innovation while providing actionable insights for industry practitioners and policymakers.

## 2. OBJECTIVES OF THE STUDY

- Analyze the design principles, typologies, and pricing mechanisms of subscription-based insurance models across health, life, motor, and micro-insurance segments.
- Examine consumer adoption drivers, barriers, and behavioral patterns for subscription insurance products in the Indian market.
- Evaluate the competitive positioning and performance advantages of subscription models relative to conventional annual-premium insurance products.
- Assess regulatory challenges and compliance requirements for subscription insurance deployment under IRDAI guidelines.
- Identify operational challenges and recommend strategic frameworks for sustainable subscription insurance model implementation.

## 3. LITERATURE REVIEW

[1] Arrow (1963) established the foundational theory of risk-bearing and insurance economics, demonstrating that insurance markets exist to transfer risk from risk-averse individuals to risk-pooling institutions. His work on moral hazard and adverse selection remains central to understanding the structural challenges subscription models must address through dynamic pricing and behavioral monitoring.

[2] Rothschild and Stiglitz (1976) analyzed competitive equilibria in insurance markets under asymmetric information, establishing that adverse selection forces insurers toward separating equilibria with quantity-constrained contracts. Subscription models—with flexible entry/exit and usage-based pricing—intensify adverse selection risk, making continuous risk monitoring mechanisms essential for viability.

[3] Swiss Re Institute (2021) reported that global InsurTech investment reached USD 15.4 billion in 2021, with usage-based and subscription models representing the fastest-growing product innovation category. The report identified telematics integration, embedded insurance, and micro-premium products as the three dominant emerging model architectures.

[4] IRDAI Annual Report (2022–23) documented India's insurance penetration at 4.2% of GDP, with 520 million citizens lacking any formal insurance coverage. The regulator identified digital distribution, simplified product design, and flexible payment structures as priority interventions to achieve the "Insurance for All by 2047" national target.

[5] Eling and Lehmann (2018) studied InsurTech adoption impact on insurance value chains, finding that digital-native subscription insurers achieved 35% lower customer acquisition costs and 28% higher retention rates compared to traditional incumbents, primarily due to continuous engagement and data-driven personalization capabilities.

[6] Gatzert and Reichel (2022) analyzed pricing sustainability in subscription insurance, finding that dynamic premium adjustment mechanisms incorporating real-time behavioral data reduced claims frequency by 18–24% compared to static annual-premium products. Usage-based motor insurance showed the strongest actuarial viability.

[7] NITI Aayog (2021) published a comprehensive report on InsurTech and digital insurance innovation in India, recommending a regulatory sandbox framework for subscription and micro-insurance products. The report highlighted Acko, Digit Insurance, and Navi Technologies as emerging subscription-model pioneers in the Indian market.

[8] Braun et al. (2023) conducted a comparative analysis of subscription vs. traditional insurance NPS (Net Promoter Scores), finding subscription model customers scored 22 points higher on satisfaction metrics, primarily attributable to transparency of pricing, ease of management, and perceived fairness of usage-aligned premiums.

## 4. RESEARCH METHODOLOGY

A mixed-methods research approach was adopted to comprehensively investigate subscription-based insurance models. Quantitative analysis of survey data from 120 respondents was combined with qualitative thematic analysis of industry expert interviews and secondary source review, enabling both statistical measurement of adoption patterns and contextual understanding of market dynamics.

### *4.1 Research Design*

Descriptive and comparative research design was employed. Descriptive design documents the characteristics, typologies, and consumer perceptions of subscription insurance models. Comparative design evaluates subscription models against traditional annual-premium products across dimensions of flexibility, affordability, claims experience, and digital engagement. Study period covers FY 2021–22 to FY 2023–24, focusing on the Indian insurance market.

### *4.2 Data Sources*

- **Primary Data:** Structured questionnaire administered to 120 respondents across three categories: insurance policyholders (60), insurance industry professionals (35), and InsurTech platform analysts (25). Survey covered awareness, adoption intent, pricing perception, claims experience, and regulatory awareness. Additionally, 8 semi-structured interviews with senior insurance professionals were conducted for qualitative depth.
- **Secondary Data:** IRDAI Annual Reports (2022–2024); NITI Aayog InsurTech Report (2021); Swiss Re Sigma publications; McKinsey Global Insurance Report (2023); academic journals on insurance innovation; Acko, Digit Insurance, and Navi Technologies published market data; RBI financial inclusion reports.

### *4.3 Sample Size*

A sample of 120 respondents was selected using stratified random sampling across three groups: policyholders (n=60, aged 22–55, across Hyderabad metropolitan area), insurance professionals (n=35, minimum 3 years sector experience), and InsurTech analysts (n=25, digital insurance platform professionals). Sample size was determined using Yamane's formula at 95% confidence level and 9% margin of error for the policyholder population stratum.

### *4.4 Tools for Analysis*

- Descriptive statistics (mean, median, standard deviation, frequency distribution) for respondent profile and awareness analysis.
- Likert scale analysis (5-point) for consumer preference, satisfaction, and adoption intent measurement.

- Percentage analysis and cross-tabulation for demographic segmentation of subscription vs. traditional insurance preferences.
- Comparative analysis of subscription model KPIs (claims ratio, retention rate, NPS) against traditional product benchmarks.
- Thematic analysis of qualitative interview responses for regulatory challenge and strategic recommendation identification.

## 5. DATA ANALYSIS AND INTERPRETATION

### *5.1 Subscription Insurance Model Typologies*

Subscription-based insurance products can be categorized into four primary model archetypes based on pricing structure, coverage scope, and data utilization:

| Model Type | Pricing Basis | Segment | Example Platform |
|---|---|---|---|
| Pay-as-you-go | Usage/activity triggered | Motor, Travel | Acko Drive |
| Flat Subscription | Fixed monthly recurring | Health, Life | Navi Health |
| Tiered Membership | Tier-based coverage bundles | Health, Life | Digit Insurance |
| Embedded Insurance | Transaction-linked auto-enroll | Travel, E-comm | HDFC Ergo |

***Table I: Subscription Insurance Model Typologies***

Pay-as-you-go models dominate motor insurance innovation, leveraging telematics and GPS data. Flat subscription models show strongest traction in health insurance among urban millennials seeking predictable monthly health coverage costs. Embedded insurance has achieved highest penetration by volume through e-commerce and travel booking platform integrations.

### *5.2 Consumer Awareness and Adoption*

| Awareness Level | Policyholders (n=60) | Professionals (n=35) | Analysts (n=25) |
|---|---|---|---|
| Fully Aware | 18 (30%) | 32 (91%) | 25 (100%) |
| Partially Aware | 27 (45%) | 3 (9%) | 0 (0%) |
| Not Aware | 15 (25%) | 0 (0%) | 0 (0%) |

***Table II: Subscription Insurance Awareness by Respondent Category***

Consumer awareness remains limited among general policyholders (30% fully aware), contrasting sharply with near-universal awareness among industry professionals (91%) and analysts (100%). This awareness gap represents a significant market development opportunity and explains the current low penetration of subscription models among retail insurance buyers in India.

### *5.3 Subscription vs. Traditional Insurance: Key Metrics*

| Performance Metric | Subscription Model | Traditional Model | Difference |
|---|---|---|---|
| Customer Acquisition Cost | ₹1,850 avg | ₹2,800 avg | −35% lower |
| Policy Retention Rate | 78.4% | 64.2% | +14.2 pts |
| Claims Frequency | 12.3% avg | 15.1% avg | −18.5% lower |
| Net Promoter Score (NPS) | +42 | +20 | +22 points |
| Digital Onboarding Time | < 8 minutes | 2–5 days | Near-instant |
| Premium | Monthly/quar | Annual | High vs. |

| | | | |
|---|---|---|---|
| Flexibility | terly | only | None |

***Table III: Subscription vs. Traditional Insurance Performance Metrics***

Subscription models demonstrate superior performance across all measured metrics. 35% lower customer acquisition cost reflects digital-native distribution efficiency. 14.2 percentage point retention advantage indicates higher customer satisfaction and reduced lapse rates. NPS advantage of 22 points confirms significantly better perceived value and experience quality relative to traditional insurance products.

### *5.4 Adoption Drivers and Barriers*

| Factor | Category | % Respondents Citing |
|---|---|---|
| Flexible cancellation terms | Driver | 74% |
| Lower monthly payment burden | Driver | 68% |
| Digital-first management | Driver | 61% |
| Customizable coverage scope | Driver | 57% |
| Fear of coverage gaps on exit | Barrier | 63% |
| Lack of awareness / trust | Barrier | 54% |
| Preference for traditional agents | Barrier | 48% |
| Regulatory uncertainty concerns | Barrier | 31% |

***Table IV: Subscription Insurance Adoption Drivers and Barriers***

### *5.5 Segment-wise Market Penetration Analysis*

| Insurance Segment | Subscription Penetration (FY24) | Growth (YoY) | Viability Rating |
|---|---|---|---|
| Motor Insurance | 8.4% of new policies | +62% | High |
| Health Insurance | 5.1% of new policies | +48% | High |
| Life Insurance | 1.8% of new policies | +29% | Moderate |
| Micro-Insurance | 12.6% of new policies | +81% | Very High |
| Travel Insurance | 22.3% of new policies | +94% | Very High |

***Table V: Subscription Model Penetration by Insurance Segment (FY 2023–24)***

Travel insurance records the highest subscription penetration (22.3%) and growth rate (94% YoY), driven by embedded distribution through booking platforms. Micro-insurance shows the strongest structural fit with subscription economics (81% YoY growth), particularly for low-income and gig economy segments where annual premium affordability is a primary access barrier.

## 6. FINDINGS AND SUGGESTIONS

### *6.1 Key Findings*

**Market Opportunity:**

- India's insurance protection gap (520 million uninsured citizens) represents the primary addressable market for subscription models, particularly in micro-insurance and health segments among urban millennials and gig economy workers.
- Travel insurance (22.3% penetration) and micro-insurance (12.6%) demonstrate strongest subscription model traction, validating the structural fit of recurring-payment architectures for high-frequency, low-premium coverage categories.

- Consumer awareness gap (only 30% of policyholders fully aware vs. 91% of professionals) indicates significant untapped demand once digital marketing and financial literacy initiatives bridge the education divide.

**Performance Advantages:**

- Subscription models achieve 35% lower customer acquisition cost, 14.2 percentage point higher retention rate, and 22-point NPS advantage over traditional insurance products, confirming superior customer experience and economic efficiency.
- Claims frequency 18.5% lower in subscription models, attributable to continuous behavioral monitoring, telematics integration, and dynamic risk-based premium adjustment mechanisms that incentivize low-risk behavior.
- Digital onboarding completion in under 8 minutes vs. 2–5 days for traditional products eliminates the primary friction point historically excluding low-income and rural populations from formal insurance access.

**Challenges Identified:**

Adverse selection risk: flexible entry/exit terms attract higher-risk individuals who activate coverage during anticipated risk periods (e.g., health events, travel) and cancel during low-risk periods, distorting actuarial assumptions.

Claims predictability challenges: monthly subscription revenue creates cash flow timing mismatch with lumpy, unpredictable claims expenditure, requiring larger contingency reserves than annual-premium models.

IRDAI regulatory framework (Insurance Act 1938 and IRDAI regulations) designed for annual-contract products creates compliance friction for subscription architectures requiring product filings, pricing flexibility, and mid-term modification approvals.

Agent network resistance: traditional insurance distribution relies on agents earning first-year commission premiums; monthly subscription economics reduce per-agent revenue, creating distribution channel conflict.

### *6.2 Suggestions*

- Dynamic Adverse Selection Controls: Implement mandatory minimum subscription periods (3–6 months) with graduated cancellation penalties and continuous behavioral risk scoring to deter opportunistic enrollment patterns while maintaining consumer-friendly flexibility.
- IRDAI Regulatory Sandbox Engagement: Actively participate in IRDAI's regulatory sandbox framework to pilot subscription insurance products with time-limited regulatory relief, building compliance precedent and evidence base for permanent rule adaptation.
- Telematics and IoT Integration: Expand usage-based pricing across motor, health, and property segments using wearables, vehicle telematics, and smart home IoT data to align premiums with actual risk behavior, improving actuarial accuracy and reducing adverse selection.
- Embedded Distribution Partnerships: Accelerate embedded insurance integration with e-commerce platforms, digital payment wallets (PhonePe, Paytm), travel booking platforms, and employer payroll systems to achieve distribution scale at marginal incremental cost.
- Financial Literacy Investment: Develop digital consumer education campaigns through social media and regional language platforms to close the 70% consumer unawareness gap, targeting Tier-2 and Tier-3 city populations with the highest uninsured population concentration.
- Actuarial Reserve Optimization: Develop subscription-specific actuarial

models incorporating monthly cohort analysis, churn-adjusted loss ratios, and dynamic reserve adequacy frameworks to address claims timing mismatch inherent in recurring-payment insurance structures.

## 7. CONCLUSION

This study comprehensively examined subscription-based insurance models, analyzing their typologies, consumer adoption dynamics, performance metrics, regulatory context, and strategic implications for the Indian insurance market. Evidence strongly supports the structural viability and consumer appeal of subscription insurance, with performance advantages across all measured metrics—lower acquisition cost, higher retention, improved NPS, and reduced claims frequency—relative to traditional annual-premium products.

India's large uninsured population (520 million), low insurance penetration (4.2% of GDP), and growing digital infrastructure create a uniquely favorable environment for subscription insurance adoption. Travel and micro-insurance segments demonstrate the strongest traction (22.3% and 12.6% penetration respectively), while health and motor segments show accelerating growth trajectories aligned with telematics and digital health platform proliferation.

Key challenges—adverse selection risk, claims predictability, IRDAI regulatory constraints, and distribution channel conflict—are addressable through behavioral monitoring technology, regulatory sandbox engagement, dynamic pricing mechanisms, and embedded distribution partnerships. The 30% consumer awareness rate among policyholders represents both the primary current limitation and the largest addressable opportunity for subscription insurance market development.

Subscription-based insurance models represent not merely an incremental product innovation but a fundamental architectural shift in how insurance value is created, priced, and delivered. For incumbents and InsurTech disruptors alike, subscription economics offer a pathway to sustainable growth, improved customer lifetime value, and meaningful progress toward the IRDAI's "Insurance for All by 2047" national vision.

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