A Proposed Model for Measuring Protection of Policyholders' Interest at Industry Level

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Introduction

The existence of insurance business is based on how effectively policyholders' needs are met. This effectiveness is measured through various factors translated into key performance indicators for the business. One of the key qualitative factors that decides the sustainability of insurance business is protecting policyholders' interests. In this article, we look at ways in which this qualitative factor can be quantified or measured using various industry practices and emerging technology.

The solution suggested here integrates actuarial and data science techniques to quantify protection of policyholders' interest by function and by stakeholders. Various functions of insurance company that can be looked at for measuring protection of policyholders' interest are product design, pricing, sales, marketing, underwriting, policy terms and conditions, policy servicing, claims management, investment, reserving, reporting and fraud detection. Similarly, various categories of stakeholders that can be looked at for this purpose are principal, agency, controlling, advisory and incidental.

Insurance companies primarily deal with providing risk protection for life and livelihood against unforeseen contingencies related to life, health, property, personal or commercial business etc. Each stakeholder, based on the functions they are supporting, has responsibility to protect policyholders interest with respect to these aspects.

This article is organized into five sections. It begins with 1) a discussion on regulatory aspects followed by 2) discussion on key aspects of measuring protection of policyholders' interest by function and 3) by stakeholders. Subsequently,4) various quantitative measures, used as a proxy for the qualitative factors, are listed. 5) Finally, a model is proposed to measure the protection of policyholders' interest by calculating a relativity coefficient of each quantitative measure at industry level.

1. Regulatory Aspects

The Insurance Core Principles (ICPs) developed by the International Association of Insurance Supervisors (IAIS) demands regulation to be put in place which helps in the protection of policyholders' interest.

Five main types of regulatory regime are:

- Self-regulatory systems - which are organized and operated by market participants without Government intervention.
- Statutoryregimes-whereretherulesaresetandpolicedbythegovernment.
- Voluntarycodesofconduct-wherethereisachoicetowhethertoadhere.
- Unregulated market - with noregulation.
- Mixed regimes - involving a mixture of theabove.

The IRDAI Protection of Policyholders Interests Regulations (PPHI) 2017 talk about the following aspects:

1. Point of sale
2. Products on offer/ products withdrawn
3. Proposal for insurance
4. Matters to be stated in life insurance policy

5. Free look cancellation of life insurance policies
6. Matters to be stated in general insurance policy
7. Matters to be stated in a health insurance policy
8. General principles governing issuance of general and health insurance policies
9. Claims procedure in respect of a life insurance policy
10. Claim procedure in respect of a general insurance policy
11. Claim procedure in respect of a health insurance policy
12. Grievance redressal procedure
13. Power to issue clarifications
14. General principles
15. Transitory provisions

Each of the aspects are deeply looked further and are mapped to functions and stakeholders along with a quantitative measure.

2. Key aspects of measuring policyholders' protection by function

Each function has a role to play in protecting the policyholders' interest. Specific characteristics by function are described below:

Product design - Design of a product should be unambiguous, should meet policyholder's expectations and coverage should adequately commensurate the products offered in the market. There may be additions in the form of add-on products to meet additional expectations.

Pricing - Premium charged should reflect the risk undertaken along with a reasonable margin to the insurance company covering the additional expenses incurred.

Sales - At the point of sale, the policyholder must be provided with all the relevant information with respect to the proposed coverage, benefits and exclusions. For a renewal business, monitoring the persistency rates helps to understand the performance of the company. Number of cancellations within a free look up period gives the mis-selling percentage.

Marketing - The Insurer should ensure that the distribution channels such as agents, telemarketing interactive electronic medium, the internet, etc. should have competence and qualification.

Underwriting - This function is responsible for assessing that the undertaken risk is in line with the risk appetite of the company and is adequately priced, they also check whether the risk is placed in the market or not to understand the quality of risk and risk appetite of the industry.

Policy terms and conditions - The insurer is responsible to ensure that there is a genuine reason to financially indemnify the policyholder and avoid the anti-selection and moral hazard by defining the terms and conditions of the contract. The policyholder should be clear about the definitions and coverage offered by the company. Terms and conditions would provide the necessary aid to understand the boundaries of the coverage.

Policy servicing - Service provided in administering the policy.

Claims management - Once the claim is reported, genuinity of claim is established. After establishment, reserving is done and ensuring that the payment is adequate for the claim occurred and claim is finalized. Also, the insurance company should have a proper monitoring mechanism for measuring the difference between reporting time and settlement time.

Investment - Insurer is aware of the fact that there is a time gap between the policy being administered and claims being paid. In order to maximize the time value, insurer invests in various possible investments. In order to ensure the protection of policyholders' interest is upheld, there should be a monitoring mechanism to ensure that the prescribed assets are held.

Reserving - Monitoring the adequacy of reserves is of prime importance. Solvency levels and strategy of the

company is dependent on this function. Appointed actuary is responsible to sign the reserves ensuring the adequacy of reserves

Reporting - Regular reporting to the regulator and the shareholders would uphold the transparency and information symmetry to all the stakeholders.

Fraud Detection - Level of measures within the company to tackle fraud is essential and most insurers have a zero tolerance policy towards fraud and investigations ideally based on data driven and qualitative aspects of the nature of the fraud.

3. Key aspects of measuring policyholders' protection by stakeholder

Stakeholders are categorized depending on their relationship with the insurance company. Each stakeholder has a role to play in protecting the policyholders' interest. Specific examples for each of the five stakeholder categories is given below:

Principal - responsible for contributing capital and expect a return. e.g. shareholders, debt holders, customers, government, insurance market

Agency - responsible to perform a specific role on the principal's behalf. e.g. company directors, pension scheme trustees and administrators company managers, employees, auditors, investment managers and insurance intermediaries.

Controlling - responsible to supervise the principals and their agents. e.g. professional, bodies regulators, industry bodies, government.

Advisory - responsible to provide advice to principals and their agents. e.g. Actuaries, lawyers, credit ratings, agencies investment.

Incidental - affected by the principal's behavior and actions. e.g. creditors, suppliers and other business, partners, general public, media.

Each stakeholder's roles and responsibilities should translate in measuring protection of policyholders interest..

4.Quantitative measures

Quantitative measures calculated below are proxies for the qualitative measures discussed in the form of regulatory aspects. Quantification is done through using different actuarial and data science techniques described in detail below:

1. Regularly monitor the persistency rates and check if it's higher or lower than expected. Also, we can make predictions using Machine learning techniques such as logistic regression, etc. for business planning purposes.

2. Number of cancellations within a free look up period or for a defined time period gives us a measure of mis-selling.

3. Monitoring the adequacy of reserves. Generally calculated through stochastic reserving methods such as ODP reserving model.

4. To observe whether essential products are being offered. Eg: Motor Third party liability.

5. Number of add on products being requested for approval and average time to get approved is predicted using an exponential waiting time distribution based on the past history.

6. Performance of the Add on products introduced earlier.

7. The premium charged should be reasonable. This reasonableness is assessed using surplus analysis and predicted using GLM.

8. Calculation of solvency for an insurance company and monitoring it for each insurance company would give us an idea about whether a company can service the claim if it arises

9. A regular check on the mix of business to ensure diversity in the portfolio. This mix can be quantified using predictive modelling techniques to obtain an optimized combination of the mix of business.

10. Conducting survey about ease of understanding on coverage.

11. Conducting survey on effectiveness of questions to obtain the adequate rating factors for an effective pricing within the company.

12. Conducting survey on Materiality of questions related to the product within the company

13. Number of surrenders, withdrawals, foreclosure etc.

14. Number of lapses revived.

15. Number of excluded contingencies in comparison to the industry.

16. Number of times premium adjustment has been done within 15 days of receiving it.

17. Number of cancellation of policies within free lookup period

18. Number of endorsements passed for each policy.

19. Number of perils covered for property in comparison to the industry.

20. Number of times the sum insured has changed with an endorsement.

21. Number of times policy is cancelled for Pre-Existing Diseases (PED).

22. Number of grievance redressals performed.

23. Number of times claim is nil settled due to moralhazard.

24. Ratio of Renewal invites sent to overall contracts available for renewal.

25. Amount of benefit appropriate to the accident occurred.

26. Number of claims processed after 15 days for a death claim.

27. Number of days taken for the payment of claim more than 30days.

28. Number of policies where insurer had paid interest of 2% for not returning the premium for cancellation in a free lookup period.

29. Number of days taken to appoint a claim surveyor.

30. Number of days taken by insurer after claims intimation to obtain the documents.

31. Number of cases where the surveyor report took more than 30days.

32. Number of cases where insurer paid 2% interest for delay in claims settlement

33. Number of cases more than 30 days after receiving all the relevant documents and settled more than 45days..

34. Number of cases where refund of premium in case of free look up period cancellation is more than 15days

35. Turn around time for each grievance.

36. Number of addressed and number of days it took for the issue to get solved

37. Number of times the issue from a specific insurance company has gone to chairperson of IRDA to resolve.

38. Frequency of ULIP policies profit informed to policyholders more than a year

39. Number of complaints related to where policyholder confidential information is compromised.

40. Ratio of business brought by agents to the overall business

41. Number of times policy documents are revised due to non-complianceissues

4. Proposed Model

Proposed model integrates actuarial and data science techniques to quantify protection of policyholders' interest by function and by stakeholders. It measures the protection of policyholders' interest by calculating a relativity coefficient of each quantitative measure at industry level.

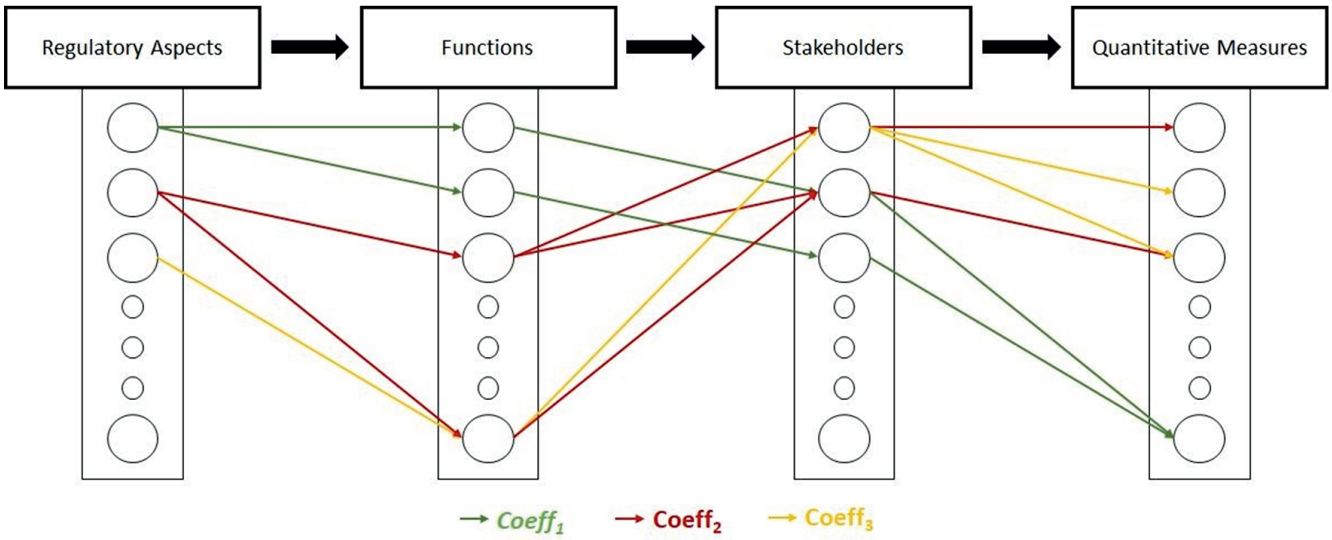

Fig 1 - A diagrammatic illustration of the proposed model

Detailed Explanation of the Proposed Model

Table below lists proxies for measuring various aspects of protection of policyholders' interest:

Regulation	Functions	Stakeholders	Quantitative Measure
Point of sale Coef f 1	Sales Marketing Underwriting	Agents Company Directors Company Managers Administrators Underwriter Actuary	Monitoring the persistency rates. Number of cancellations within a free look up period Monitoring the adequacy of reserves.
Products on offer/ products withdrawn Coef f 2	Terms and conditions of the contract Product Design Pricing Strategy Innovation	Shareholders Actuaries	Check if essential products are being offered. Eg: Motor Third party liability. Number of addon products being requested for approval. Performance of the addon products introduced earlier. Reasonableness of premium charged. Solvency measurement Monitoring mix of business
Proposal for insurance Coef f 3	Pricing Product Design	Agents Actuaries	Conducting survey about ease of understanding on coverage. Conducting survey on effectiveness of questions to obtain the adequate rating factors for an effective pricing within the company. Conducting survey on materiality of questions related to the product within the company

Matters to be stated in life insurance policy Coef f 4	Product design	Actuaries	Number of surrenders, withdrawals, foreclosure etc. Number of lapses revived. Number of excluded contingencies in comparison to the industry.
Free look cancellation of life insurance policies Coeff5	Sales Claims management Policy servicing	Agents	Number of times premium adjustment has been done within 15 days of receiving it. Number of cancellation of policies within free lookup period
Matters to be stated in general insurance policy Coef f 6	Terms and conditions of the contract Product design	Actuaries	Number of endorsements passed for each policy. Number of perils covered for property in comparison to the industry.
Matters to be stated in a health insurance policy Coef f 7	Terms and conditions of the contract Product design	Actuaries	Number of times the sum insured has changed with an endorsement. Number of times policy is cancelled for PED Number of grievance redressals performed. Number of cancellations within a free lookup period.
General principles governing issuance of general and health insurance policies Coef f 8	Pricing Product Design	Actuaries	Number of times claim is nil settled due to moral hazard. Ratio of Renewal invites sent to overall contracts available for renewal. Amount of benefit appropriate to the accident occurred. Number of exclusions in comparison to industry.
Claims procedure in respect of a life insurance policy Coef f 9	Claims management Policy servicing	Claims management	Number of claims processed after 15 days for a death claim. Number of days taken for the payment of claim more than 30 days. Number of policies where insurer had paid interest of 2% for not returning the premium for cancellation in a free lookup period.
Claim procedure in respect of a general insurance policy Coef f 10	Claims management Policy servicing	Claims management	Number of days taken to appoint a claim surveyor. Number of days taken by insurer after claims intimation to obtain the documents. Number of cases where the surveyor report took more than 30 days. Number of cases where insurer paid 2% interest for delay in claims settlement

Claim procedure in respect of a health insurance policy Coef f 11	Claims management Policy servicing	Claims management	Number of cases more than 30 days after receiving all the relevant documents and settled more than 45 days.. Number of cases where refund of premium in case of freelook up period cancellation is more than 15 days
Grievance redressal procedure Coef f 12	Claims management Policy servicing	Employer	Turn around time for each grievance. Number of addressed and number of days it took for the issue to get solved
Power to issue clarifications Coef f 13	Risk Management Legal Compliance	Employer Regulators	Number of times the issue from a specific insurance company has gone to chairperson of IRDA to resolve.
General principles Coef f 14	Risk Management Actuaries Chief Executive Officer	Compliance Board of Directors	Frequency of ULIP policies profit informed to policyholders more than a year Number of complaints related to where policyholder confidential information is compromised. Ratio of business brought by agents to the overall business
Transitory provisions Coef f 15	Actuaries Accountants Legal Compliance	Insurance Companies Board of Directors	Number of times policy documents are revised due to non-compliance issues

Coef f icient of Qi=Coef f 1 * Coef f 2 * Coef f 3 * ... * Coef f 15

where Qi is quantitative measure of the company i

This Qi is compared with industry level quantitative measure.

For each of the coefficients mentioned above, use of emerging technologies such as Artificial intelligence ensures the protection of policyholders interest. This can be achieved by checking whether a defined threshold is breached or not on a periodic basis.

Conclusion

A healthy structure of monitoring the protection of policyholders interest in a quantitative way using actuarial and data science techniques paves the path for increased sustainability of insurance business. Proposed model achieves this by considering key aspects of function and stakeholders. This also serves the best interest of policyholders.