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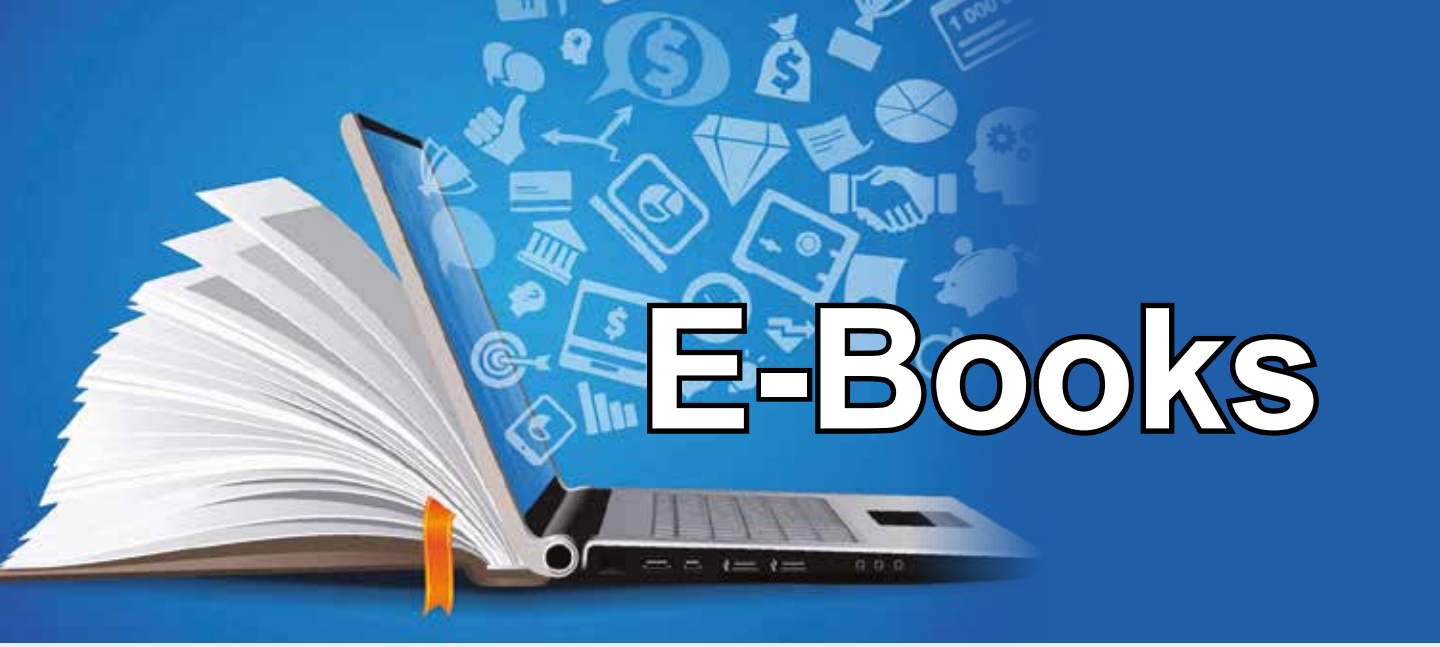

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Volume XXXVV

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EDITORIAL

The current [October – December 2020] issue of the Journal has been devoted, as in previous years, to the publication of the prize winning articles of various competitions of the institute. We are happy to note that the current year has also witnessed a good outcrop of innovative and well researched articles on various areas of insurance.

We are ten months into the Covid Pandemic and the cases continue to mount at the global level, with the winter bringing in its wake, the fears of a second and, in some instances, even a third wave. The silver lining on the horizon is the prospect of a vaccine that would usher a speedy resolution to the ongoing crisis. Indeed, quite a few companies have emerged as front runners in the race and one or two are already in the stage of being accorded such approval. While the vaccines would certainly improve things, there is a vast backlog of economic devastation and interruption of businesses and livelihoods that need to be set right. We can only hope that year 2021 would see a full restoration of normalcy. At any rate, things would never be quite the same and we would need to come to terms with what has been called the new normal.

As the world prepares for a new order that we shall call the 'Post covid era', it may be worthwhile to consider that even if 'we cannot control the volatile tides of change, we could at least build better boats'. What the pandemic and other systemic risks of the current era are teaching us is the need to develop Resilience – the capacity to adapt to dramatically changed circumstances and move on, while maintaining one's core purpose and integrity. The good news for those who find such capacity is that they can often find new opportunity [the other side of risk]. For instance, the institutionalizing of practices like work from home and on line learning are ground breaking new realities that have come to stay. Can businesses capitalize on the opportunities they provide?

Editorial Team

Merit Winner

S.K. Desai Memorial Essay Writing Competition

Cost V/S Utility of Investing in Fraud Control Measures by Insurers

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Abstract

Indian insurance industry has immense growth potential. One important factor that inhibits growth and development of the industry is increasing Insurance Fraud. Since there are no strong penal measures are available in Indian Penal Code, the fraudsters are committing frauds all across the country, especially in rural and semi-urban areas.

According to one estimate, the volume of insurance fraud in India is about Rs. 40,000 crore. There are two types of people who commit frauds. One category is known as "Opportunity Fraudster" while the other type is "Professional Fraudster". The opportunity fraudsters are normally law abiding people but do not mind claiming more than they should as they believe it ignorantly that insurers do not stand to lose, when "small" frauds are committed.

Apart from traditional methods of Internal Auditing and Investigation of Claims, the insurers are using Artificial Intelligence based Machine Learning Algorithms to prevent and detect frauds. These are not too costly as compared to Utilities that the insurers can get out

of these measures. In this paper, an attempt has been made to list the efforts made by insurers to manage Insurance Fraud to the extent possible.

Keywords

Insurance Fraud, Incurred Claims Ratio, IAIS, Life Insurance, Health Insurance, Motor Insurance, Prevention and Detection of Fraud, Artificial Intelligence, Internal Auditing.

India is a huge market for life and general insurance as insurance penetration and density are still tottering at 3.71 and 74 USD respectively (source: IRDAI Annual Report 2018-19)[1], against the global averages of 6.09 and 682 USD respectively. While the industry is desperately trying to gain a better growth momentum, some crooks and organised groups of fraudsters are out there to dent the profitability and even the sustainability of the insurers. The fraud industry is flourishing like never before as the fraudsters have found in this industry an opportunity to get returns of 500% or even 1000% soon after buying insurance products. For some classes of business, they are able to make the insurers bleed underwriting losses. Of late, insurers have been able to identify 80 districts of the country which have perfected the art of committing insurance frauds. There are rings of fraudsters that operate like corporate firms with modern electronic gadgets, software and "educated" men and women as employees. These rings are in constant lookout for opportunities to commit various types of Insurance Frauds.

Insurers now understand that penal measures in India are not strong enough (under IPC) to severely punish the insurance fraudsters working in groups. So, they are waking up to the new realities of doing business and adopting various fraud control measures. They are also investing money and manpower in setting up Fraud Management verticals within the organisation. They are also investing in Artificial Intelligence (AI) enabled fraud detection tools now available at reasonable cost.

In this paper, we shall see the types of frauds perpetrated by the people including organised gangs, triggers of frauds identified by insurers through their years of experience and expertise, measures already taken by them in tackling the scourge of insurance frauds and the utilities that the insurers can get by investing in Fraud Control measures. This will enable us to analyse the Costs and Utilities of investing in these measures.

This paper is all about establishing the fact that it is worth investing money, manpower and time in fraud control measures as the rewards to the insurers far outweigh the costs associated with setting up fraud detection and management system.

1. What is Insurance Fraud?

Insurance fraud is a scam perpetrated by the policyholders or intermediaries or even by the insurance employees, to reap an illegitimate profit from an insurance contract. It is a deliberate act committed against the insurer. Insurance fraud, internal or external, can take place any time during the term of the contract. Insurance Fraud is not defined in Insurance Act, 1938. However, it is defined by International Association of Insurance Supervisors (IAIS)[2] as "an act of omission intended to gain dishonest or unlawful advantage for a party committing the fraud or for other related parties". IRDAI has accepted this definition of Insurance Fraud.

Insurance business is based on two basic principles, Uberrima Fides (Utmost Good Faith) and Insurable Interest. If proposer gives false information about the person or the asset to be insured, it may not always be possible to detect the authenticity of the information. At least in India, it is next to impossible to place hands on the full medical history of a person seeking insurance. Again, it is sometimes difficult to gauge who will ultimately benefit from an insurance contract. The professional fraudsters make best possible use of these inherent weaknesses of the insurers.

IAIS says in its report that all frauds need not necessarily be the handiwork of professional fraudsters. There are two types of people who commit frauds. One category is known as "Opportunity Fraudster" while the other type is "Professional Fraudster". The opportunity fraudsters are normally law abiding people but do not mind claiming more than they should as they believe it ignorantly that insurers do not stand to lose, when "small" frauds are committed. They feel that insurers are flush with limitless funds and a person who had a few "No Claim Years" can make the insurers pay more than they are supposed to. Professional fraudsters actually take up committing insurance frauds almost as an occupation. They target multiple insurers, cheat them as much they can and go on committing the crime until they are caught by the insurers. When many professional fraudsters form groups, they are capable of committing more complex and extensive frauds.

Insurance fraud had existed even when the industry was at a nascent stage in Europe. Fraud control measures used to be taken even in those ages. Such measures are well chronicled in the

pages of history of insurance industry. In 1380, Genoa had punished perpetrators of insurance frauds. In 1435, a Barcelona ordinance prohibited insurance of the same products several times. Fraud was rampant in marine insurance industry in those days as it was found that the policyholders and captains of ships had worked in collusion to make fraudulent insurance claims.

Later life insurance industry had also experienced similar fate. In fact, life insurers always had more difficulties in underwriting and classifying risks as the number of customers was much more than in general insurance. The life insurers had to insure a large number of people, in order to strike a balance between mass and homogeneity. So, life insurers everywhere have to handle a huge number of customers. That means, a few individuals can commit frauds and unless the insurers set up a near fool-proof system of detecting and managing frauds, they are likely to suffer say at least 10% of the value of claims. While insurers are in the business of managing risks of people, they run the risk of incurring losses in their own business as well.

Life insurers experience another kind of fraud which is laundering of money through life insurance policies. This does not just affect the insurers and insuring public but also the entire economy.

2. Volume of Insurance Fraud

We were discussing the incidence of insurance frauds in the distant past. Let us see the magnitude of insurance frauds in recent years. According to the May, 2017 issue of the "Atlas Magazine"[3] (henceforth mentioned as Atlas), insurance fraud in some major developed countries of the world has been found to be the extent of 10% of the value of claims paid across all classes of insurance business. The following table gives the countrywide estimate of the magnitude of losses.

Table-1: Losses Incurred by Insurers as a Percentage of the value of Claims Settled

Country	Classes of Business	Amount (as % of value of claims)
Germany	All classes of business	10%
Australia	All classes of business	10%
Canada	All classes of business	10%-15%
Spain	Motor	22%
United Kingdom	Personal Lines	7%
Scandinavia	All classes of business	5%-10%
United States	Motor	11%-15%
United States	All classes of business	10%

Source: Atlas (2017)

In UK, the amount of fraud has been estimated to be 2.5 Billion USD annually. In US, the Federal Bureau of Investigation (FBI) estimated that the total value of insurance fraud is 40 Billion USD annually. In Germany, half the claims related to theft or damage of smartphones is fraudulent in nature. Insurance Fraud is such a deadly menace today that it has become an industry today and if its value is calculated worldwide, it would rank 56th among top companies in US.

In India too, insurance fraud is fast becoming an industry. According to one estimate, the volume of insurance fraud in India is about Rs. 40,000 crore. That is really too heavy for the market characterised by low insurance penetration and density. While no official record exists to determine the total insurance frauds being committed annually, certain statistics are worth mentioning here. According to a report at moneycontrol.com[4], more than 56% of life insurers of India reported a rise of life insurance fraud by 30%. The report (prepared by practicing actuaries), says that the size of the insurance fraud (life and non-life taken together) in our country was 6.25 billion USD last year. This amounts to more than Rs. 45,000 crore, i.e. about 9% of the total premiums collected by all types of insurers in a year. The report also mentions that most of the frauds take place in the first policy year itself. That means, the fraudsters are generally interested in making money very quickly and then pack their bags to start their fraudulent operations all over again at some other locations.

3. Nature of Insurance Frauds in India

At this stage, it will be useful to have a look at the types of insurance frauds being perpetrated in India now. IRDAI has already classified insurance frauds into three types as under:

- Internal Frauds (caused by the employees)
- Intermediary Frauds (caused by the agents, brokers, corporate agents including banks, TPAs)
- Policyholder Frauds (caused by policyholders or groups of people in the guise of policyholders)

Let us discuss Internal Frauds that are prevalent in almost all insurance

companies. This is happening due to two reasons – misuse of positions and leakages. The people holding senior positions can make money fraudulently by various ways. One way can be to invest money in companies with dubious track records of performance. Some such executives have actually been suspended from services following CBI investigations. The leakages can be intentional or unintentional. When the processes are not efficient enough, such leakages are commonplace. Internal frauds happen when some employees become too greedy to make money by fair means or foul. When that is coupled with the fact that they have easy access to the system with all its loopholes, committing fraud is only a matter of time. The perpetrators sometimes are under a foolish notion that they are not affecting the interests of policyholders. They do not know that by committing such acts of fraud, they are causing the policyholders' money to be depleted, resulting in lower returns under policies (in life insurance) and increase in tabular premiums (in case of life, health, motor and other classes of insurance). No wonder, there are many money suits pending against the fraudulent employees of the insurance companies.

IAIS Report on Frauds says that internal frauds mostly happen in the organisations with complex organisational structures. More the compartmentalisation of responsibilities less is likely to be the identification with the perpetrators of crimes and more chance is there for committing frauds. Again, more the employees are frustrated about the growth prospects within the organisation, more is there the chances of fraud. Again, if decision making is concentrated in the hands of a few people, there can be more incidence of fraud.

Internal Frauds have been taking place by misappropriation of funds, fraudulent financial reporting, forging signatures, falsifying documents and recycling of claims proceeds towards new insurance proposals (without the knowledge of the policyholders/claimants).

Intermediary Frauds are also of various types. Most common is taking premium amount from the policyholder and not passing it over to the insurer. There is non-disclosure or mis-representation about the risk resulting in insufficient premiums. Using policyholders' money for third party payments of proposal deposits is also one kind of fraud. Splitting of policies without the consent of the customers is another type of fraud. Then, there are umpteen cases of mis-selling of policies. While the policyholder thinks that he has purchased a single premium policy, what he was sold was nothing but a regular premium policy and the policyholder ultimately finds it difficult to keep such policies in force, while intermediary is able to pocket handsome commission. But, most dangerous type of fraud is helping the uninsurable persons taking insurance cover of high sums. Ultimately, both the claimants and agents benefit immeasurably when the life assureds die by paying one or two premiums under the policies.

IAIS Report points out that, intermediaries sit in a position of trust between the policyholders and insurers. Since trust forms the basic element of insurance business, the same trust can be abused if proper control measures are not in place.

In some cases, Intermediaries commit frauds in collusion with the employees. For example, they can get the policies surrendered without the knowledge of the policyholders by declaring the policies as lost. Needless to say, they forge the signatures of the policyholders and arrange to send money to bank accounts not belonging to the policyholders but created under the name of the policyholders through forged KYC documents. Unless active involvement of employees is not there, such acts of frauds can not take place. In many cases, the insurance agents are not traceable after the frauds are committed.

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Over the years, the insurance agents and brokers have become so clever that they know the basic weaknesses of the insurers. They also know insurance laws

pretty well now. They know that when a policy has run for a minimum of 3 years, the contract can not be called in question under any circumstances. So, they are making wrong use of the newly amended Section 45 of the Insurance Act, 1938. Many of the policies which resulted in death claims just after three years from the date of commencement of policies fall under this category. There are evidences to prove that the life assured suffered from some dreaded disease at the time of taking the policy on the basis of false statements. But, such evidences are not enough to repudiate claims.

Worse cases are those which result into early claims within say one year of taking the policy but the death is reported to the insurer just before the expiry of warranty period of three years. This is deliberately done to deprive the insurer time to investigate such cases properly and arrive at a repudiation decision. So, many of such claims are to be settled, too. If the insurer rejects such claims, the claimants are sure to drag the insurer to the Consumer Forum and the insurer is sure to get a snub from the forum for not admitting such "legally admissible" claims. All insurers without exception are suffering from such acts of fraudulent behaviour on the part of claimants. In these cases, there is blatant misuse of the latest provisions of the Insurance Amendment Act of 2014.

There is another source of fraud these days. Now, insurance policies of heavy sums can be purchased online. The proposer need not go anywhere. Just filling up a few forms online and attaching of KYC documents and the insurance policy is purchased without any hassles. This can be a delightful onboarding experience for the customers. Now, even a life insurance policy worth 50 lakhs of rupees can be purchased online without undergoing any medical examination! The products can be purchased with the help of aggregators or directly through the web portals of the insurers. It has been found that policies purchased through the sites of aggregators are much riskier for the insurers. The fraudsters usually prefer the "Aggregator Route" while buying insurance products online, instead of visiting the websites of the insurers.

The professional fraudsters have become very efficient in picking up terminally ill patients of the locality and buy insurance policies under their names. When the life assured dies and the claim is paid, the claim amount is distributed between the fraudsters, claimants, doctors, lawyers and even village level administrators. The size of such death claims are within 2 and 10 lakhs in 85% to 90% of cases, so that the insurers are not too suspicious about these cases at the beginning. After committing many such insurance frauds, the fraudsters leave the place quickly and start their operations elsewhere. (Source: Economic Times July 6, 2017; Author: Shilpy Sinha)

There are huge fraudulent claims under Pradhan Mantri Jeevan Jyoti Bima Yojona (PMJJBY) as insurers receive umpteen claims on policies taken on the lives of non-existing and dead people through manipulating Anganwadi records. (Source: Economic Times July 6, 2017; Author: Shilpy Sinha) That really is a matter of grave concern. The policyholders have become aware of the shortcomings in the administration of such mammoth schemes and have a free run in committing frauds, especially in the countryside.

Health insurance. This fraud is now all pervasive in the society. It is because of heavy leakages and frauds that the price of health insurance cover is going up every year. While it is practically impossible to eliminate this fraud altogether, it can certainly be controlled significantly. Buying of health insurance policies by suppressing pre-existing diseases (PED) or manipulating pre-policy health check-up findings or submitting fake/fabricated documents to meet policy eligibility conditions or submitting exaggerated/ inflated medical bills or lodging claims under multiple policies or even fudging data in group health covers – health insurance frauds are of countless types.

Frauds are not just committed by policyholders/claimants. Health service providers are hand in glove with the customers committing the frauds. Frauds by healthcare providers also include preparation of bogus claims by fake physicians, billing for products and services not rendered, billing prepared for higher level of services, change in diagnosis of the patients and fake documentations and fudging of records of patients. According to a reliable estimate, false health insurance claims are at least 15% of the total value of claims paid by the insurers. That means, the insurers are paying about Rs. 800 crore worth of bogus claims every year. Health insurance is already a bleeding business with high Incurred Claims Ratio.

It will be worthwhile to mention that even in the top first world country like US, health insurance frauds consist of 90% of total insurance frauds of 120 billion USD. In that hugely developed country with easily accessible health records and sophisticated billing system, it is surprising that it is possible for insurance frauds of such magnitude to take place. Indian health insurance industry is in a more precarious position

Table-2: Incurred Claim Ratios of Prominent Insurers in Health Insurance Business

Name of Insurer	Direct Premium Received (Rs. Crores)	No. of Persons Insured People (in '000)	Incurred Claim Ratio
Bajaj Allianz	2597.03	24685	85
HDFC Ergo	1973.17	9605	62
ICICI Lombard	2796.32	15179	76
IFFCO Tokio	928.71	22015	102
Reliance	1126.79	27464	94
SBI General	1132.51	2748	52
Tata AIG	1119.41	2248	78
National Insurance	6060.43	147728	115.55
New India	8779.72	87561	103.19
Oriental Insurance	4677.39	30325	113.86
United India	5801.77	54468	110.95
Apollo Munich	2194.44	5116	63
Max Bupa	947.02	5433	54
Religare	1825.57	10713	55
Star Health	5401.29	11617	69
Industry (taking all small and big players)	***37694.63***	***4,72,035***	***89.34***

Source: IRDAI Annual Report, 2018-19

and cannot possibly survive with the ongoing level of frauds. Let's look at the Incurred Claims Ratios of some of the prominent general insurers, collecting in the financial year 2018-19, from health insurance portfolio.

The last row of the table is arrived at by taking the business and claims figures of all insurers doing health insurance business in India. From Table-2, it is clear that the insurers who have insured a very large number of people all across the country are worst hit in terms of adverse Incurred Claims Ratios. In fact, all PSU insurers have the Ratios in excess of 100%, i.e. their new business premium is found to be insufficient to pay health insurance claims. Even some private insurers doing brisk health insurance business, e.g. Bajaj Allianz, IFFCO Tokio and Reliance are experiencing alarming Ratios. We find that the correlation co-efficient between the number of policies insured by insurers and Incurred Claims Ratio of the concerned insurers is 0.71. Therefore, it is clear that there is a strong positive correlation between the number of persons insured by insurers and the Incurred Claims Ratios. This proves that bigger insurers including the PSU insurers are not properly maintaining control mechanism as they expand their scale of business.

Stand-alone health insurers together have a Ratio of 61%, which is quite impressive in the overall scenario. PSU insurers cover the segments of "Government Sponsored Schemes" and "Group Insurance Schemes" and these are perhaps pushing the ICRs up. While insurance is ideally to be sold in large numbers, an insurer has to take all precautions to ensure that the claims experience is never too much for it to handle. The ratio for the industry as a whole is really alarming at 89.34. This is an ominous sign for the industry and the insurers who are bleeding the most have to do something urgently to change the course of the game.

It is a known fact that Incurred Claims Ratios in excess of 80% is a matter of grave concern. If this goes on for a few years more, the concerned insurers will find doing health insurance business unsustainable. Some may say that high Ratios may be due to poor underwriting and not doing "Due Diligence" before accepting a risk. That is true but the fact is, Underwriting Capacity is there with all insurers and the underwriting rules are pretty standardised across the insurance companies. The problem lies elsewhere. As the insurer expands its operations more and more, insuring crores of individuals either through individual or group insurance, the fraudsters find it more convenient to push bad lives or even make collusion with hospitals/nursing homes to commit frauds. It is easier to commit frauds in government sponsored schemes or group schemes as there are many relaxations in selecting lives and making claim payments. The total Net Premiums earned by the PSU insurers were Rs. 20,053.58 crore as against Rs. 9,812.99 by all general insurers taken together and Rs. 7,828.06 crore for all standalone health insurers taken together. The smaller companies are perhaps able to exercise better control over each

and every proposal and claim, with or without fraud analytics. Standalone Health Insurers are not doing business in Rural areas and doing very little business in Semi-Urban areas and it is a known fact that insurance frauds happen mostly in those areas.

Some General Insurers are more serious at controlling frauds than their peers. Whatever has been mentioned just now about the variability of ICR is true but we also find that many of the insurers showing low ICRs are doing certain things exceptionally well as regards management of Frauds. In Table-3 below, the commendable efforts made by these insurers are mentioned.

Motor Insurance Frauds. This is perhaps the most commonly committed fraud in the country. The experts believe that 50% of Third Party (TP) motor claims are bogus. But, frauds also take place in the category of "Loss/Damage to Own Vehicle" (OD). Many claims are lodged on the basis of fake accidents and papers prepared with the help of legal professionals. Most well-known fraud in this space is claims padding, with very few customers knowing that this is both illegal and unethical. Frauds also take place by arranging false FIR/ Police Report by giving false information to the authorities.

If we look at the Incurred Claims Ratios of Motor Insurance of the PSU insurers for 2018-19, we find that three out of four of them have above 100% Ratio, with the average being 107.73. The average Ratio for the private insurers is 76 but most of the bigger private insurers have the Ratio in excess of 80. Hence, the picture is scarier than what we noticed in the case of Health Insurance. What is more unsettling is that the Ratio is sharply increasing in respect of bigger insurers, insuring very large number of cars. Even in 2017-18, the Incurred Claim Ratio was 89.48 for PSU insurers. There is hardly any reason to believe that there was a spurt on motor accidents in the country by 20% in the last year.

Table-3: Efforts of some Insurers in Controlling Frauds

Insurer	ICR	Special Efforts taken in Controlling Fraud
HDFC Ergo General Insurance Company	62	• The company has established a sound Risk Management Framework (RMF) capable of addressing all risks. The RMF is headed by a Chief Risk Officer. • It has a strong Audit Committee which recruits Internal Auditors with domain knowledge. They conduct Risk-based auditing. • Its designated Risk & Loss Mitigation Units (RLMU) uses Fraud Analytics to nab the fraudsters and inform the cases of frauds to Police.
ICICI Lombard General Insurance Company	76	• The company has implemented Enterprise Risk Management with prime focus on Fraud Management and Cyber Security. • Apart from heuristic techniques, the company is using AI based technologies like Machine Learning to detect frauds very fast.
Apollo Munich (Stand Alone Health Insurance Company)	63	• The company has set up Enterprise Risk Management system to tackle all risks on an integrated basis. • Internal Auditing has been outsourced to a Chartered Accountant firm in order to get the units audited independently and professionally. • The company does Fraud Analytical modelling to detect frauds accurately.
Star Health (Stand Alone Health Insurance Company)	69	• Risk Management Committee of the insurer is headed by a Chief Risk Officer and the committee reviews the risk situation at regular intervals of time. • The company has a strong Internal Audit department that ensures functioning of units as per corporate guidelines.

Source: Annual Reports of the concerned insurance companies

Table-4: Incurred Claim Ratios of Prominent Insurers in Motor Insurance Business

Name of Insurer	Net Earned Premium (Rs. Crores)	Incurred Claim Ratio
National Insurance	4953.86	127.50
New India	9834.42	87.54
Oriental Insurance	4343.52	112.62
United India	4796.40	120.79
Bajaj Allianz	4216.25	62
Bharti Axa	1015.12	75
Cholamandalam MS	2412.06	84
Future Generali	1013.73	69
HDFC Ergo	2021.22	82
ICICI Lombard	5035.65	74
IFFCO Tokio	2618.04	87
Reliance General	2118.58	85
Royal Sundaram	1731.48	89
Shriram General	2015.82	69
SBI General	929.64	87
Tata AIG	2790.21	70
Industry (taking all small and big players)	***55212.04***	***90.60***

Source: IRDAI Annual Report, 2018-19

Let's take a look at the Incurred Claims Ratio figures of the insurers doing motor insurance business. To make the analysis more meaningful, let us consider the insurers that were among the top procurers of business in 2018-19.

If we analyse the data of Table-4, we find that most of the prominent insurers are living dangerously. If we take top ten insurers in terms of premiums underwritten by them in 2018-19, we shall readily find that 7 out of 10 are having Incurred Claims Ratios in excess of 80. Either the insurers are not applying Due Diligence while accepting the risks or they are not scrupulously assessing the extent of the damages at claims stage or they are not able to identify the fraudsters who have perfected the art of hoodwinking the insurers and plundering public money with impunity. Something has to be done very seriously by the insurers who are on the brink of disaster.

Motor Frauds can be internal and external. Internal frauds are those in which the employees, managers or even Board Members are involved. Most frauds are however external in which policyholders and claimants commit the frauds in collusion with the agents, brokers and even Third Party service providers. These frauds are also categorised as Soft or Hard Frauds.

In soft frauds, the claimants seize the opportunity to inflate claim amounts of otherwise legitimate claims. Hard frauds are committed in pre-meditated fashion by seasoned fraudsters. These are more dangerous types as even doctors, lawyers and other such professionals carefully plan the scheme of frauds. In fact, cost of motor insurance is going up because of such frauds taking place in larger numbers and mostly in areas outside the city limits. Motor frauds have become extremely organised these days. Drivers, garage mechanics, lawyers, insurance intermediaries all are sometimes involved in staging frauds.

New types of Frauds are also affecting the insurance industry. Most notable is Cyber Fraud. Insurers' offices are all linked through dedicated networks. But, there are fraudsters who are able to break into the systems of insurers containing all private financial information of crores of customers. One fraudulent company named Tuneer Capital copied the website of LIC in 2012 and kept on collecting huge customer information, before a legal action was taken by the insurer against the fraudulent company. Many insurance companies are still using outdated software, browser and development kits and these are not secure at all. Hardwares of many users are susceptible to cyber-attacks. (Source: NIA class on Cyber Frauds & Tools to Detect it by Manoj Mhansurekar).

All cyber frauds are committed via networks like WAN, Wi-Fi, sms and e-mails. Fraudsters use viruses, Trojans, worms, Logic Bombs etc. They can also resort to telecommunication frauds using hacking, phishing, SQL injections, Phreaking and Morphing. Sometimes, they give fake advertisements (e.g. Samsung giving free telephones).

Cybercriminals use secure softwares to stay anonymous. They use proxy servers and it is extremely difficult to know their locations. Cyber attacks mostly take the forms of Phishing Scams, Ransomware, malware and Remote Access Trojans (RAT). Motivation behind these attacks is purely financial and often informational gain. Although insurers have not yet complained of large scale cyber frauds committed against them, these types of frauds are likely to be committed in near future as the insurers start using latest technologies like AI more and more and scale up their operations in remotest parts of the country. Very recently, Cognizant Technology Solutions Corp., a global IT major of Indian origin has become a victim of a Ransomware attack that has caused business disruptions of its clients. Cognizant confirm that they have been hit by a "Maze" Ransomware group. Now, we can imagine what can happen to the major insurers handling lakhs of crores of Rupees if the providers of IT security themselves can be victims of cyber-attacks.

4. What are the indicators of Insurance Frauds?

Now that we have a fairly comprehensive idea about how Insurance Frauds are perpetrated in India, the next logical part of our journey will be to understand the broad indicators of Insurance Fraud in each class of insurance business. Once we are able to identify the indicators of fraud, it will be easier for us to set up a Fraud Control mechanism.

Life Insurance

Let us first consider the indicators of Life Insurance Frauds. These frauds happen because some people still consider Life Insurance Frauds as victimless crimes and that they will hardly be caught. The perpetrators want to get rich quickly and that is why they select Life Insurance Frauds as the "Right Instrument". Again, such frauds are generally committed by "Trusted" people. Life insurers, through their rich experience, have been able to identify the following indicators of Fraud. Let us first see the indicators of frauds committed by the employees:

1. Unusual employee behaviour,
2. Key employees not taking leaves and sitting late in the offices to do some "Urgent Pending" jobs,
3. Employees showing extra interest in the assignments of co-workers,
4. Blind trust on some particular employees,
5. Key documents of the insurance contract like Policy Bond, proposal papers found missing in some cases,
6. Suppliers/contractors showing interest in dealing with some particular employees only,
7. Actual expenses exceeding the budgeted expenses on a regular basis,
8. Work getting done without seeking permission of Competent Authorities,
9. Bank reconciliations not taking place for months,
10. Loan/Surrender payments made without collecting the necessary papers,
11. Issue of policies without underwriting the proposals,
12. Late lodgement of collected cash,
13. Lack of control of policies returned undelivered with a note "No Such Person".

Let us now see the indicators of Frauds which are intermediary related. The following indicators need to be kept in mind:

1. Intermediaries trying to bypass KYC norms while submitting proposals,
2. Intermediaries submitting fake documents (for example, fake School Certificate), in order to prove the risk as a standard one,
3. Splitting of proposals without obtaining the consent of proposers,
4. Bringing too many policies that result in early claims (i.e. claims arising within two or three years),
5. Receiving regular complaints against the particular agents from customers as regards mis-selling, poor servicing, misbehaviour etc.
6. Retention of Policy Bonds by agents for months and sometimes for years,
7. Collection of premiums from policyholders of Micro Insurance policies but not remitting the same to the insurer in time,
8. Proposing insurance of non-existent persons and later lodging death claims by submitting forged death certificates (mostly in Micro-Insurance),
9. Adjusting Renewal Premiums towards new policies (without informing the policyholders), only to show inflated business figures,
10. High rates of lapsations and surrenders in cases of certain agents,
11. History of financial impropriety shown by agents while working with previous employer(s).

Indicators of fraud \ related to policyholders/claimants. The following are well known indicators:

1. Discrepancies found in the KYC documents as regards full name, date of birth, full residential address etc.,
2. Taking insurance cover at a place far away from the actual place of residence,
3. Taking first life insurance policy at an advanced age (50 plus) for a plan that offers high risk cover at moderate price,
4. Not submitting an acceptable proof of income (in case of high sum assured cases),
5. Concealing full details about other insurance policies,
6. Proposals coming from areas which are known to be fraud-prone,
7. Reporting of lower age (falsely) to get insurance at lower cost,
8. Claimants opening a bank account just before lodging a claim.

These are the indicators of fraud. Now, insurers have to find a Control Mechanism that can prevent the fraud from taking place or if the frauds still take place, to detect them quickly.

Indicators of fraud in health insurance sector of the industry.

The following can be considered as important indicators of fraud:

1. Multiple claims with repeated hospitalisations (under a specific policy at different hospitals or at one hospital for one member of the family and different hospitals for other members of the family),
2. Claims made immediately after enhancement of the sum assured,
3. Proposals of insurance with a history of frequent change of insurers,
4. Proposals for a sum assureds disproportionately high as compared to level of income or type of occupations of the proposers,
5. Proposal from a non-traceable person, especially the one whom the courier could not find in the locality,
6. Second claim in the same year for an acute medical illness/minor surgical illness or orthopaedic minor illness in the same policy period as the main claim,
7. Claims from a hospital located far away from the policyholder's stated place of residence,
8. Claim from a hospital which many insurers have already put under "Watch List" or even "Black List",
9. A large number of claims coming from some particular hospitals although many other hospitals of same quality exist in the neighbourhood,
10. Bills coming from a hospital showing no landline number, registration number or Pin Code of the locality,
11. Submission of bills where the doctors' qualifications, Registration Numbers etc are missing,
12. Bills from the hospitals which are found to be "Too Perfect" (everything chronologically mentioned, high quality papers with coloured prints etc.),
13. Bills which are full of tamperings, overwritings etc. and printed on "Word files" with no dates or official seals,
14. Claims not accompanied by pre/post hospitalisation papers/bills,
15. Claims with apparent discrepancies found in the diagnosis of different doctors/surgeons,
16. Claims that suppress medical history of the past,
17. Claims without the signatures of the insured in the pre-authorisation form,
18. Claims with exactly similar pattern/ format/clinical details from the particular providers,
19. Claims for hospitalisation for the management of lifestyle diseases,
20. Claims for uncommon types of illnesses, e.g. malignant malaria, monkey-bite etc.,
21. Claims for surgical conditions treated conservatively,
22. Claims for medical conditions like liver disorders being treated in the very first policy year (indicative of Pre-Existing-Disease),
23. Claims where the clinical findings do not correlate with diagnosis or line of treatment,
24. Claims with unjustified admissions in ICU,
25. Claims with a high proportion of pharmacy costs or fees of the physicians (more than say, 50% of the total values of claims),
26. High value claims coming from a lesser known hospitals/nursing homes of Tier-II or Tier-III cities,

27. Claims with no intimation of hospitalisations till the submission of claims documents with all hospital papers,

28. Claims from family members exerting too much of pressures to settle claims immediately (and also displaying unusually high level of knowledge as regards policy terms, medical terminology and eagerness to negotiate settlement amount) after submission of bills,

29. Claims where family members are unwilling to be contacted over telephone or are in no mood to co-operate.

The above mentioned indicators of fraud are very much relevant to all insurers of the country. While it is not possible to say that the fraudulent acts are sure to happen when these indicators are found, there is good chance that further investigations and further documents from the policyholders may enable the insurers to prevent/detect frauds in some of them. Then it will be possible either to reject the proposals for insurance or reject the claims (and cancelling the contracts, too), as the case may be. It is always better to detect possibility of fraud at the proposal stage itself as it is quite difficult to establish fraudulent motives of the policyholders later.

Indicators of fraud in Motor Insurance (TP and OD)

These frauds are generally policyholder related although collusion with agents, brokers and third party service providers are very much there. The following indicators can surely be mentioned:

1. Accidents occurring in late hours and in sub-urban areas of the country,

2. No witness available to provide the correct account of the accident,

3. Many passengers in the vehicle but no children or senior citizens,

4. Passengers suffering multiple injuries but no major damage to the vehicle,

5. Inconsistencies found in the information surrounding the claim (e.g the circumstances of the claims not matching with the accounts given by the claimants),

6. There is a definite pattern in the claiming behaviour,

7. Claimants behaving too aggressively at the office of the insurers,

8. Reporting of loss of such parts of the car which can easily be hidden by the owners (e.g. seat covers, audio systems, other expensive accessories),

9. Too many claims of same nature under a single insurance policy,

10. The claimant is totally calm and unflustered even after suffering enormous loss/damage,

11. Claimants submitting handwritten receipts of the costs of repairs work done,

12. Lodging of claims immediately after increasing the insurance cover.

When the insurers know the indicators of frauds, they can set up appropriate Control System in the organisations. Then they can also discuss whether benefits that are likely to come by setting up the control systems are worth investing money, time and manpower into it.

5. Fraud Control Measures With Their Costs and Utilities

Now that we have taken a look at the nature of insurance frauds in India and also the indicators of many such frauds, we are in a position to discuss the type of Fraud Control Mechanism that can detect and manage the frauds effectively. As we have seen in the previous sections of this paper, insurance frauds can take place at the proposal stage of the policy or at any time during the term of a policy. The insurance regulator, IRDAI has been aware of the scourge of insurance fraud and brought out its circular on the matter in January 2013[5], clearly laying down a roadmap for the insurers as regards setting up Fraud Control measures. The guidelines are as under:

- All life and general insurers (including standalone health insurers) must set up a Risk Management Committee (RMC) as part of their Corporate Governance policy. RMC should launch a Risk Management Strategy for the entire organisation and keep on reviewing it from time to time.

- Every year, the insurers are supposed to send a Responsibility Statement to IRDAI, clearly certifying the adequacy of the Control System in preventing and detecting frauds in the organisation.

- The insurers must launch a Board approved “Anti-Fraud Policy” and this policy should clearly be available in the websites of the companies.

- The insurers are supposed to identify the potential areas of fraud and develop procedures for monitoring of fraudulent activities on a regular basis.

- The insurers are expected to co-ordinate with law enforcing agencies to detect fraud and take necessary legal actions against the perpetrators of frauds.

We can have a look at the diagrammatic presentation of Fraud Control mechanism that the insurers can adopt in managing frauds, as shown by Deloitte in their report[6] on Fraud Framework (henceforth called Deloitte Report).

Figure-1: Graphical presentation of Fraud Control Framework

Source: deloitte Report on Insurance Fraqud Framework (2013)

In this paper, we may follow the Deloitte framework of monitoring fraud in India. According to this framework, each insurer has to first launch a communication campaign to let employees, intermediaries and insuring public know about the menace of fraud and how the insurer plans to combat the fraud. This has to be the first step. The second step has to be setting up Control measures to prevent fraud from taking place. Since, this will never be foolproof in the age when insurance frauds have become an industry, the insurers have to develop capabilities to detect frauds when they sneak in anyway. After the fraud is detected, it is important that the insurers collect the evidences of fraud and take further necessary action against the fraudsters with the help of law enforcement agencies. On the basis of all the experiences of preventing fraud, detecting fraud and responding to it quickly, the insurers should be able to redesign their Fraud Monitoring Framework from time to time and after that Communication should again go to the stakeholders. This process has to go on without any break.

In this section, we can start discussing the subject with the first initiative, i.e. Communication and then proceed to the other initiatives to be taken by the insurers.

Communicating to stakeholders about the Fraud Monitoring Framework

It is saddening that even twenty years after opening up of the industry, the common people are not aware that they are committing a fraud by not answering the questions of the proposal forms with the best of their knowledge. Most of the proposers of the rural areas and also a good number in the urban areas either have partial or no knowledge about the importance of these questions. The result is, they answer the questions casually without knowing that the answers given by them form the bedrock of the insurance contracts between them and the insurers. Sometimes, even the agents/brokers advise them to suppress certain material facts. So, the insurance contracts are not always formed on the basis of "Utmost Good Faith". In any insurance contract, be it life or health or motor or properties, a reasonably high level of honesty and integrity on the part of the contracting parties is of paramount importance. Since, it is not possible for the insurer to know important details about the life and properties of the proposers, it is incumbent upon the proposers to answer each and every question correctly so that proper classification and underwriting of risks can take place.

The question is what control mechanism can the insurer set up to ensure that the proposers are encouraged to answer to the questions of the proposal form correctly? Firstly, the agent advisors, brokers, banks have all to be trained properly. The intermediaries have to understand the importance of collecting right information from the proposers. In case the agents are found to be not discharging their duties properly, suitable punitive action has to be taken against them. They can, for example, be barred from submitting any proposals for a few months. In extreme cases, the agency should also be terminated. Unless such exemplary actions are taken, message will not reach all and sundry. There are ample opportunities under Agency Regulations, to take action against the agents aiding and abetting frauds. Insurers only need to incorporate them into their Fraud Monitoring Framework and start implementing

them. While training the field officials, it is to be made clear to them that the organisation has taken a zero tolerance policy as regards insurance fraud and that the perpetrators of frauds will be taken to task. Utility of such measures can be immense as the policyholders and agents will be more careful while submitting proposals. Very few insurers are serious in this area as their prime concern is found to be on selling as many policies as possible. But there is more "Utility" in accepting right proposals and saying "No" to doubtful proposals.

Communications should also reach all levels of employees about the companies' Anti-Fraud policies. Employees must clearly know that they have a responsibility to report all acts of fraud that are taking place within their knowledge. There has to be a clearly structured "Whistle-blower Policy" in place. This is a genuine need these days. The ground level employees are generally aware of how frauds are being committed in the organisation at operational level. Many of the insurance frauds take place in rural or semi-urban areas where healthcare services are not upto the standard and people are not willing to disclose facts after fraud has already taken place due to pressure from influential people of the locality. Since people know each other very well, an employee may know whether the statements made in the proposal forms are correct or incorrect. May be, the life to be assured is a death bed patient and a lot of things are going to be stage managed. The employee feels that he should report the daylight robbery that is about to take place soon but do not know how he should report such cases of frauds. The organisations should have a system to get the right information from the "Whistle-blower". The identity and safety of the employees reporting frauds under the "Whistle-blower's Policy" must be protected, for sure. In fact, insurers have been able to nab many perpetrators of frauds with the help of special information obtained from the whistle-blowers. Cost of setting up a Whistle-blower's Policy is nothing but the utility can be huge for the insurers.

Right communications should reach the policyholders as well. Alongside the Policy Bonds, the insurers should distribute a booklet on the "Obligations of the policyholders/claimants" in which the policyholders should be informed of the basic tenets of an insurance contract and why violation of the basic principles of the insurance contract can never be accepted under any circumstances. The customers have to be informed that collecting claim money is not a right under the contract. In Motor and Health, it nearly becomes so after a few "No Claim years". This booklet should be more of "Customer Education" type and must be written in jargon-free language (both in English and local vernacular).

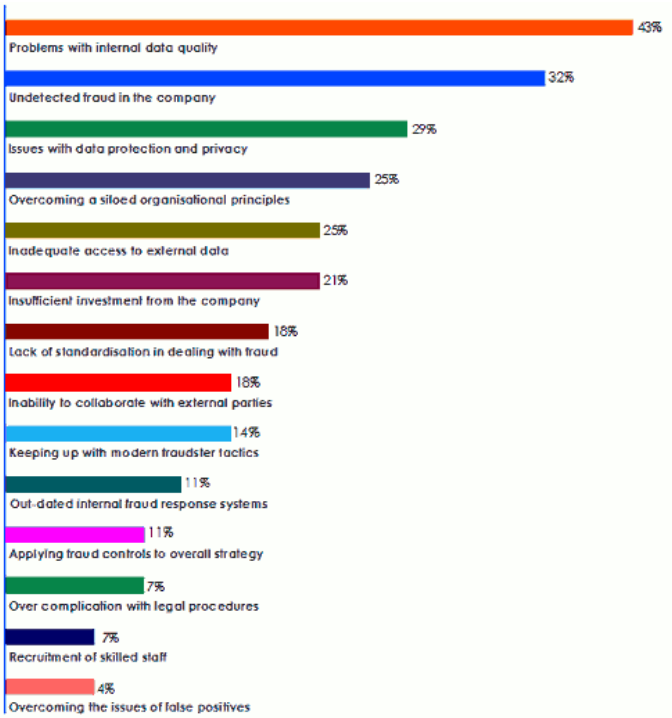
Prevention of Frauds

We can now discuss the fraud prevention measures which the insurers are adopting in the country or can adopt in future. Then, we can also discuss the costs involved in using these measures and what utilities can be forthcoming to insurers by investing on these measures.

Analysis of Insurance Nexus Report

It will be better if we first look at a worldwide survey made by Insurance Nexus, a consultant, on the reasons of large scale insurance fraud across the world. This figure has been reproduced in the Atlas magazine to which reference has already been made. Figure-2 helps us to understand the inherent weaknesses of the insurers. Needless to say, Indian insurers are not immune to these weaknesses.

Figure-2: Common Weaknesses of Insurers leading to the Frauds



If we look at the top six weaknesses of the insurers leading to frauds, we shall readily find that many of these are weaknesses of Indian insurers as well. Like most of the insurers surveyed (43%), Indian insurers too are not always able to capture quality data on the insured people and properties. Our insurers do not possess right data as regards the age, occupation, address, income and health conditions of the customers. Undetected frauds are also a problem with insurers. Out Internal Audit mechanism and "Whistle-blower's Policy" are not yet too strong to prevent or detect frauds. Many of the frauds continue for years and are detected quite "accidentally" one day when a lot of damages have already been done to the insurers. Our big insurers have issues with data protection and privacy. They are not sure how much of data should be shared among industry players, in order to combat the fraud jointly. They believe they stand to lose if they share data with their competitors.

Let's discuss the next three weaknesses. Siloed organisational principles are the hallmark of many insurers of the country. These insurers are quite big and each department maintains its own identity. The top management is not always willing to share sensitive data with the subordinate offices leading to disconnect between various units and that is capitalised by fraudsters in committing crimes. Inadequate access to external data also stands in the way of preventing fraud. Unless the insurers have a system to make a full profiling of the customers, using various financial data and social media habits of the customers and intermediaries (and also of employees), it is extremely difficult to assess the fraudulent motives of people these days. Finally, there is an appallingly low investment on fraud control measures on the part of many top insurers although launching such measures is not necessarily too costly for them.

Supply side Frauds

Many of the frauds are committed only by making use of the laxity in supervision by the insurers. Sometimes there are loopholes in the systems and processes and these are not set right for a long period of time. The perpetrators become aware of such loopholes and start committing frauds. In large organisations, operations and software developments take part in different locations. So, by the time the developers plug the loopholes, frauds amounting to a few crores may have already taken place. These are "Supply Side Frauds" and courts punish the insurers only, when such frauds are found. The court has to say that the insurers should better be careful to repair the systems and prevent such frauds from taking place.

Therefore, it is very important to ensure that the needed job is done on a war footing and responsibility is fixed on persons who do not report about such loopholes in time or the persons who keep the complaints unattended for months. A sense of urgency is to be created among the employees (and also field officials) to report any such loopholes in time. The people who report such faults in the system should be properly rewarded. The cost of such rewards can always be much less than the financial losses prevented by them.

Naming and Shaming

An effective way to prevent frauds is by "Naming and Shaming" the perpetrators in the public domain, especially in cases where the guilt of the fraudsters have been proved in the courts of law. The insurance companies can name the perpetrators of frauds in their websites so that all potential fraudsters can be careful. Cost of such measures is nil but it can be costly if the parties named and shamed accuse the insurers of libel or slander. The insurers can adopt this measure by taking necessary legal precautions. The return from such measures can be great.

New vertical to manage fraud

Some insurers are so serious about preventing frauds that they have created new department in the organisation under the name, "Risk & Loss Mitigation". This is a step in right direction. When some people have the sole responsibility to prevent frauds and detect frauds, they are totally committed to this job only and are expected to give the insurers desired results. True, these employees are not able to work in other important areas of the operation but that is a cost which is more than outweighed by the benefits they bring for the organisations. HDFC Ergo has a similar department with two functions. One function is to go for field investigations on a regular basis. The other function is to use Fraud Analytics and send suspected cases to Fraud Control Unit (FCU).

Taking the fraudsters to the courts

ICICI Lombard has been able to reduce Personal Accident related insurance frauds in Uttar Pradesh by dragging the fraudsters to courts of law. Earlier, that state was notorious in making fraudulent Personal Accident claims. Through a lot of efforts, the insurer has been able to detect a few frauds there. After that, they lodged FIRs against all the perpetrators of frauds. As a result of this, Lucknow High Court was compelled to order a

comprehensive investigation into the matter. The whole incident has been able to prevent fraud to a large extent in Uttar Pradesh.

Taking the assistance of the Cyber Branch of Police

The insurers have to be very active whenever they find that some fake company is collecting money under their names. HDFC Ergo came across one such company which was operating in Delhi, Noida and Meerut by offering the type of insurance cover which had never been offered by the insurer. They were able to bust the racket with the help of the Cyber branch of the Police department. Some such acts can put a lid on the fraudulent activities. The cost of such operations involving the Police was not heavy but the actions were able to prevent the activities of the fraudsters greatly. In US, even doctors are pulled up for colluding with policyholders for collecting claim money fraudulently. Even they have to spend years in jail for committing such fraudulent acts. Such measures do not involve too much of costs but a lot of initiatives. The Utilities are far more than costs involved.

Contracts to be properly worded

To prevent frauds from taking place, the insurers can make certain contracts worded in a very explicit manner. In fact, the wordings should be such that there is no scope of any ambiguity as regards interpretation of any clause. Our policy contracts are still heavily loaded with complicated product features not easily comprehensible by most policyholders. The insurers should take a drive to simplify the policy conditions. This will prevent some frauds from taking place. In the absence of policy conditions in simple terms, the court is applying the principle of "Contra Proferentem" (let the sellers beware), which is going against the insurers.

Tele-Underwriting to prevent fraud

Another fraud control measure which many insurers are increasingly resorting to is "Tele Underwriting". When a Tele Underwriting takes place (in select cases), there is a greater possibility that the person talking to the medical examiners appointed by the insurers will share his personal medical history. The proposers become aware that whatever they will say to the medical professional will be recorded for future use. So, in his own interest, he avoids giving wrong information. The people interested in disclosing correct information will never object to such kind of underwriting practice. This control measure is not too costly as cost of making phone calls is very low these days. Cost of recording the statements of the proposers is also low. But, this control measure can save crores of rupees of the insurers since it should prevent fraudsters from committing fraud to a large extent.

Proper pre-authorisation can prevent fraud

Pre-authorisation before a hospital admission is another measure to prevent fraud. Under this measure, the policyholder is supposed to clearly mention the type of treatment/surgery he is planning to undergo in the hospital. Pre-authorisation requests for scheduled surgeries must reach the insurer at least 24 hours before the admission into the hospital. Pre-authorisation enables the insurer to know the type of treatment that the policyholder is supposed to undergo. The actual treatment/surgery can not be widely different from the one mentioned in Pre-authorisation request in writing. When this measure is properly in place, the policyholder finds it difficult to commit a health insurance fraud.

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Insisting on Spot-Photos and sending own people for inspections

Some insurers are making it a rule that any motor insurance claim has to be intimated immediately after the occurrence of the accidental event and "Spot Photos" should be sent to the insurers. In some doubtful cases, the insurers are sending their employees to check the vehicles for themselves. The employees also visit workshops where

repairs are made, to ensure that there is no fraudulent nexus between the insured and the workshops. These initiatives, though not much expensive, sends the right signals to the people planning to commit frauds.

Checking financial details more innovatively

Life and health insurers are checking the financial information of the proposers more innovatively these days. In large sum assured cases, the proposers submit certified copies of the Income Tax Returns (ITR). Now, the insurers are not just looking at the ITR, they are checking the Bar Code also. The PAN No. mentioned in ITR and that mentioned in Bar Code must match. First ten digits of Bar Code is PAN No. If there is a mismatch, the ITR is not authentic. Genuineness of ITR-V can also be checked by verifying the acknowledgement online in the site of Income Tax authorities. The insurers should only spend some time to do these things, before rushing to issue policies and that can enable them to prevent fraud. There is hardly any cost involved here in preventing fraud. What is needed is more commitment in checking each and every case.

Insurers taking the help of Experian and Lexis-Nexis

Private life insurance companies of India have hired the services of an Ireland based Data Analytics company to get tech enabled fraud detection assistance. In fact, Life Insurance Council has selected Experian to set-up a Fraud Repository Framework for the insurers. Under this Framework, the insurers have developed a database of fraudulent customers, their locations and their modes of operation. This helps the insurers to use the National Hunter (an Analytic Engine) of Experian to prevent frauds. National Hunter is a Fraud Detecting Database developed by the Data scientists of the Experian. A high Hunter Fraud Score indicates possibility of Fraud in any particular proposal or claim. However, the insurers are yet to share all their fraud related data on a regular basis. While 43 public and private sector banks are regularly sharing their data on fraudulent transactions, insurers are yet to do so as they think it will compromise the security of their customer data. If the insurers need to prevent fraud more effectively, they have to share more data and get maximum benefits from the global consultant, Experian. But, the insurers are already getting some benefits from their association with Experian. Costs are certainly not prohibitive for any insurers.

Similarly, the general insurers have created a database of proven fraud cases with the help of LexisNexis Risk Solutions. The insurers have started to use these databases extensively and this is helping them to prevent many health and motor insurance frauds in many cases. The Utility that the insurers receive by using these databases is immense.

Industry level co-operation can prevent frauds even more

Let us come to FICCI Report on Health Insurance Frauds[8]. Although the report is on Health Insurance Fraud and recommendations of preventing such frauds, most of the control measures suggested in the report can be of use to other lines of insurance as well. FICCI has suggested some measures which the insurers can collectively take at the "Industry" level to curb the fraudulent transactions on the part of policyholders/ claimants, intermediaries, hospitals, medical Practitioners etc. The most notable among the suggested measures are as under:

- The insurers should come together to launch a nationwide campaign to educate the policyholders, TPAs and hospitals to make them understand what insurance fraud is and what their implications are for the honest insuring public and the society.
- The insurers should join hands to develop model clauses for incorporation pertaining to fraud, into the policy contracts, so that the fraudsters can not find loopholes in the contract and keep on committing fraud, only to get away with impunity at the end. In the absence of any law in the country on Insurance Fraud, the insurers have to take necessary precautions while wording the policy contract.
- The insurers should also decide on how to respond to events when fraud is suspected and when fraud is established. Insurers have to make judicious use of the "Code of Conduct" and ethics set for the medical practitioners by the Medical Council of India. Insurers can take up the matter with the medical regulator and this itself can act as deterrent against commission of frauds in health and life insurance spaces.
- The industry should take initiative to develop Third Party evidence based standard medical protocols and treatment guidelines. This can happen for a vast majority of the cases of hospitalisations for which claims are preferred.
- The industry should develop a structured training program for fraud investigators together with

a mandatory examination on the lessons learnt. The investigators so developed should also be given further learning inputs from time to time with the change in the patterns of frauds committed. If these investigators are licensed by IRDAI, that would put additional responsibility on them to investigate each case with the best of their abilities. The organisations like National Insurance Academy and Insurance Institute of India should actually conduct such training programs at their premises.

- Industry should also train Police and Public Prosecutors on the way frauds are committed and the way they are expected to look after the interests of the honest policyholders and the insurers. Police are not generally aware of the ways insurance mechanism work. Even Public Prosecutors know little about insurance contracts. These parties too, need thorough training but of different kind from the training for Fraud Investigators.

Predictive Analytics are preventing frauds

Many insurers are using predictive analytics to assess the intentions of the proposers at the proposal stage itself. The Fraud Analytics use Machine Learning to learn about the activities of the fraudsters in the past. Then the Analytics are in a position to predict which proposals may result in fraud, since such models are very efficient in "Identifying the Outliers". Based on the place of residence, income, occupation and educational qualifications, the Analytics software is able to generate a "Score" for each proposal. The proposals getting a very poor score are considered as fraud prone and a "Red Alert" is generated. That means, it is better not to accept such proposals at all. Proposals earning somewhat better score (but not satisfactory enough), are assigned "Amber Alert". That means the insurer has to probe further into these cases through further medical tests, underwriting at Video Conferencing mode etc to assess the quality of the risks. Then, it is upto the sagacity of the insurers to decide whether to accept such proposals and at what terms. Sum assured may have to be reduced. Some restrictive clauses may be imposed. Even extra premiums may be imposed in some cases. Finally, if a satisfactory score is generated by the system, then a "Green Alert" is shown and that means the insurer can accept the proposal safely.

Such Fraud Analytics have been developed by a lot of consultants, ranging from big names like Deloitte and Accenture to the various start-ups working in tandem with the insurers. According to the FICCI Report on "Health Insurance Frauds", the costs of such analytics are "Medium" and the complexity to develop and administer is also "Medium"(source: FICCI Working Paper on Health Insurance Frauds (2013). Therefore, it is clear that no Indian insurer should either find it too costly or too difficult to operate. The Utility that the insurers can get from such analytics is profound. At global level, the insurers can not imagine life without Fraud Analytics. In Indian conditions, these will prove to be even more useful as the traditional methods may not be enough to keep track of what is going on in the far off areas of the market. The benefits will certainly outweigh the costs in the long run. In fact, many experts believe that traditional fraud control methods are costlier than tech enables methods which the insurers have started to adopt across the industries and also across the geographies.

Many insurers are using predictive analytics to assess the intentions of the proposers at the proposal stage itself. The Fraud Analytics use Machine Learning to learn about the activities of the fraudsters in the past. Then the Analytics are in a position to predict which proposals may result in fraud, since such models are very efficient in "Identifying the Outliers". Based on the place of residence, income, occupation and educational qualifications, the Analytics software is able to generate a "Score" for each proposal.

Fraud Analytics companies are more interested in enabling insurers getting quality risks. For that, they not only work with the historical data of the insurance companies, but also with that of other service providers and even the information about the policyholders available in various social media platforms. The purpose is to "Profile" each proposer and examine whether the concerned people can pose risks to the insurers. Very sophisticated analytical engines are available whom the fraudulent proposers will find it

very difficult to deceive. Probability of making right predictions increases with the increase in the size of the data. As Indian insurers are large repositories of data, the Fraud Analytics companies should get near perfect results with their predictions.

View of Indian academicians on Fraud Analytics

The author of this paper had opportunity to discuss the issue with various academicians of repute. They have mentioned that AI based Fraud Analytics are not at all costly. Excellent Open Source free analytical tools like R, WEKA, Python, PowerBI, RapidMiner, KNIME along with MYSQL can be used very conveniently to prevent and detect frauds. What is required is to build a "Fraud Analytics Team" committed to work either independently or with experienced external consultants. It may give desired results within a few months. GIC Re and PSU insurers (general) have started using these analytics.

Advanced Fraud Solutions are also available

In one of their recent reports on Data Analytics for insurance industry, Insurance Nexus[9], a US based Analytics company says that in their advanced fraud solutions, they use Handwriting Scanning, Image Processing, Geocoding and XDIF information in addition to using historical fraud data of the insurers. This enables the consultant to catch hold of frauds more quickly and accurately.

Data Mining can modify underwriting rules in preventing fraud

Data mining is an AI enabled control system to prevent fraudulent activities. Data Mining together with "Experience Analysis" helps insurers to understand any hitherto unknown patterns of fraud. Using the traditional method, it is extremely difficult to determine such unknown factors or "a set of factors working together" in perpetrating the frauds. Data Mining thus helps insurers in modifying many functional strategies and even underwriting rules and claim settlement guidelines, thereby preventing frauds.

Allotment of CIBIL type score can prevent possible frauds

Another interesting fraud control measure can be to assign something like a CIBIL score to each insured person of the country. If the insurers join hands to develop a database of insured persons and their claim histories, that can benefit all insurers in deciding whether to accept such risk and at what terms. A "Score" can be allotted to each individual on the basis of his past medical histories. Some common Customer ID can be given to each insured person like PAN No. To make such a measure functional across the industry (primarily in the health insurance domain), costs will not be too much to bear. Systems of the insurers need to undergo some modifications and they should be powerful enough to generate a score on real time basis. The utility that can be derived from the measure will really be substantial. This measure has been nicely suggested in IRDA Journal's May, 2011 issue[10] by Dr. Dhiraj Goud.

Blockchain is already preventing frauds

Blockchain is a transformative technology that can prevent insurance frauds. Under this technology, on a distributive ledger, the insurers record permanent transactions with granular access controls to protect data security. Storing claims information in a shared ledger helps insurers identifying suspicious behaviour of the policyholders or intermediaries or service providers. The Blockchain system also enables the insurers to see the data gathered from public domain and also data belonging to many other industries. This enables the insurers to get an all round view of the proposers/ intermediaries/hospitals etc over several years. When Blockchain functions with Machine Learning and IoT, the insurers can get more information about the people under review.

This Blockchain initiative can eliminate processing multiple claims from the same accident or even unlicensed/ terminated agents/brokers selling insurance products fraudulently and pocketing the premiums. Past history of frauds of some policyholder/intermediary will be immediately known. Insurers need to invest money to use Blockchain system but Utility is so great that insurers all over the world are now using this for fraud prevention and detection.

Detection of Fraud

While it is best to prevent frauds from being committed, it may not be always possible to prevent them altogether no matter howsoever effective is communication strategy and Fraud prevention measures. So, it is required to detect frauds so that the loss to insurers can be mitigated by recovering the amount lost to the fraudsters.

Internal Auditors are detecting good number of frauds

The Control Measure which all the insurers use is "Internal Auditing". The auditors, appointed by the insurers from among the employees of the organisations, are expected to develop an expertise to check the books of accounts of the operational units and detect frauds, if any. To name a few of its jobs, they need to see whether lodgement of cash is made according to company's rules, whether bank

reconciliations are taking place every month, whether excess payments are not made to the policyholders and field officials. Many of the frauds are found to be claims related. So, the Internal Auditing has to be done very thoroughly, to verify whether the excess payments have been made fraudulently or by mistakes. They have to report any acts of serious financial irregularities. While the internal auditors can detect fraud, they can also educate the employees how to do their work properly to prevent fraud from taking place.

This control measure is a must. It may so happen that the cost of salaries, daily allowances etc paid to the auditors, taken together, during the whole year may exceed the total excess payments detected (fraudulently or otherwise). Still, investment on maintaining a vigilant audit team is a must because in the absence of powerful internal auditing, the frauds may blow out of proportion. So, whatever are the costs, the utility of maintaining an Internal Audit is always agreed upon.

Introducing "Triage" function for optimum utilisation of Resources

Many insurers set up Triage team to make best possible use of the financial resources allocated for detecting fraud. A triage specialist uses his experience to decide whether it is worth spending money on investigation of a suspected fraud case. He makes a clear cost benefit analysis to take this decision. He also decides whom to give a particular job of investigation on the basis of the expertise and workload of the concerned investigators. The triage is also responsible for conducting regular training of investigators and claims handlers. Additionally, the triage sets up KPI based system to continuously assess the performance of investigating teams. (Source: Claims Management: Taking a Determined Stand against Insurance Fraud by Kuhnt, Lorenz and Mussig of McKinsey)

Getting claims investigated by specialists

Predictive Analytics are also used in the claims stage. Very early or very late reporting of death can be symptoms of fraud. Of course, the analytical engine takes into account various other factors before throwing a "Red Alert" in such cases. When there is "Red Alert", investigations have to be stronger to detect and prove a fraud. HDFC Life considers investigation of early claims as a very specialised job and an insurance employee does not have the time to spend days in investigating the genuineness of a claim. The insurer has outsourced the job to professional agencies. The claims which are too doubtful are sometimes investigated by two independent agencies. Such measures improve the chance of detecting the fraud. Cost of investigations through outsourced agencies is surely on the higher side but the insurers find it worth investing in. After all, the claims payable have increased substantially these days as term assurance plans are flavours of the times. So, if frauds to the extent of several lakhs or even crores can be saved by incurring some costs (which can certainly be within the affordability of the insurers), the insurers do not mind. The predictive tools do not suggest the insurers to investigate each and every claim thoroughly. It mostly suggests insurers to concentrate on cases which can affect the bottom-lines of the companies.

In a large number of cases of Insurance Frauds, it has been found that frauds are committed by policyholders by impersonating themselves or their family members. Fraud Analytics can detect such incidence of frauds.

Many insurers set up Triage team to make best possible use of the financial resources allocated for detecting fraud. A triage specialist uses his experience to decide whether it is worth spending money on investigation of a suspected fraud case. He makes a clear cost benefit analysis to take this decision. He also decides whom to give a particular job of investigation on the basis of the expertise and workload of the concerned investigators. The triage is also responsible for conducting regular training of investigators and claims handlers.

Government should make hospitals to share treatment papers

The life insurers do not always get copies of old treatment records, Case History Sheets etc from the government and private hospitals. They need to take up the matter with the government so that the records are made available to them for the greater interest of the insuring public. Before opening up of the sector, the government, through a circular of the health ministry had directed the government hospitals to provide all old treatment papers to LIC.

After private companies came in the market, the circular should have been amended to include the private life insurers too. The private players should jointly appeal to the government to amend the circular. This will enable the insurers to detect a lot of frauds in the life insurance claims.

Recruiting Pharma Graduates

Many private insurance companies are recruiting pharma graduates these days, so that the health conditions of the life assureds can be better assessed by properly studying the medicines prescribed by the doctors, whether those medicines were at all required by the life assured and ultimately whether the policyholders and the hospitals are trying to extract money wrongfully from the insurers. So, these pharma graduates can detect frauds much better than the generalists of the industry. Now, the cost of having a good number of pharma graduates in payroll is definitely high. But, insurers must have understood the utility of recruiting them because these employees with relevant domain knowledge can save crores of Rupees of the organisation by way of detecting health insurance frauds. The knowledge of pharma graduates can also help life insurers in detecting frauds in respect of their health insurance products that give "Fixed Benefits" to the policyholders/ claimants.

Knowledgeable surveyors can detect Motor Insurance Frauds

To detect fraud in Motor Insurance, both in Third Party (TP) and Damage of Own Vehicles (OD) sections, the importance of the efficiency of the Surveyors need not be over emphasised. The surveyors should be well conversant with the perils covered, exclusions, warranties/ conditions etc. Only the surveyors who know these clauses well and also have knowledge of automobile parts can be expected to detect frauds. Investment on getting quality Surveyors can enable the Motor Insurers save huge money.

Putting Barcodes and Holograms to Detect Fraud

Many of the motor insurance frauds take place on uninsured second hand cars. The owners of cars buy fake insurance policies (at half the normal premium) from the perpetrators of fraud. The insurers have started to put Barcode and QR code on the insurance policies. 3D Hologram stickers are also fixed on the policies. By scanning these Codes and Holograms, the Police can check the details of the insurance policy. The Police can check the authenticity of the barcoded Policy No. by visiting the websites of the insurers. In fact, the insurers have given training to thousands of Police Officers on how to check the authenticity of a motor insurance policy. True, the insurers have to invest on all such activities but in the end, it will make the car owners buy insurance policies from the insurers and that will be a very big benefit.

Insurers tying up with motor manufacturers to install anti-fraud technology

The insurers have started to encourage car manufacturers to develop cars with in-built technologies that can detect frauds. Technologies like "Telematics" and "Dashcams" can be used by insurers in detecting frauds. If someone says that injuries happened because of a collision, telematics can check what the speed was at the point of contact. "Dashcams" can record pictures of everything that happened at the time of accident. Such technologies can detect frauds for the insurers.

Bill Checking System can be improved to detect fraud

The insurers should set up sophisticated bill checking systems which can easily spot a fraudulent bill. The insurers should also cross-check various relevant documents like FIR, Medical Bills, Lawyers' Statements etc. to find any serious discrepancy there. All such systems are not too costly and yet can go a long way in detecting fraud.

Some Consultants are detecting frauds very fast with Fraud Detection Software

According to Health Insurance Association of US[11], 1 USD invested on fraud detection software has been able to save 11 USD of the insurers. Consulting companies like Accenture has been using Big Data to detect Insurance Fraud in real time. This consultant has done away with traditional SQL based software that takes huge time in detecting fraud and in many cases, unable to detect fraud at all. Accenture creates custom-built analytics for the benefit of particular insurers, which can process structured and unstructured claims data to detect suspicious patterns. It uses affordable and secure open-source Hadoop architecture. Its predictive analytics is able to set red flags by analysing old schemes of frauds. It can process data real time and understand the latest trends in fraud making. The package is very user friendly and no knowledge of SQL is required to use the package.

By installing the Accenture built fraud detection software, a state rum department settling claims under Workers' Compensation' insurance policies, has been able to experience favourable Return on Investments (ROI) within six months of investing in fraud detection analytics. Actually, the package

helped them detect frauds to the tune of 150 Million USD annually. Such is the power of new age analytics that it can turn around the business fortunes of the insurance companies very quickly.

Cognitive Methods of Interviewing Claimants can detect fraud

Many companies are using special Cognitive Interview technique to detect fraud. This is happening primarily in general insurance space. They have developed sophisticated interrogation techniques in which varying or repeated questions are asked on identical points and interviewee finds it difficult to hide the truth. If something suspicious comes out during such interrogations, more thorough Investigations take place. This technique has been able to detect frauds and save a lot of money of the insurers.

A Deloitte Model makes Cost vs Utility Analysis in detecting Frauds

Let us now look at the Deloitte developed Fraud Analytics[12] system for the Indian insurers. This predictive modelling system incorporates costs to insurers in their consideration. Insurers can incur costs in two ways. Cost of classifying a Fraud case as non-Fraud is the value of the Fraud while the cost of classifying a non-Fraud case as a Fraud is the same as the expenses for conducting the Investigations.

Let C (i, j) denote the Cost of predicting class i as class j. Let M (i, j) denote the number of observations as class j when they should have been in class i. So, expected mis-classification cost is $1/N \sum M (i, j). C (i, j)$. In order to minimise this quantity, the consultant uses two techniques, Supervised and Unsupervised. Supervised technique is one where models are built on rare events based on labelled data. Statistical model on rare events can lead to inaccurate predictions. So, Deloitte also uses Un-supervised technique which analyses each event to decide how similar it is to the majority of the events. It uses stochastic modelling which can be applied to rare events. But, it can also declare many non-fraud items as fraud items. Hence, Deloitte uses a combination of two techniques and detect maximum number of frauds at the minimum of cost possible.

Fraud control mechanism is in place everywhere in the industry. According to the estimates of Atlas, fraud prevention budget has increased significantly in 79% of the insurance companies worldwide. Insurers of many countries are automating claims settlement system so that human intervention is reduced to the minimum. This is bringing results because fraud takes place with the help of human manipulations only.

Response

Once fraud is detected, it is imperative that the insurers are able to quickly get hold of the evidences from hospitals, Police Stations and various other government departments. If these are not collected quickly, the evidences can either be taken away by the fraudsters or at least tampered. Then, it will be difficult to stop making payment of money or recover them, if already paid. The insurers should also inform law enforcement agencies about the frauds committed so that they can initiate actions against the perpetrators immediately.

6. Conclusion

Insurers agree that frauds affect their bottom-line and also their honest policyholders. However, most of them still do not consider it a top management job. They believe "Fraud Management" is a specialist job and they need not be involved with it too much when they have already well set underwriting systems in place. The companies who have set up tech enabled fraud detection tools believe that the tools can do everything to prevent and detect frauds. But, according to a report by McKinsey on Insurance Fraud[13], the companies who are successfully preventing frauds are the ones that have a system of manual recognition of frauds via checklists and fraud manuals. Claim Investigators and Claims Handlers are generally people in severe pressure to finish jobs as the claims are to be settled as per the norms of the companies and the regulator, i.e. IRDAI. In fact, Investigators and Handlers should ideally be two sets of people as two jobs are different.

So, insurers have to devise other ways to detect fraud. Some companies make it mandatory to pass the claim papers through many employees so that frauds do not go undetected. So, we find that both manual and tech enabled control measures are to be used in tandem to get better results. Then only it is possible to get a high Utility as compared to costs involved.

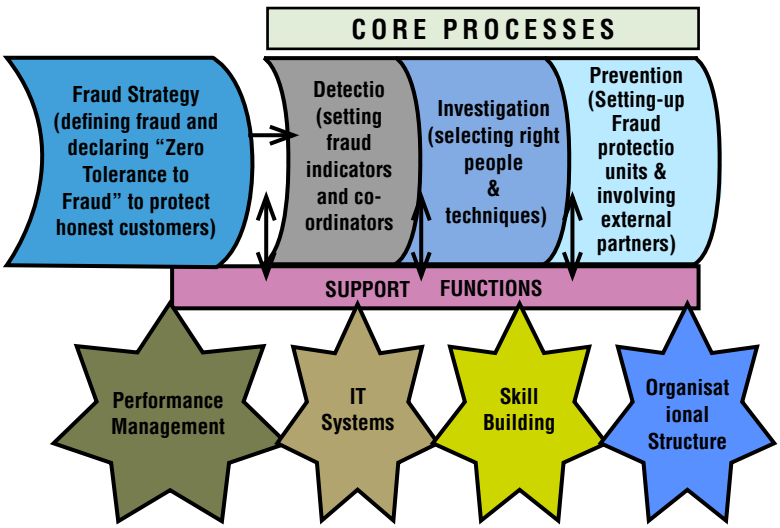
In the McKinsey Report mentioned above, the consultant has suggested a "Good Practice" framework for use by all major insurers of the world. The strategy is based on the principle of "Zero Tolerance" to Insurance Fraud and uses seven levers both for core fraud management processes (detection, investigation and prevention) and the related support systems (performance management, IT systems, skill building and organisation). Unless the top management is serious about making necessary changes in these seven levers to address insurance fraud, no

tangible benefits can be expected. So, the consultant advises the insurers to integrate all these seven functions to arrest insurance frauds. That requires some investments to be made.

Figure-3 presented below is a diagrammatic presentation of McKinsey's seven lever model of insurance fraud management. It shows that there should at first be clearly drawn up fraud management policy followed by setting up of Fraud Control measures under "Detection", "Investigation" and "Prevention". These control measures will function at optimum level only if there is a proper Performance Management system (rewarding the quality performance of preventing/ detecting/investigating frauds), setting up of sound IT system in the organisation, skill building programmes to improve the effectiveness of Fraud Control teams and the necessary change in organisational structure (giving ample freedom to Fraud Control Unit to function as an independent vertical).

Insurers are mostly concerned about their top line growth as their success is very often measured by the growth of premium income and market share. While a healthy top line is important for the image of insurers, what matters at the end of the day is the growth of bottom-line as that only determines volume of surplus, shareholder value and solvency margin. In health and motor insurance, most of the premiums earned are spent on settling claims. There has also been a steep rise in Life insurance frauds. Rise in claims under Term Insurance policies are too much for the insurers and reinsurers to bear and very soon there can be a rise in the premium under term assurance plans by 15-40% as reinsurers are contemplating increasing the premiums payable by the insurers for the ceded portion of insurance cover. The insurers have to prevent frauds if they want to keep the cost of insurance cover affordable. Now that many of the insurers will be answerable not just to the policyholders but also to their shareholders, they have to prevent frauds from taking place. For that, both traditional methods and new AI enabled methods have to be deployed. The insurers who have launched all such measures are getting desired results. The need is to focus on fraud prevention and detection in addition to business procuration.

Figure-3: Diagrammatic Presentation of McKinsey Model of Fraud Management



Source: McKinsey Report on Insurance Frauds

Data Analytics can hasten detection of fraudulent activities and patterns. But, human intervention will always be required to turn Analytics generated reports into actionable insights. At the end of the day, an expert employee or executive of an insurance company has to review the red-flagged accounts and take the final call, whether to accept the proposal or reject it or give a counter offer to accept the proposal at a very high loading of extra premium. If it so happens that someone who is non-fraudulent in nature is offered insurance at a high cost, he or she will be very dissatisfied with the insurer and may not even buy that insurance cover. That is a cost to the insurer. But, if such cases are too few in number, the insurer gets a lot of utility by avoiding proposals which they think are fraught with fraudulent intentions. Only a well-trained team of insurance employees knows how to take various factors into account before taking the final decision. In fact, their continuous involvement in the Fraud Control exercise can fine tune the "Machine Learning Analytics" further.

There are some different types of costs involved while the insurers make use of Analytics. While preventing or detecting fraud, the insurers should ensure that the quality of customer experience does not suffer. Sometimes there can be some hassles in the onboarding process. Customers may be worried about the safety and security of personal data. Utility of fraud analytics is beyond any doubt. But, the insurers have to ensure that fraud control measures are not taken at the cost of customer satisfaction. Insurers should obtain

consent of policyholders before analysing data on their demographic and occupational details.

In India, data protection and privacy are controlled by Information Technology Act, 2000 and Personal Data Protection Act, 2018. The people of this country including the insurance customers are worried that the companies using their personal data can pose serious problems to their privacy and security. There is already an increasing concern in the corporate world that incidence of data breach may expose the companies to mistrust, devaluation of shares in the market, fall in market share and even legal suits. If that happens in insurance industry, the cost can be substantial as compared to utility gained from the Data Analytics in controlling fraud. The Indian insurance industry has not yet suffered that kind of loss yet although Data Analytics including AI enabled Fraud Analytics are being used by most of the private insurers and some PSU insurers, too. To protect the interests of the customers completely, the insurers should set up a system through which they can share customer data within the framework of Information Technology Act and Personal Data Protection Act.

Insurance Core Principles (ICP 21) is a provision of IAIS that deal specifically with insurance frauds. It is a guideline to the insurance regulators of various countries on how insurance frauds are to be controlled. Here, IAIS mentions that insurance frauds cause not just financial and reputational damages to insurers but also cause social and economic losses to the nations. IAIS expects, the regulators, e.g. IRDAI to monitor fraud control activities of the insurers more closely. IRDAI is on the job of developing insurance market in the country and also on the job to protect the interests of the policyholders. Its "Bima Bemishal" initiative is a laudable customer education programme. IRDAI may also sensitise the policyholders about insurance fraud and its ramifications for the industry. The regulator may also ensure that Fraud Control initiatives really become a top management function of the insurers and a Board approved Fraud Prevention policy is implemented throughout the organisations.

Finally, insurers together with the regulator should try to convince the lawmakers the need to enact insurance fraud law at the earliest. That will act as solid deterrent against committing of frauds. Most countries with mature insurance markets have such laws in place. For example, Insurance Fraud is classified as a crime in all the states of US. The Fraud Act, 2006 of UK describes insurance fraud as a crime and punishable by law. The Fraud Control measures will provide more Utility to insurance in comparison to Costs if such laws are enacted in India.

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Merit Winner

D. Subramaniam Award Essay Writing Competition

Organisational Challenges Before Insurance Industry Due to Rapid Introduction of Technology, Artificial Intelligence and Data Analytics

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Abstract

Artificial intelligence and data analytics with the help of technology are soon going to change the way our legacy insurance business is carried out. The new age digital insurers and Insurtechs would be the torch bearer for this transformation. Whether we call these new kids in the block as innovators or disruptors, their tech savvy workforce would be handy for the greater good.

It is difficult to ascertain whether this shift is a boon or bane. On one hand, it will help insurers gain better efficiency and create satisfied customer base. Whereas on the other hand, this will open up myriad of organizational challenges for the insurers. Although these challenges can be handled by strong collaboration between insurer and insurtech. The experience of insurer coupled with the technology of insurtech can create wonders. So, partnership will be the key to solve this problem.

Another important aspect to this scenario is upskilling the workforce of insurer. Therefore, investment in human capital would be critical. Hiring and retaining employees would become more important, as skilled and engaged employees would create a positive

atmosphere that would translate into happy customer. In insurance, a happy customer is usually a loyal customer.

The C-suite leadership of insurers will have to play a key role in the transformation journey of insurer from legacy business to being a fully connected digital enterprise. Data is the new oil in 21st century. Due to insurance being an old business, insurers has lot of data. However, this data is entrapped in suboptimal systems and processes. Hence, like oil, it will become difficult to extract. Lack of data can create serious gaps and cause process flow issues, so it needs to be assessed as an end-to-end process. Insurers that lack data, or the partners and models that generate it, would suffer the most.

All these data are related to customers, so in the new phase of insurance business the focus will shift from new product offerings to customized product offerings, their experience and outcomes. Artificial intelligence will play a role in improving the experience, data analytics would be required for assessing individual risk to macro trends, while technology would enable accessibility to customers.

Introduction

Insurance industry for long has remained untouched by innovation, there hasn't been too many changes to note. However, the industry in on the brink of a major tech transformation. Artificial intelligence, data analytics along with technology is going to change the way we interact and deal with customers. Not only that, it will have a huge impact on achieving operational excellence as well. Fintech has transformed the way financial services industry operates, similar role will be played even by Insurtech for shaping the insurance industry.

Overview of Challenges

Product innovation, ever increasing customer demands and new-age insurers are combinedly driving the industry towards new horizon.

BigTech firms – including Google, Amazon, Facebook, Apple, and Alibaba – have had an eye on the financial services sector for years and can no longer be ignored. For example, Alibaba's Ant Financial has already launched a health insurance product.

Due to previous acquaintance with the BigTech firms, it won't be surprizing if customers show an inclination even towards their insurance products, if made available. These tech giants have garnered massive personal and behavioural customer data. Leveraging upon this data by using their analytics and artificial intelligence supremacy, there is high possibility of the tech giants severing customers with highly personalized offerings.

As result of technological disruption, insurance industry will face many organizational challenges. The foremost amongst the myriad of these challenges is the complete analysis of all the processes of insurance value chain. This will help determine where the technological intervention would be worthwhile and where we still need to search for better alternatives. However, this isn't an easy exercise at all, given the complexities of the business involved, ranging from sourcing new business from different business channels to management of in force business; from reinsuring the portfolios to operational excellence to seamless and stress-free settlement of claims for customers, while keeping a check for fraudulent claims; last but not the least meeting the regulatory requirements and statutory obligations. Let's understand our first challenge in detail.

Challenge – 1

Thorough Analysis of Processes

As a stepping stone, the defined process should be figured out, followed by the pain areas and eventually harnessing the opportunities. Clear consideration need to be made regarding elimination, outsourcing and automation. There is always an associated cost in terms of valuating the processes, determining the correct technology (or solution) and implementation of the technology (or solution). Therefore, this exercise requires engagement right from higher management, else it is bound to fail miserably.

Let's take one example of technology here, say Automation, we need to understand that it can't be applied everywhere and this is due to the fact that the cost incurred should also provide adequate return on investment. Also, if the cost of implementation is more than savings (time/effort) , then the technological intervention is simply not worth the investment. In other words, oversimplification is just a false positive outcome.

When an insurer decides to take the technology route, involving an Insurtech makes most sense. Although cost efficiency and regulatory oversight might look to be the big hurdles, but considering the changing customer expectations and new kids (i.e., Insurtechs and new-age insurers) in the block, disruption is bound to happen.

In the last few years, China's growth story has been an inspiration for countries all around the globe, along with its other sectors the insurance

industry has also seen growth in many folds. China is expected to be the biggest market of insurance in the years to come. Before we move towards understanding other organizational challenges, let's take a bird's eye view of how China is handling technological innovators/disruptors in the legacy business of Insurance.

China's Insurtech Story:

In order to unlock the sections that have low insurance penetration, China made a very strategic move in developing efficient micropayment systems. Although, quick and easy payment constitutes only one part of the sphere. To keep a customer engaged in the platform, the surrounding ecosystem needs to be managed accordingly. In recent times, the mindset has really evolved in terms of considering insurance like other retail products. Like retail stores focuses on the experience rather than just selling units, so insurance should also follow the suit.

The idea was to design an ecosystem which can provide the customers one-stop shop to conduct business and ease of payment is just one crucial component to building effective ecosystem. China has developed a model of payments + social + mobile + data. An example is Tencent with its combination of payment, social media and contextual messaging in a single app (WeChat). This platform generates 38 billion messages every day, producing a rich source of data to feedback into insurers' analytics engines.

Recent development in India:

Recently, Facebook acquired 9.9% stake in India's Reliance Jio. The deal will give WhatsApp an inside track on payments for Reliance's retail unit, aimed at tens of millions of small shops across India. Facebook's WhatsApp has already been working on gaining regulatory approval for payment services in India. This partnership will also be able to link up with Reliance's telecoms business, and WhatsApp itself has an enormous presence in India with more than 400 million users. (Source: livemint.com)

It won't be incorrect to say that this partnership might want to replicate China's WeChat model in India.

Coming back to our challenges, once the thorough analysis of processes has been performed and the pain areas identified. The next challenge would be to understand the impact on delivery pyramid and be aware of the implications of the same.

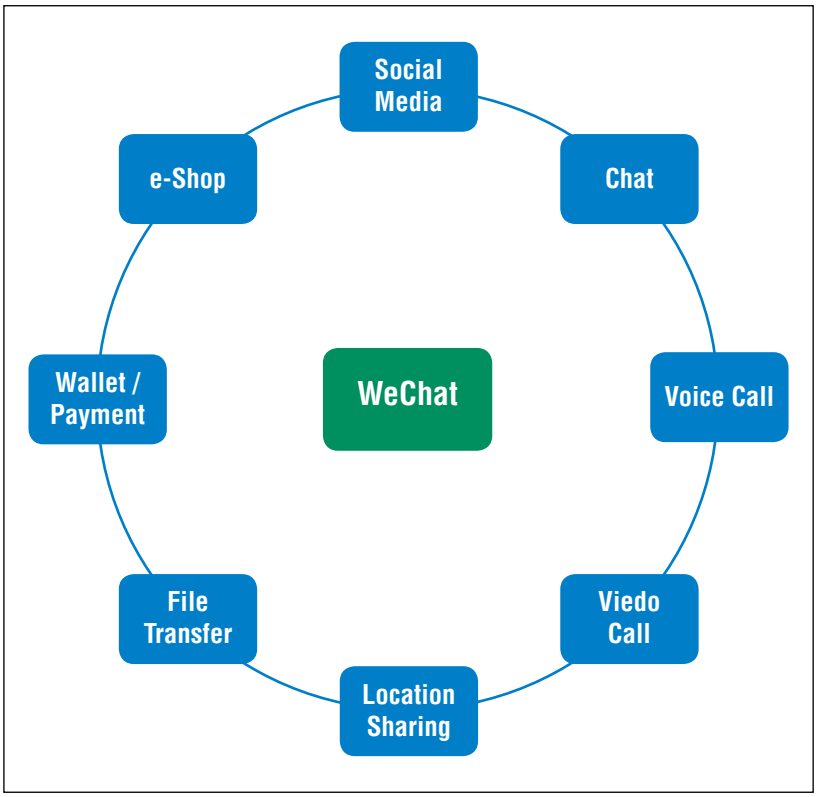

Figure 1 Features of WeChat

Challenge – 2

Understanding the Impact on Delivery Pyramid

Before taking a closer look into this challenge, let's keep afloat and under the insurance delivery pyramid first. At a high level, the insurance delivery pyramid consist of three layers:

- IT & Support Functions (Bottom layer): This will include the information technology, human resources, finance and legal.

- Operations & Marketing (Middle layer): This constitutes underwriting, risk management, claims, capital management and marketing.

- Product development & Market intelligence (Top layer): This comprises of New product R&D, Data Analytics, Growth Strategy and Business Intelligence.

Now let's jump into our challenge piece in detail. At the current stage, the

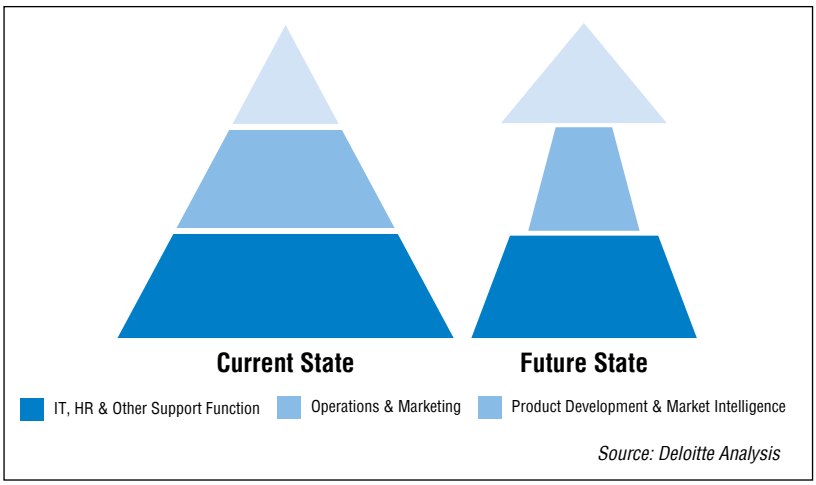

Figure 2 Insurance delivery pyramid

insurance delivery pyramid is bottom heavy with the majority of volume-heavy transactions and reporting processes (regulatory reporting, claims processing, document verification, etc.) being carried out by individuals. With artificial intelligence in foreground, insurers will look to automate many of these transactions/processes. Therefore, changing the shape of delivery pyramid by squeezing the bottom and middle layer and swelling up of top layer, wherein thought leadership would be expected from every seat.

The top layer - Product development & Market intelligence: With the advent of data analytics and artificial intelligence, there will be growth in this layer due to demand of such roles. Dynamic pricing strategies can be designed based on lifestyle pattern intelligence and recognition, using the new skillsets. Also, focused and customized marketing campaigns would be the new poster boys.

The middle layer - Operations & Marketing: Automation of services would see drop in workforce in these areas, while digitization at organisation level would see evolution of conventional marketing. The workforce would not necessarily become redundant, in fact there will be demand for enhanced skillset as the work-experience would still be handy.

The bottom layer - IT & Support Functions: This layer would witness decrease in headcounts as a result of standardized and automated processes. Data platforms on cloud, third-party analytical tools and outsourcing would be instrumental for causing this shift.

It is to be understood very clearly that technology won't replace FTE as a sustainable competitive advantage. However, job roles would transform across the value chain. These job roles would have renewed job descriptions with data analytics as the key skillset. The successful transformation of a company would depend upon striking balance between transitioning to new technology with one hand and employee upskilling on other hand. This brings us to our next challenge, i.e., upskilling the manpower to embrace new challenges.

Challenge – 3

Upskilling the Manpower to Embrace New Challenges

Insurers will require to reallocate FTEs from their current roles to more complex and judgement-intensive roles. Upskilling of resources will make this an achievable objective. Let's take underwriting for example. Underwriting is all about assessing the risks. With the current environment, this risk assessment is mainly done with the information supplied on application form and other required evidences (mostly on paper evidences and sometimes images). In future, risk assessment could be done using multiple complex variables from non-traditional sources (may be social media as well). The future underwriters will receive inputs from a cognitive system, and they should be equipped and well-versed with tools that can manage these inputs.

Now, with rise of demand for the new skillsets, necessary upgradation would be required in recruitment and training engines to 'hire + train' skilled employees with stronger domain competencies to handle more complex decision-making roles. Eventually, the shift towards a highly skilled workforce would also lead to a need for enhanced talent retention.

Shifting the approach to talent: As technology will start playing a bigger role in insurance companies, the focus would shift towards building a talent pool of individuals with skillsets like data science, agile coaching and customer experience design. Organizations can upskill their employees by systemic training programmes, they can partner with Universities and online learning platforms.

Not only this, human resources will also have to come up with a long-term solution to attract, engage and retain talent. There can be several ways of doing this, like offering non-management career tracks, establishing communities to initiate discussion forums and have

		Short-term impact	Long-term impact
Product and Underwriting	Marketing	Digital marketing, campaign management	Customer segmentation, focused and customized marketing
	Product Development	Digital products	Customized products based on individual preferences
	Underwriting/actuaries	N/A	Customer segmentation, focused and customized pricing
New Business Development	Sales Support	Channel management	Channel management through advanced analytics
	Customer Management	Automated complaints and issue management	Lifestyle pattern intelligence
	New Customer Acquisition	Automated customer onboarding	Targeted customer acquisition
Policy Processing	Policy Issuance	Business rules administration	Cognitive analytics enabled self-correcting processes
	Policy Servicing	Business rules administration	Cognitive analytics enabled self-correcting processes
	Regulatory and Business Reporting	Automation of rules-based reporting capabilities	Intelligent reporting and analysis capabilities
Claims	Claims Management	Standard claims management processing	Advanced processing enabled by image recognition
	Claims Adjustment	Automated processes	Machine vision to assess simple claims
IT	Application Development and Maintenance	Increased reliance on third-party service providers	Standardized processes and applications
	Infrastructure	Increased reliance on open source technologies	Migration to cloud
Support Functions	Human Resources	Standardized HR processes, digital recruitment	Standardized HR processes, digital recruitment
	Finance, Tax and Planning	Standardized reporting	Reduced overheads
	Oher Support Functions	Reduced overheads	Reduced overheads

Source: Deloitte Analysis

Increase in FTE Decrease in FTE

Figure 3 Impact on FTE in the insurance value chain.
This table shows how the FTEs would increase or decrease in various processes.

current techie FTEs act as reformers for the company.

Nurture a culture of learning: Organizations may hit a dead end even after adopting sophisticated methodologies (like agile sprints) with new technologies. To harbour a productive environment, companies will need to build a culture of learning and not penalizing for failures. In short, the companies will have to develop an appetite for experimentation. In experimentation there will be failures at time, however, it will teach something as well. This cultural shift would make insurance companies a better place to work, and will develop workforce who tend to come from team cultures that encourage learning from failures.

Even the great Albert Einstein has said:

"Anyone who has never made a mistake has never tried anything new."

Now upskilling the workforce is just half battle won, yet another milestone which needs to be achieved by the organization is finding suitable tech partner. So, let's take a look at this challenge.

Challenge – 4

Finding Long-Term Tech Partner

Talent acquisition and retention is a tricky and expensive endeavour, this exercise becomes even more difficult with the millennial and Gen Z employees. Traditional insurance is a vintage business, and the new generation finds it difficult to adjust with the slow pace and low innovation sector.

Now, creating a digital talent pool in insurance company is even more difficult as insurance isn't cool enough for this generation. Anyway new tech start-ups and established IT majors (like Google, Microsoft, etc.) create a lot of room to accommodate them.

Hence, partnering with Insurtech will give insurers an edge to attract and retain emerging fresh talent, that is missing from insurance. We like it or not, but insurance is perceived as slow ancient town of a booming financial industry, and with this association with insurtech the insurer can become a dynamic organisation and transform the way insurance operates in future.

Insurers worldwide are increasingly teaming up with insurtechs and other technology start-ups. However, finding the right partner is not the challenge, with so many players around a partnership can be achieved. The main challenge is finding a long-term tech partner. Insurance as such is a long-term relationship with the policyholders. Now some "experts" might argue that all general insurance businesses are just one year contracts, but we still need renewals and cross-selling. Hence,

insurance, whether general or life, being a long-term business find its ground.

For this symbiotic relationship to work, it has to be mutualism wherein both parties involved benefit from the association. The insurer being the veteran in this relationship will have to take lead and be ready with all the preparedness, so that all stakeholders gain and a meaningful deliverable is made possible.

Insurers want to tie up with tech partners due to following reasons:

- to be able to encash upon the new oil of 21st century (i.e., data) and discover untapped opportunities
- to overpower operational challenges or solve a complex business problem
- to improve the experience for their agents or end customers
- to inculcate a culture of innovation in the wider organisation and embark on the journey of being agile
- to fill in the digital talent gap in the organisation.

Where do insurers start searching for the right tech partner?

Insurers will have to keep a track of market developments and start attending tech conferences to explore untapped opportunities, establish relationship with venture capital investors and tech accelerators, and collaborating with data and information providers. This will eventually help build relationships with potential partners. Also, while engaging in these activities insurer will be able to better understand the current and upcoming solutions in the market on one hand, whereas on the other hand keep a track of new products, evolving business models, latest technology trends and changing customer expectations.

Insurers and tech partners view fundamental of business through their different lenses:

Investment, deliverable, risks, methodologies, resources, timeframe - these are some of the fundamental aspects of partnership. Generally, insurer and tech partner measure it in different ways. While there is a possibility of a certain relation dynamic getting developed in the partnership, it can also cause misunderstanding resulting in poor outcomes. Insurer can deal with this by clearly outlining the workplan and timelines with the tech partner. This will enable insurer to adapt with the pace and style of tech partner, while also helping the tech partner understand the dynamics of working with a large enterprise.

Figure 4 Business needs for establishing partnership

Smooth onboarding of tech partner:
Financial services companies often have tedious and highly detailed procurement process. These burdensome activities can really put immense pressure on the small Insurtech or start-up, who might lack resources or bandwidth to tackle these needs. These challenges can be addressed by assigning a Project Manager for the onboarding and aligning the tech partner. This Project Manager can implement the earlier designed streamlined processes, develop standardized template forms and arrange speedier legal plus technical reviews to make the overall onboarding journey seamless.

The criteria for measuring successful partnerships often focus on persistent business needs, which includes:

- to help cut costs,
- increase revenues, or
- improve customer experience.

Next challenge which would come up is whether the partnership of insurer and tech partner is working, are they together moving towards achieving the end product, while successfully addressing the roadblocks.

Challenge – 5

Assessing the Partnership with Insurtech

The success of partnership between insurer and tech partner is greatly depend upon whether the solution provided addressees the insurer's problem(s). There is a possibility of insurer incorporating a solution just because it is trendy, without realizing whether the solution provided fits the need or not.

The insurer as we have discussed earlier also, will have to lead the partnership. Insurer should first acknowledge the problem(s) at hand, before exploring tech partnerships. This will help insurer realize what their need is, hence an eye-opener to find the suitable tech partner who can develop an innovative solution and integrate into the business.

It would make sense to have a dedicated team for innovation solutions whose primary responsibility would include finding emerging problems for the insurer. This can be a small team which can regularly interview senior leaders to be well versed with current and emerging problems. Their other set of responsibilities would be determining which set or problems can be solved with organic innovation and which by inorganic innovation. Organic innovation means developing a solution internally by using resources in hand, whereas inorganic solution means trying to invent a solution through partnership and investment. This team can also chalk out the scope of partnership by determining if a full integration of solution is required, or intervention is required only for specific capabilities, or just an advisory relationship would be enough.

Figure 6 Metrics for measuring the partnership with Insurtech

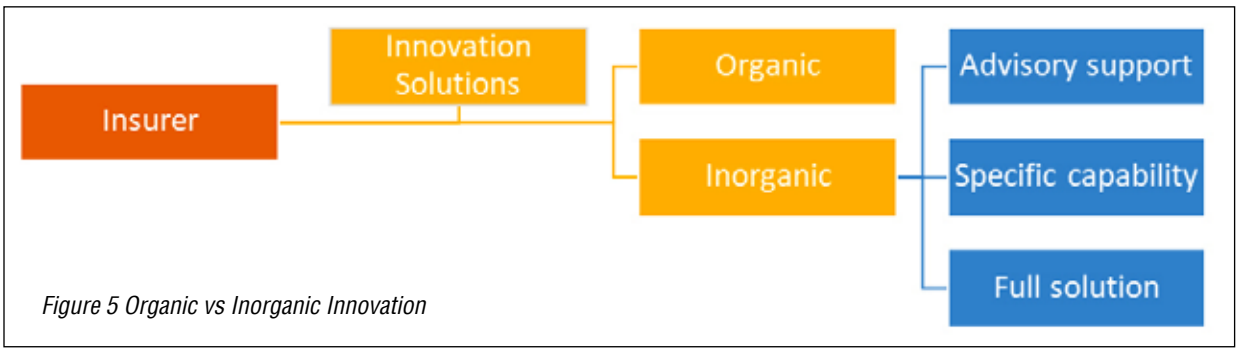

Figure 5 Organic vs Inorganic Innovation

Develop meaningful metrics for the partnership: A clear objective needs to be decided by the insurer regarding what they want to achieve through the tech partnership, along with this the right metrics need to be identified to track the progress and value of solution to the business. Growth in existing and new markets, customer satisfaction index, employee engagement, decrease in losses and operational efficiency can be included in potential metrics. The metrics need to be in sync with insurers' business strategy, choosing a metric because it is something that can be tracked will not be efficient.

Proposed solution scale up: At times the partnership between insurer and tech partner can break once it moves from proof of concept, pilot, testing to scaling the solution in preparation for a wider rollout. The proposed solution may not work at scale due to unforeseen scenarios, which include technology infrastructure incompatibility, nature of business model, low score on cost-benefit analysis.

Insurer will have to layout proper checks and balances while moving from proof of concept stage of solution to implementation of the same. Roadmap for the implementation of solution through production pipeline need to be designed, roles and responsibilities need to be in place for accountability of various teams involved, and defined effort estimation metrics need to established. Incorporating the agile methodology in the scale-up process will help establish better transparency between insurer and tech partner, hence yielding a better product eventually.

Future of insurers rely on tech partnerships: Partnering with insurtech will help insurer achieve multiple venues ranging from nurturing innovative

thinking to achieve growth, dealing with business roadblocks and improving upon customer feedback. Strong foundation to such partnerships will fetch insurers discover new routes to excellence.

Recent examples of Insurtech collaboration:

- **AXA XL + Assurely:** A subsidiary of AXA Group, AXA XL collaborated with Assurely (an Insurtech based in New York) to develop a crowdfunding protection insurance product for issuers and investors. The product is called CrowdProtector. It offers issuers protection against investor complaints and lawsuits while serving as an assurance to investors that they may get their principal investment back if the issuer misappropriates funds or misrepresents information in offering documents.

- **MetLife Korea + LemonClick:** MetLife Korea joined hands with LemonClick (an Insurtech aggregator) to develop a policy-loan product accessible via mobile app. A cost-efficient prototype was developed within months, after which the fully-automated product was released, and then customer feedback was used for further improvements.

- **Swiss Re + OZON:** Swiss Re Corporate Solutions along with OZON (a French cybersecurity Insurtech) launched CyberSolution 360°. This combines cyber insurance and cyber-attack protection services in a risk management solution that is specifically tailored to the risks small and medium-sized enterprises (SMEs) face. The cyber security part of the solution monitors SMEs' three main points of a cyber attack – websites, emails and endpoints – to make sure they are protected 24/7.

Moving on to our next challenge. This one is a critical challenge in the whole process, it is to have the internal stakeholders on board to work together towards achieving the wider objective.

Challenge – 6

Gain Stakeholder Buy-In Early On

A buy-in early on regarding the proposed solution and preferred tech partner needs to be established with the crucial business stakeholders. This needs to be done before commencing with the partnership.

The first step is getting buy-in from senior management, however it's also important to keep leaders in loop whose business units would be impacted eventually as a result of partnership, such as Claims, Underwriting, Marketing. It won't be a bad idea to include those leaders who would be involved in the partnership either at its outset or while the solution is built - such as Procurement, Legal, IT. This will help the team get ready for potential issues that might cause obstacles.

Once the internal stakeholders are on board, the next big challenge is funding capital required for the tech acquisition.

Challenge – 7

Capital Required for New Tech Acquisition

Even after efficiently tackling the challenges, there will still be need of capital for new tech acquisition. Strong partnerships need to be backed by strong funding mechanism, and this partnership needs to be designed in a way that reflects and supports progress. To achieve this, insurer can seek inspiration from venture capitalists by taking a staged approach for budgeting and releasing funds. Staged approach provides the advantage of getting started with a small initial investment and funding releases are tied to milestones. This approach as a result ensures project progress along with achieving timelines. Taking a staged approach route will also allow insurers to shut projects which doesn't achieve the desired outcomes, and help secure remainder of investment capital.

Mapping the tech funding with venture capital funding model:

Stage-1: Ideation and prototyping

This stage of tech funding would be similar with seed stage of venture capital funding. Once the insurer is convinced with the idea of the Insurtech, and the prototype design has been approved, an initial funding can be released to the Insurtech.

	Venture Capital Funding	Tech Funding	
Stage-1	Seed Stage	Ideation & Prototype	IT Handshake
Stage-2	Start-up Stage	Initial model validation	
Stage-3	Early Stage/ Series A	Successful UAT	
Stage-4	Expansion Stage/ Series B	Production deployment	
Stage-5	Pre-IPO Stage	Final roll out	

Stage-2: Initial model validation

Next funding can be released once the protype or sample solution is ready and Insurtech is able to provide a minimum viable product of the proposed solution.

Stage-3: Successful UAT

After the successful completion of UAT and identification of agreed improvement areas, a big amount (may be half) of the remaining balance budget can be released. This is in line with the Series-A funding of venture capital funding.

Stage-4: Production deployment

Once the agreed improvements have been sorted, it's the time for scale-up. After scale-up has been achieved, synching the solution with production environment is very critical. As this is achieved, less hiccup is expected going ahead. This is similar to Series-B funding of venture capital.

From stage-1 to stage-4, IT handshake needs to work in parallel, as this can be a time consuming affair and a critical hurdle in the final deployment and roll-out of solution.

Stage-5: Final roll-out

Once the UAT has been performed after deployment of solution in production environment, the solution is ready for final roll-out. Hence, time for release of last instalment of funds.

By following the above approach the risk of loosing the capital invested in the Insurtech decrease with each step, as it takes the insurer closer to the final solution. Moreover, there's always an option to stop the proceeding in case of an unforeseen scenario.

Usually, there is no company-wide vision and strategy for data analytics, therefore direction and drive for initiatives is missing in insurers on a holistic basis. Some functions might have experts, who would intermittently drive small initiatives. This lack of centralized effort within the organization would be our next challenge.

Challenge – 8

Lack of Centralized Effort Within the Organization

Integration and navigation through the legacy systems is a difficult objective to achieve, majority of the tech enhancements fail owing to this hurdle. Insurers will have to move towards a two-tier model, that has the experience wisdom of old business and using their talent and energy towards achieving the new improved digital business. The higher management of insurer will have to build a culture that is not just about incorporating new technology, but transforming the business model. This will eventually be the new business as usual.

Generally, every Business Unit have their own expert, hence there can be multiple inputs at different point in time. To navigate through this bureaucracy, Insurtechs might tend to work on the periphery. We discussed about innovation solutions team in challenge-5. The innovation solutions team would also be capable of ensuring that the partnership stays on track and achieve its objective.

This project management by innovation solutions team will provide a centralized effort by the insurer, which else would be lacking throughout the endeavour.

The roles and responsibilities of innovation solutions team can include:

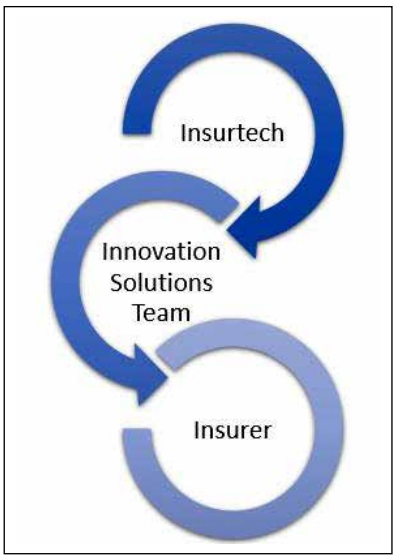

Figure 7 Innovation solutions team as moderator between insurer and insurtech

- Accessing the involvement required by the Insurtech.

- Understanding the recent tech trends and organization needs from senior management.

- Determining which set or problems can be solved with organic innovation (within the organization) and which by inorganic innovation (with support from outside of organization).

- Coordination between internal stakeholders and Insurtech.

- Implementation of the metrics for measuring the partnership with Insurtech.

- Steering the collaboration through proof of concept to scale-up, and eventually towards final solution implementation.

Now, Insurtech might have the desired data analytics capabilities and technology, but they lack insurance business sense. Insurers will have to develop FTEs with an eye for business acumen.

Challenge – 9

Gap Between Data Analytics Expertise and Business Sense

Insurer and Insurtech partnership is supposed to flourish over the years to come. Although, business integration would remain an area of concern. There is sufficient technology available for middleware, so this won't cause much trouble. Instead, areas such as advisory and implementation would need extra care. This is the area where business integration specialists would play a crucial role. These are people who have ample experience in the insurance industry, they would play the role of guiding light in this phase.

From the point of conception of idea, the onus lies on insurer to translate it into a robust business model. Introducing technology won't transform business on its own, this would be part of the whole metamorphosis of the organization from legacy business to a fully connected digital enterprise.

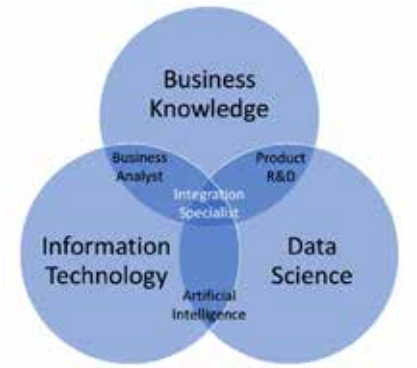

Figure 8 Role of Integration Specialist

Let take a look at an example which will demonstrate how data analytics and business knowledge can create wonder.

Aon & Skytek (Dublin-based InsurTech): Both these companies began collaborating in early 2019 to track marine risk accumulations. The objective of this partnership is to monitor real-time marine risks and to identify risk accumulations for enhanced underwriting and reinsurance programs. The companies use earth-observation technology, artificial intelligence, and machine-learning techniques to develop transparent algorithms that will determine cargo exposures with more accuracy.

This is a good example of tech savvy Insurtech closing the lacunae in insurance value chain. Insurers can partner with Insurtechs to enhance their capabilities.

Last but not the least, we reach to our final challenge: 'Change Management'.

Challenge – 10

Change Management

As per Wikipedia, Change management is a collective term for all approaches to prepare, support, and help individuals, teams, and organizations in making organizational change.

In simply words change management is nothing but a 'mindset change'.

This challenge might sound a bit philosophical, but when one think thoroughly, this does make sense. Organizations definitely face this challenge of resistance to change. Humans have forgot the very basis of life cycle – EVOLUTION. As a community, be it cognitive or behavioural - humans need to evolve. This is the foundation of all our work. We have never liked the same kind of movies, music, food, culture, vehicles, clothes, then how can we afford not to evolve on knowledge font.

We need to deal with this problem in two folds, viz, internal and external.

Insurer and Insurtech partnership is supposed to flourish over the years to come. Although, business integration would remain an area of concern. There is sufficient technology available for middleware, so this won't cause much trouble. Instead, areas such as advisory and implementation would need extra care. This is the area where business integration specialists would play a crucial role. These are people who have ample experience in the insurance industry, they would play the role of guiding light in this phase.

Let's discuss internal first. As an industry, our processes need to evolve, our strategies need to evolve, our products need to evolve, and for all these to evolve the skillset armoury of insurers need to evolve. The major challenge from a soft skill perspective is the mindset, which needs to change. This process of evolving the skillset of employees should start from the top management. Once the ball gets rolling, then the onus lies on both the employer as well as the employees. This phase would undergo rapid evolution as technology keeps

changing form, hence thought leadership is required from every employee.
For this kind of shift to happen at an industry level, even strong collaboration between regulator-insurer-insurtech is required.

Renowned American writer Elbert Hubbard has brilliantly quoted the below lines:

"One machine can do the work of fifty ordinary men. No machine can do the work of one extraordinary man."

All we need to do is think different, think out of the box and think innovative. Once this is in our work culture to be innovative, every individual will graduate from becoming an employee to a knowledge worker.

Once we have conquered the internal hiccups, we need to proceed towards achieving the same result for the external. This will be the most difficult part of our game plan, i.e., changing the customer mindset.

To understand this, let's study the below results from PwC India's Insurance Technology Adoption Survey 2019. This survey of customers, agents and insurers explored how the entire insurance customer ecosystem in India is changing as a result of emerging trends and evolving customer needs and expectations.

Insurance is a push business and is considered as a complex product for which customers rely on face-to-face interaction for better understanding of the product's features and pricing.

Following interpretations can be drawn from the above survey results:

- 55% [36% (from agent) + 19% (from insurance company staff)] of customers still prefer to buy insurance products from agents/ brokers.
- Further analysis was conducted to identify the dimensions that influence customers to engage with a particular mode. On an average, convenience appears to be the primary reason, with 42% of the respondents choosing a particular mode of insurance purchase based on it.
- Offers/schemes plus price comes next with an average of 21% respondents selecting the same. This is followed by direct approach by an agent with 16% of the respondents selecting it.

The above analysis demonstrates that with 55% of customers buying insurance offline, there is a lot of scope for online business. Also, customer mindset needs to be change if this has to be achieved.

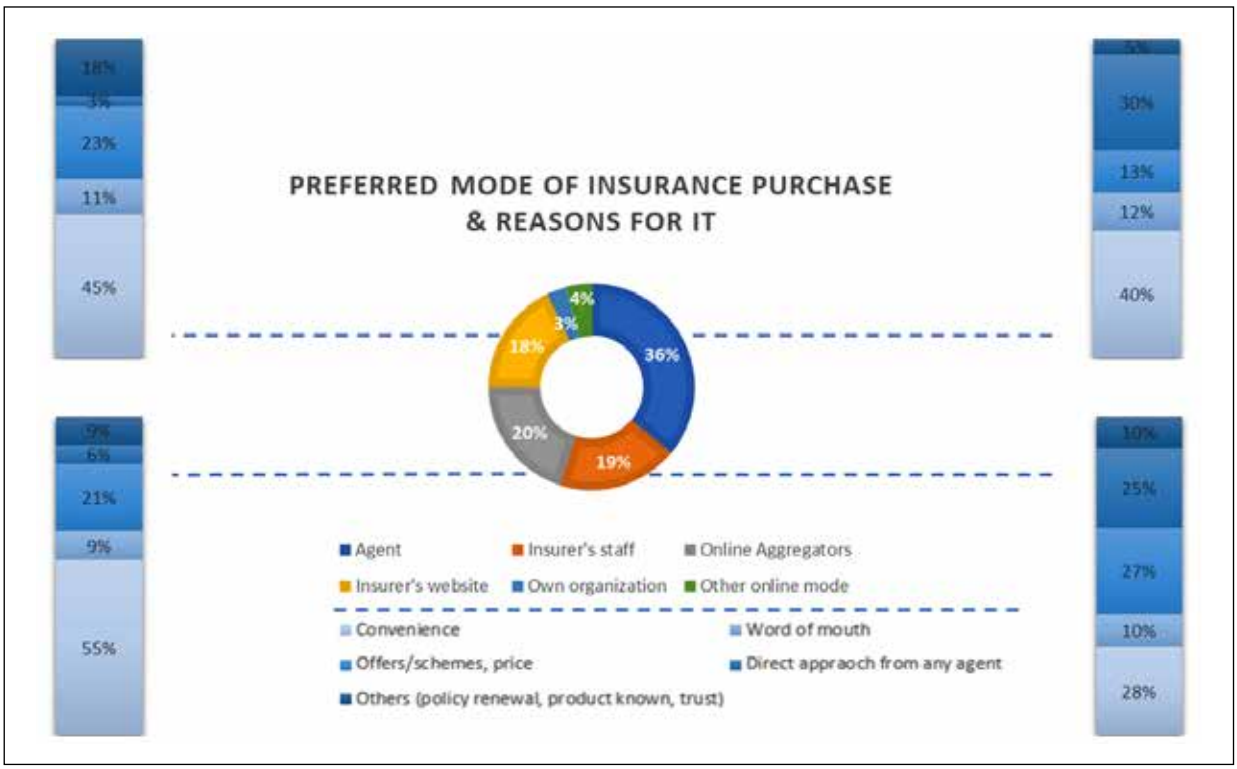

Figure 9 PwC India's Insurance Technology Adoption Survey 2019

Furthermore, as convenience is the primary reason for choosing a particular mode, more emphasis needs to be put on ease of doing business. Hence, our technological advancement should eventually focus on this aspect.

Examples of Some New Age Insurers

Lemonade:

- Launched in late 2016, Lemonade is an American Property & Casualty insurance company that has a unique business model, based on behavioural economics and technology (artificial intelligence and chatbots).

- Homeowner's or renter's insurance policy can be bought under a minute (and usually at a lower cost than is available elsewhere), and about a third of Lemonade's claims are paid within 3 seconds of being filed.

- Lemonade keeps a flat 25% fee of a customer's premium while setting aside the remaining 75% to pay claims and purchase reinsurance. Any money that is left in the claims account at the end of the year is given to charities chosen by policy holders in an annual "Giveback". In 2019, Lemonade gave $631,542 to 26 charities.

Zhong An and Ping An:

- Ping An — the world's largest and most valuable insurer, worth US$217 billion as of January 2018.

- Zhong An — founded in 2013, it is China's online-only insurance company. Since inception, it has acquired 460 million users and written more than 5.8 billion policies.

> Homeowner's or renter's insurance policy can be bought under a minute (and usually at a lower cost than is available elsewhere), and about a third of Lemonade's claims are paid within 3 seconds of being filed.

- Zhong An and Ping An - have undeniably been the centre of attraction of Insurtech. Micropayments has revolutionized the insurance business in China. Smart technology and agile business practices have worked wonders for these companies.

Conclusion

There needs to be an amalgamation of human intelligence and data analytics, in order to rationalize the outcomes and maximize benefits out of the whole exercise. This handshake between human brain and computation will enable unlock the hidden potential of available big data. Artificial intelligence coupled with data analytics is definitely going to disrupt the insurance industry for the greater good, and technology is destined to play a pivotal role in the entire process.

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Technical Paper Essay Competition (Life)

ULIPS or Mutual Funds - What Will the Millennials Choose?

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Abstract

The main aim of humans over generations is Wealth Creation. People look for ways to manage their money in the most efficient manner. In present times with the high cost of living clubbed with a desire for a wealthy lifestyle, the need for better investment decisions has become the need of the hour. The best investment plan is one which not only takes care of our needs but also creates wealth over time. Having an investment plan, and investing according to it is essential for wealth creation.

The population is categorised as Baby Boomers (1946-1964), Gen X (1965-1980), Gen Y (1981-1996). Gen Y is also called as millennials with a further breakup of older millennials (1981-1989) and younger millennials (1990-1996). Millennials preferences are changing the world and they are changing the financial investment market also with less aversion to risk, openness to alternate investment products like crypto currencies and their general outlook of living in the present.

As per the survey conducted by ASSOCHAM and India First Life Insurance during recent past to study savings and investment patterns of individuals aged between 18-35,

Life Insurance is the most preferred investment for almost 70% of millennials followed by mutual funds 69% and fixed deposits 64%. People who support Mutual funds place their arguments that Mutual funds outscore ULIPs on parameters like returns, transparency, liquidity, and flexibility. ULIPs made their appearance almost 15 years ago and, over time, have transformed into very different products from what they used to be earlier. Against the availability of life cover in ULIPs, investors often debate that a combination of mutual funds and term insurance rivals the benefits of ULIPs.

From the time ULIPs were introduced in the early 2000s to where they have reached today, these products have become a value-packed proposition for the customers. The ULIPs are now smart, investor-friendly, more transparent, cost and the tax-efficient. Though Mutual funds are introduced long back, ULIPs give a tough competition to them nowadays.

According to IRDAI annual report 2017-2018, ULIPs registered a growth of 22.72 per cent premium from Rs52845.26 crore in 2016-2017 to Rs64850.90 crore in 2017-2018. Accordingly, the share of unit-linked products in total premium increased to 14.13 per cent in 2017-2018 as against 12.63 per cent in 2016-2017. When mutual funds are intended for achieving short- and medium-term goals, ULIPs help in achieving medium- and long-term life goals. Being one of the strongest products, providing a triple advantage of investments, life insurance cover and tax benefits, ULIPs are surely becoming one of the most preferred investment tools by Millennials. Introduction of innovative products, wide publicity through social media, investor education about the salient features, proper training to sales personnel and field force, encouraging on line selling are the key features for any insurance company in making ULIPs the first and best choice of Millennials.

Introduction

The main aim of humans over generations is Wealth Creation. People look for ways to manage their money in the most efficient manner. In present times with the high cost of living clubbed with a desire for a wealthy lifestyle, the need for better investment decisions has become the need of the hour. Wealth creations requires an investment option that helps us cover all the relative cost attached to money. Investment is placing one's money in avenues that multiplies it and thus wealth creation is the result of judicious investments. Wealth refers to basket of assets; cash, land, property, gold, shares, bonds all added together. For investors, wealth is created by buying or investing in these assets with an expectation that the price will move higher. This rise in price over a period of time is what will lead to growth in wealth. Buying physical assets like land and built up property gives you income if you utilise the asset to create something which you can then sell for income. Hence, financial and physical assets can give you both income and wealth. In property for example, income comes from rent and wealth comes from an appreciation in value of the property. Similarly, in shares, income comes from dividends and wealth comes from change in price.

Investing can help build wealth in the long term which can be done through an investment plan. The best investment plan is one which not only takes care of our needs but also creates wealth over time. Having an investment plan, and investing according to it is essential for wealth creation. Planning is required because it works like a road map. This not only can create wealth in long term, but can also assists in financing of needs as and when it comes. An investment plan consists of the following: -

Investment Funding: Even before one can start investing money, it is essential to start saving money. It is ultimately our savings which can fund all investment needs.

Investment Objective: For any person, it is important to have a right objective of investment. Because goal-less investing will be ineffective. Two investment objectives are: (a) wealth creation, and (b) Need based investing.

Wealth creation: When investment is done for wealth creation, the investment horizon is endless. What it means by endless horizon? Just keep buying (no selling) right investment options month after month, and see the wealth grow with time.

Need based investing: Here we identify our other needs of life like home purchase, car purchase, child's future, foreign tour etc. There will be two types of needs here: (a) short term needs, and (b) long term needs. Investment vehicle for each will be different.

Category of Population – Who Are Millennials?

India being a young country where two-third of the population will consist of later millennials (20-35years) by 2021, the study on the investment pattern and behaviour is important to pave way for success of the Indian economy. The population is categorised as Baby Boomers (1946-1964), Gen X (1965-1980), Gen Y (1981-1996). Gen Y is

also called as millennials with a further breakup of older millennials (1981-1989) and younger millennials (1990-1996). Millennials preferences are changing the world and they are changing the financial investment market also with less aversion to risk, openness to alternate investment products like crypto currencies and their general outlook of living in the present. (As per outlook money issue Mar 2020).

When come to financial security, Baby boomers and Gen X had job security and retirement benefits. Millennials have different aspirations when compared to their parents which has affected their way of spending money and managing finances. Millennials in India are taking very seriously the FIRE (Financial Independence, Retire Early) movement. Millennials are taking to investments such as mutual funds, as opposed to say, fixed deposits, gold or post-office schemes that their parents sought to use for their savings. A lot of millennials opt for systematic investment plans (SIP) for their mutual fund investments. One of the popular methods is to choose equity-linked savings schemes which come with a short lock-in period and have tax benefits. Millennials may also opt for unit-linked insurance plans (ULIPs) more than their previous generations. Millennials are indeed faced with more choices than the previous generation, thanks to the emergence of online marketplaces and more awareness about savings and investment products. They are choosing to save but are also looking for experiences — exploring the world is just one of them. This is a generation that is trying to strike a balance between savings and spending, wanting to do a bit of both. Millennials in India are experiencing a world that is constantly changing, and therefore their method of saving may differ.

Gen X mostly believes in fixed returns. They have a set parameter of measuring any financial instrument's quality – how much will they get at the end or maturity, and is it guaranteed? The most popular financial instruments for them are Pubic Provident Funds, Post Office Instruments, and Bank Fixed Deposits or Recurring Deposits. Generation X had grown up in a totally different environment from that of Generation Y. This generation has seen not only financial stability, but also family stability. Most of this generation has lived in a joint family system. Major financial decisions like buying a home or car have come later in their lives, when most of their responsibilities have been fulfilled, and surplus funds have then been used for such large investments. This generation believes in the power of saving money, and tries to avoid loans and extravagant spending at any cost.

Known for their independence, impatience, optimism, confidence and social media craziness, this Generation Y has a different set of aspirations from their predecessors. They like an un-tethered lifestyle and have different priorities if you compare them to Generation X. While goals like buying a home, children's education and retirement planning might have heavy weightage for them too, it is the delay in saving for these goals that defines this generation. They believe in instant gratification of their dreams and don't want to wait until tomorrow. Flexibility and higher risk appetite are the major attractions of Millennials in terms of investments. They look for products which are easy to use, simple, flexible with minimum lock-in facility. They prefer Fixed Deposits in Banks for Savings, Public Provident Fund for safe & long-term investment, term insurance for risk cover, health insurance for medical expenses and for wealth creation equity-based products.

Risks Involved in Stock Investment

1. Market risk

Market risk is a risk which may result in losses for any investor due to the poor performance of the market. There are a lot of factors that affect the market. A few examples are a natural disaster, inflation, recession, political unrest, fluctuation of interest rates, and so on. Market risk is also known as systematic risk. The only thing that an investor can do is to wait for the things to fall in place.

2. Liquidity risk

Liquidity risk refers to the difficulty to redeem an investment without incurring a loss in the value of the instrument. It can also occur when a seller is unable to find a buyer for the security.

The risk of being unable to sell an investment at a fair price and get the money out in times of need. To sell the investment, the person may need to accept a lower price. In some cases, it may not be possible to sell the investment at all in situations like moratorium. Sometimes due to lack of buyers in the market, we might not be able to redeem our investments when we need them the most.

3. Concentration risk

Concentration generally means focusing on just one thing. Concentrating a considerable amount of a person's investment in one particular scheme is never a good option. Profits will be huge if lucky, but the losses will be

pronounced at times. The best way to minimise this risk is by diversifying your portfolio. Concentrating and investing heavily in one sector is also risky. The more diverse the portfolio, the lesser the risk is.

Not only stock investment is the riskiest investment, it requires extensive research and knowledge before investing for a novice investor. The costs of frequent stock trades can add up quickly for individual investors. Gains made from the stock's price appreciation can be cancelled out by the costs of completing a single sale of an investor's shares of a given company. Therefore, while investing in stocks it is required to compile a basket of stocks instead of one stock alone. Also, it is necessary to sufficiently diversify between large and small companies, value and growth companies, domestic and international companies, and also between stocks and bonds—all according to our risk tolerance.

In the above scenario, the millennials narrow down their choice between **Mutual Funds and ULIPs (UNIT LINKED INSURANCE POLICIES)** which offer the benefit of investing in stocks, fairly good returns, safe, small amounts of regular savings.

Advantages of Mutual Funds and ULIPs

Diversification - Mutual funds as well as ULIPs offer investors a great way to diversify their holdings instantly. Unlike stocks, investors can put a small amount of money into one or more funds and access a diverse pool of investment options. So, we can buy units in a mutual fund as well as ULIPs that invests in as many as 20 to 30 different securities. If we were looking for the same thing in the stock market, we'd have to invest much more capital to get the same results.

Mutual funds & ULIPs also invest in a variety of different sectors. So, a large cap fund may invest across different industries like financials, technology, health care, and materials. Again, if we try to match this through individual stocks, we'd have to spend a lot of money to get the same returns.

Low Minimum Investment - Anyone can start investing in most Mutual Funds & ULIPs with as little as Rs 100.

Professional Management - Fund managers and analysts wake up each morning with one goal – to research, analyse and study current and potential holdings for their mutual fund/ULIPs and pick the best funds to help the investor meet their financial goals.

Lower costs - Buying stocks and bonds costs the investor more (set up of a DEMAT account/ transaction fee etc). Because they manage large amounts of money on behalf of lakhs of individual investors, mutual funds/Insurance companies are able to take advantage to reduce transaction costs.

Systematic Investment Plans (SIPs) - SIPs make it simple to invest regularly in a mutual fund /ULIP plans with as little as Rs 100 a month. The money is automatically debited a day or two before that day every month and invested in that scheme so the investment habit gets regularized and with ease of operation.

Transparency - The investments that a Mutual Fund / insurance company make are publicly available every month, so if needed, we can see what fund manager is doing.

Mutual Funds

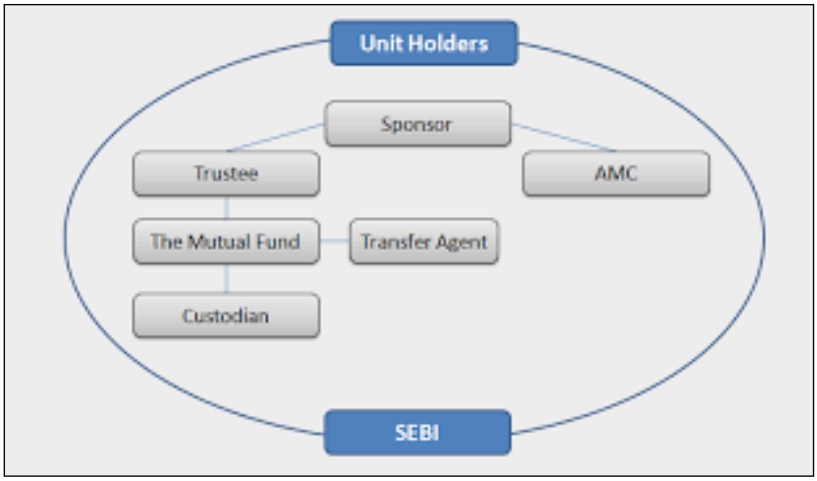
A mutual fund is a professionally managed type of collective investment scheme that pools money from many investors and invests typically in investment securities (stocks, bonds, short-term money market instruments, other mutual funds, other securities, and/or commodities such as precious metals). The mutual fund will have a fund manager that trades (buys and sells) the fund's investments in accordance with the fund's investment objective.

Characteristics of mutual funds

- The ownership is in the hands of the investors who have pooled in their funds.
- It is managed by a team of investment professionals and other service providers.
- The pool of funds is invested in a portfolio of marketable investments.
- The investors share is denominated by 'units' whose value is called as Net Asset Value (NAV) which changes every day.
- The investment portfolio is created according to the stated investment objectives of the fund.

Structure of Mutual Fund

The structure of Mutual Funds in India is a three-tier one. There are three distinct entities involved in the process – the sponsor (who creates a Mutual Fund), trustees and the asset management company (which oversees the fund management). The structure of Mutual Funds has come into existence due to SEBI (Securities and Exchange Board of India) Mutual Fund Regulations, 1996.



Under these regulations, a Mutual Fund is created as a Public Trust.

The Fund Sponsor is the first layer in the three-tier structure of Mutual Funds in India. SEBI regulations say that a fund sponsor is any person or any entity that can set up a Mutual Fund to earn money by fund management. This fund management is done through an associate company which manages the investment of the fund.

There are eligibility criteria given by SEBI for the fund sponsor:

1. The sponsor must have experience in financial services for a minimum of five years with a positive Net worth for all the previous five years.
2. The net worth of the sponsor in the immediate last year has to be greater than the capital contribution of the AMC.
3. The sponsor must show profits in at least three out of five years which includes the last year as well.
4. The sponsor must have at least 40% share in the net worth of the asset management company.
5. Any entity that fulfils the above criteria can be termed as a sponsor of the Mutual Fund.

The second layer is Trustees. The mutual fund is required to have an independent Board of Trustees, i.e. two third of the trustees should be independent persons who are not associated with the sponsors in any manner. An AMC or any of its officers or employees are not eligible to act as a trustee of any mutual fund. The trustees are responsible for - inter alia – ensuring that the AMC has all its systems in place, all key personnel, auditors, registrar etc. have been appointed prior to the launch of any scheme.

The third layer is AMC (Asset Management Company). The sponsors or the trustees are required to appoint an AMC to manage the assets of the mutual fund. Under the mutual fund regulations, the applicant must satisfy certain eligibility criteria in order to qualify to register with SEBI as an AMC.

1. The sponsor must have at least 40% stake in the AMC.
2. The chairman of the AMC is not a trustee of any mutual fund.
3. The AMC should have and must at all times maintain a net worth not less than Rupees Ten Crore (100 million).
4. The director of the AMC should be a person having adequate professional experience.
5. The board of directors of such AMC has at least 50% directors who are not associate of or associated in any manner with the sponsor or any of its subsidiaries or the trustees.

The other entities are:

The Transfer Agents

The transfer agent is contracted by the AMC and is responsible for maintaining the register of investors / unit holders and every day settlements of purchases and redemption of units. The role of a transfer agent is to collect data from distributors relating to daily purchases and redemption of units.

Custodian

The mutual fund is required, under the Mutual Fund Regulations, to appoint a custodian to carry out the custodial services for the schemes of the fund. Only institutions with substantial organizational strength, service capability in terms of computerization and other infrastructure facilities are approved to act as custodians. The custodian must be totally delinked from the AMC and must be registered with SEBI.

Unit Holders

They are the parties to whom the mutual fund is sold. They are ultimate beneficiary of the income earned by the mutual funds.

Types of Mutual Funds based on structure

Open-Ended Funds:

- These are funds in which units are open for purchase or redemption throughout the year.
- All purchases/redemption of these fund units are done at prevailing NAVs.

- Basically, these funds will allow investors to invest as long as they want.
- There are no limits on how much can be invested in the fund.
- They are an ideal investment for those who want investment along with liquidity because they are not bound to any specific maturity periods.

Close-Ended Funds:

- These are funds in which units can be purchased only during the initial offer period.
- Units can be redeemed at a specified maturity date.
- To provide for liquidity, these schemes are often listed for trade on a stock exchange.
- Unlike open ended mutual funds, once the units or stocks are bought, they cannot be sold back to the mutual fund, instead they need to be sold through the stock market at the prevailing price of the shares.

Interval Funds:

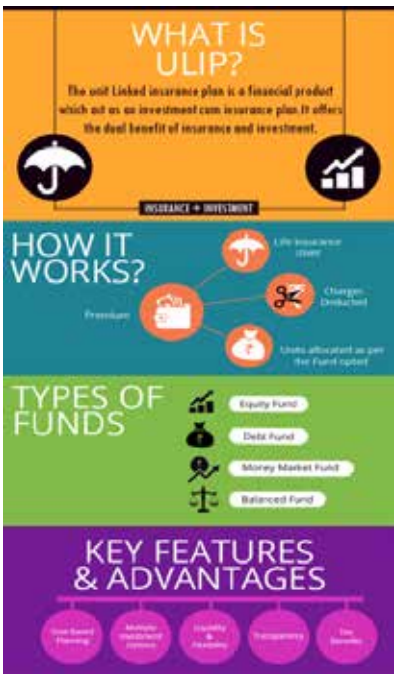
- These are funds that have the features of open-ended and close-ended funds in that they are opened for repurchase of shares at different intervals during the fund tenure.
- The fund management company offers to repurchase units from existing unitholders during these intervals.
- If unitholders wish, they can offload shares in favor of the fund.

The most popular types of mutual funds in India are listed below:

- Equity funds - These are funds that invest in equity stocks/shares of companies. These are considered high-risk funds but also tend to provide high returns.
- Debt funds - These are funds that invest in debt instruments e.g. company debentures, government bonds and other fixed income assets. They are considered safe investments and provide fixed returns.
- Money market funds - These are funds that invest in liquid instruments e.g. T-Bills, CPs etc. They are considered safe investments for those looking to park surplus funds for immediate but moderate returns. Money markets are also referred to as cash markets and come with risks in terms of interest risk, reinvestment risk and credit risks.
- Index funds - These are funds that invest in instruments that represent a particular index on an exchange so as to mirror the movement and returns of the index e.g. buying shares representative of the BSE Sensex.
- Balanced funds - These are funds that invest in a mix of asset classes. In some cases, the proportion of equity is higher than debt while in others it is the other way round. Risk and returns are balanced out this way.
- Income funds - Under these schemes, money is invested primarily in fixed-income instruments e.g. bonds, debentures etc. with the purpose of providing capital protection and regular income to investors.
- Fund of funds - These are funds that invest in other mutual funds and returns depend on the performance of the target fund. These funds can also be referred to as multi manager funds. These investments can be considered relatively safe because the funds that investors invest in actually hold other funds under them thereby adjusting for risk from any one fund.

Unit Linked Insurance Plan (ULIP)

ULIP is life insurance solution that provides for the benefits of protection and flexibility in investment. The major advantage that a ULIP has over the traditional wealth creation tools is the benefit of a Life Cover. ULIP being a combination product, premium amount paid under ULIP consists of risk premium and investment component. Risk premium may be for life or health or any other authorized purposes. Unit Linked Insurance Policies (ULIP) as an investment avenue is closest to mutual funds in terms of their structure and functioning. As is the case with mutual



funds, investors in ULIP is allotted units by the insurance company and a net asset value (NAV) is declared for the same on a daily basis. Similarly, ULIP investors have the option of investing across various schemes similar to the ones found in the mutual funds domain, i.e. diversified equity funds, balanced funds and debt funds to name a few. Generally speaking, ULIP can be termed as mutual fund schemes with a life insurance component. It should not be construed that excluding the insurance element there does not exist any apparent differentiation of mutual funds from ULIP. When an investor purchases unit in a ULIP, he or she is purchasing units along with a larger number of investors, just like an investor would purchase units in a mutual fund.

This product requires policyholders to make regular premium payments, part of which are utilized to provide insurance coverage, while the remaining portions are pooled with assets from other policyholders, then invested in equity and debt instruments, much like mutual funds. Mortality charges and ULIP administration charges are thereafter deducted on a periodic (mostly monthly) basis by cancellation of units, whereas the ULIP fund management charges are adjusted from NAV on a daily basis. Policyholders must commit an initial lump sum payment when they first buy into a ULIP, followed by annual, semi-annual, or monthly premium payments. Although the premium payment obligations vary from product to product, in all cases, they are proportionally invested towards a designated investment mandate. But ULIPs are unique in that they offer flexibility to investors, who may adjust their fund preferences throughout the duration of their investment. For example, depending on their investment needs, they can shuttle between stock funds, bond funds, and diversified funds. The Fund Value reflects the growing corpus by way of net asset values, or NAVs. On maturity, this Fund Value is paid. In the case of death, higher of the Sum Assured promised or the available Fund Value is paid.

The Funds

The first feature is the choice of funds available. Every insurer offers a variety of three basic types of funds which are:

- ✓ Equity Funds: These funds invest primarily in the equity market and hence follow an aggressive investment strategy. The risk presented by these funds is high and so is the return generating potential.
- ✓ Debt Funds: On the other end of the spectrum are debt funds which follow a conservative investment strategy. These funds invest in the debt and bond market and hence have a low-risk strategy. The returns from these funds, as obvious, are also conservative and low.
- ✓ Balanced Funds: Investors who wish to earn returns higher than those generated by the debt funds but are averse to the high-risk strategy of equity funds find respite in balanced funds. These funds are a combination of equity and debt funds and follow a moderate investment strategy. The risk is moderate and the returns are decent which are higher than debt funds but lower than equity funds.

The Life Cover

Since ULIPs are insurance plans, insurance cover is available and is expressed as a percentage or multiple of the premium paid. In the case of death, higher of the Sum Assured or the Fund Value is paid. Thus, the life cover promised under ULIPs is guaranteed to be payable on death.

ULIP is life insurance solution that provides for the benefits of protection and flexibility in investment. The major advantage that a ULIP has over the traditional wealth creation tools is the benefit of a Life Cover. ULIP being a combination product, premium amount paid under ULIP consists of risk premium and investment component. Risk premium may be for life or health or any other authorized purposes. Unit Linked Insurance Policies (ULIP) as an investment avenue is closest to mutual funds in terms of their structure and functioning. As is the case with mutual funds, investors in ULIP is allotted units by the insurance company and a net asset value (NAV) is declared for the same on a daily basis.

Charges

The premiums that are paid would be subject to certain charges before they are invested in the chosen fund. These charges include the premium allocation charges, administration charges, fund management charges, mortality charges, etc. and are deducted every year or every month depending on the type of charge and policy terms.

Switching

Switching means transferring investments from one chosen fund to another. If your investment strategy changes over the plan tenure, the plan allows you to change your investment funds through switching facility which is free of cost up to a specified extent in one policy year.

Partial withdrawals

The unique part about ULIPs which is absent in other insurance plans is the facility of partial withdrawal. In ULIPs, the policyholder can withdraw the Fund Value partially for any financial requirements without hampering the plan continuity. This withdrawal can be made any time after the first five years of the plan and a limited number of withdrawals are also free of cost.

Top-ups

ULIPs also provide the facility of making additional investments into the plan through the facility of top-up premiums. Thus, the policyholder can use any surplus fund for investment in the plan apart from the premiums which are paid and reap the benefits of good returns.

Comparison of Mutual Funds and Unit Linked Insurance Plans

Point of Comparison	Mutual Funds	ULIP
Product type	Mutual funds are purely investment products.	ULIPs are a blend of investment and insurance products.
Return on investment	The chances of higher returns are more. Some equity-oriented investment gives better returns. However, it does not give assured returns.	Returns are moderate to high. Net Asset Value depends on the kind of investment funds and market performance. However, it does not give assured returns.
Lock-in Period	Except ELSS, Mutual funds generally have a lock-in period of just one year.	ULIPs have a lock-in period of 5 years now.
Term	It can be short, medium or long-term.	Long-term only
Taxation Benefits	Mutual funds investment is liable for taxation as per the application tax bracket. The only exception is ELSS.	One can claim tax deductions up to Rs 1.50 lakh under Section 80C of the Income Tax Act.
Risk	Equity-oriented Mutual funds are very risky, while Bond-oriented ones are relatively less risky.	ULIPs have an in-built investment feature that provides the insured sum in case of death of the policyholder. Hence, they are relatively less risky.
Liquidity	Mutual funds are more liquid, except ELSS.	ULIP have lower liquidity and one needs to wait for the completion of the lock-in period.
Insurance and riders	Mutual funds do not provide any life insurance coverage. Therefore, they do not have any riders.	ULIP investors have an option to get comprehensive and complete protection by adding riders. It also comes with Life Insurance coverage.
Transparency	More transparent about the fees and portfolio handlings.	Less transparent due to asset allocation and hidden expenses.
Expenses	Mutual funds have low expenses due to management by professional fund managers.	ULIPs have higher charges, due to the complicated nature of its portfolio.

Areas Where Mutual Funds Score Over ULIPs

After the re-introduction of long-term capital gain (LTCG) tax on equity and equity oriented Mutual Funds in the Union Budget of 2018, attention of people in India has turned towards ULIPs as they are not subject to capital gain tax. Taxation rate on short-term gains from the redemption of debt funds is per one's income tax slab, while the long-term capital gains are subject to tax @20% (excluding Cess) after indexation. Also, the premiums paid towards risk cover under ULIP is eligible for Tax exemption under Section 80C up to Rs.1.5 Lakhs. From the angle of taxability, ULIP definitely seems to be a better choice. However, it has to be stated here that taxation is not the only parameter that you should consider for selecting an investment product. There are many other key factors which we should keep in mind before selecting any investment product.

Purpose of Investing:

ULIP alone cannot provide adequate insurance cover to a person. A person already has insurance cover through term insurance or any other cover can buy ULIP as an additional option since it contains insurance element along with investment. Similarly, if a person invests in Mutual fund alone and not insured, it will lead to big loss to the family in case of untimely death of that person. Adequate insurance is first and foremost for any person before investing.

Return:

Historically, equity mutual funds have outperformed ULIPs. Over a long period, even a small difference of 2-3% can significantly change the corpus due to compounding.

Average 5 years CAGR return on ULIPs and Mutual Funds

	ULIPs	Mutual Funds
Large-cap	15.0%	16.2%
Multi-cap/Flexi-cap	12.7%	18.6%
Mid/small-cap	23.4%	28.5%

(Source: Ace MF, Morningstar. Returns as of February 27, 2018)

Difference in corpus over different period and returns by investing Rs10lakh

		Years			
		5	**10**	**15**	**20**
Returns	10%	₹16.1 lakh	₹25.9 lakh	₹41.7 lakh	₹67.2 lakh
	12%	₹17.6 lakh	₹31.0 lakh	₹54.7 lakh	₹96.4 lakh
	13%	₹18.4 lakh	₹33.9 lakh	₹62.5 lakh	₹1.1 cr

Another comparison is taken from Paisabazaar.com which collected data from three financial houses – HDFC, ICICI and Tata which have both mutual fund and ULIP offerings up to 31st January 2018.

HDFC:

HDFC Life ULIPs				**HDFC Mutual Funds**		
Fund category	**Fund Name**	**3-year return**	**5-year return**	**Fund Name**	**3-year return**	**5-year return**
Large Cap	Large Cap Fund	7.48	12.44	HDFC Top 200 Fund	10.15	15.82
Multi cap	Diversified Equity Fund	14.04	N/A	HDFC Capital Builder Fund	14.21	20.73
Mid cap	Opportunities Fund	16.31	19.82	HDFC Mid-cap Opportunities Fund	16.35	25.82

ICICI:

ICICI pru life ULIPs				**ICICI Mutual Funds**		
Fund category	**Fund Name**	**3-year return**	**5-year return**	**Fund Name**	**3-year return**	**5-year return**
Large Cap	Blue-chip Fund	8.81	13.83	ICICI Prudential Focused blue-chip Equity Fund	11.18	17.34
Multi cap	Multi Cap Growth Fund	11.59	17.01	ICICI Prudential Multicap Fund	12.16	18.48
Mid cap	Not Available	--	--	ICICI Prudential Midcap Fund	13.18	25.31

TATA:

TATA AIA Life ULIPs				TATA Mutual Funds		
Fund category	**Fund Name**	**3-year return**	**5-year return**	**Fund Name**	**3-year return**	**5-year return**
Large Cap	Large Cap Equity Fund	8.80	15.03	Tata Large Cap Fund	9.43	15.06
Multi cap	Equity Fund	8.31	13.70	Tata Equity P/E Fund	16.40	23.05
Mid cap	Whole Life Mid Cap Equity Fund	16.77	25.91	Tata Midcap Growth Fund	13.27	24.84

It can be seen that mutual funds returns are higher than the returns generated by ULIP except TATA AIA ULIP Mid Cap where in the returns are higher in ULIP in 3 years as well as 5 year than Mutual Funds. In Large cap as well as Multi cap the returns in Mutual funds are higher than ULIPs.

Another study by Morning Star confirms the same. The data is as on 10th March 2019.

Large Cap: ULIPs vs Mutual funds: Morningstar Category Index: S&P BSE 100 TR

Instrument	Category Average	Top Performer	Bottom Performer
ULIPS	16.12	20.49	12.09
Mutual funds	17.1	21.02	13.55

Mid Cap: ULIPs vs Mutual funds: Morningstar Category Index: S&P BSE Mid Cap TR

Instrument	Category Average	Top Performer	Bottom Performer
ULIPS	21.05	23.73	17.46
Mutual funds	22.76	25.82	8.9

Multi Cap: ULIPs vs Mutual funds: Morningstar Category Index: S&P BSE 500 TR

Instrument	Category Average	Top Performer	Bottom Performer
ULIPS	12.95	17.3	8.83
Mutual funds	18.68	25.45	12.83

A detailed comparison can be carried out between Mutual fund and ULIPs showing how much wealth they will create in a specific time period considering their returns are same. In such a comparison, for a long time, say for around 18-20 years, corpus created by a Mutual fund will remain higher and only after 20 years or so, the ULIP corpus will beat it.

Transparency:

The disclosures of the underlying portfolio of a ULIP are not as transparent as that of a Mutual Fund. In addition to that, the exact break-up of load on a ULIP plan is not available, unlike a Mutual Fund scheme. Apart from the loading, expense ratio which in regard to a Mutual Fund plan is also mandatorily required to be stated clearly in the mutual fund fact sheet. From returns to underlying portfolios to sector allocation of investments, one can clearly find all the information in the online platform of an AMC and various other websites. The benchmark, expense ratio, and exit load is also disclosed by AMCs and is available on various websites. Besides, many analysts and investment advisors track mutual funds. ULIPs also disclose the same information but they are not widely tracked by the analyst community.

Cost:

ULIPs used to have very high charges in past but now they compete with mutual fund schemes on charges. If a person invests in a ULIP via online, he does not have to pay administrative or fund allocation charges. Mutual fund schemes also have very competing expense ratios. Investors can further reduce the expense ratios by investing in direct plans.

Charges:

Charges	ULIPs	Mutual Funds
Premium allocation Charges	Will be deducted (upfront from premium before investing Nil	Nil
Policy administration Charges	Will be deducted from premium Everymonth upfront	Nil
Fund management Charges/Expese ratio	Expense for managing the fund, these are deducted from NAV value hence will not be visible to the investors. The maximum cap is 1.35%	Expense for managing the fund, these are deducted from NAV value hence will not be visible to the investors. It ranges between 1.2% to 2.5%
Mortality Charges	Charges redemmed by insurer from the accumulated units on monthly basis to cover for insurance. This charge will change based on age and insurance company.	Nil
Exit load/Surrender Charges (After 1 year)	Yes, if surrendered between 1to 5 years.	Nil, Mandatory lock in period of 3 years for ELSS alone

Please note that GST will be charged on all these charges.

Liquidity:

Liquidity is the most important factor to be considered while investing. An investment option should be easily liquidated in times of need. Mutual Funds are highly liquid in nature. Except ELSS wherein the lock-in period is 3 years, other funds can be redeemed at any time and money will be available to the investor within 3 days. Whereas under ULIP the lock-in period is 5 years even though partial withdrawal facility is available, it can be availed after lock-in period only.

Flexibility:

Mutual funds are way more flexible than ULIPs. Mutual fund investors can switch from one scheme to another within a fund house or to another fund house, which enables investors to switch from poorly performing schemes to better ones. On the other hand, ULIPs provide some flexibility to investors to switch from equity to debt and vice-versa within the same plan only.

Areas where ULIPs score over Mutual Funds

Unit Linked Insurance Plans (ULIP) have got a lot of bad press and many advisors have trashed them as products not worth investing in. ULIPs made their appearance almost 15 years ago and, over time, have transformed into very different products from what they used to be earlier. The product used to be costly several years ago as the various charges added up to make them expensive. But that has been corrected largely now. The ULIPs now being offered by various insurance firms currently come at low costs and compares well with a MF (mutual fund)/term insurance combination. Against the availability of life cover in ULIPs, investors often debate that a combination of mutual funds and term insurance rivals the benefits of ULIPs. Are they right? Technically, they are but is it the whole picture?

- One major advantage of investing in ULIPs today is that the withdrawal is tax free. This is irrespective of whether the funds are invested in equity or debt. This makes ULIPs quite tax efficient and the post-tax returns can hence be attractive.
- When a person buys a term plan with a mutual fund scheme, he is essentially combining life cover with investment returns. Though we may think the combination is better than ULIPs, we ignore the costs involved. In ULIPs, there is a mortality cost for the life cover provided. This cost is levied on the sum at risk which, in simple terms, is sum assured less the fund value. As the policyholder pays subsequent premiums and the fund value grows, the sum at risk reduces and then becomes zero after a certain period. As soon as the sum at risk becomes zero, mortality cost is not deducted. Therefore, in a unit-linked plan, the policyholder bears the cost of insurance only for a short duration. In case of a term plan, the policyholder pays higher

premiums compared to the mortality cost charged in ULIP and that too for a longer duration. So, which saves you more money – Term plan with mutual funds or ULIPs?

- Few people place an argument that ULIPs have a range of charges like the premium allocation charge, administration charge, fund management charge, mortality charge, etc. These charges make ULIPs unattractive. While the charge structure in ULIPs was always a negative point, new plans available in the market to address this concern. Many unit-linked plans have reduced the allocation charge drastically. Where the allocation charge is applicable, it is either reduced or nullified from the second or third policy year. Even the policy administration charges in many plans have been reduced to zero. In fact, over a long run, the average charges in a unit linked plan become very much competitive in comparison to overall charges in mutual funds. It even rivals the expense ratio of a mutual fund scheme. So, if we are investing with a long-term perspective and buy plans with a lower charge structure, we wouldn't have to worry about the inherent costs in a unit linked plan.

- Mutual funds are better for high risk-taking individuals because they churn out more stocks in comparison to ULIP Funds. Even if we invest in debt mutual funds, the risk is high because of active participation in market movements and frequent churning of underlying assets. In a ULIP, on the contrary, the passive investment strategy is followed and there is less churning making it comparatively less risky.

- Mutual funds (except ELSS plan) are liquid in nature. we can redeem our fund any time we want to, by paying the applicable exit loads. This liquidity, though helpful in a financial crisis, tempts us to withdraw your funds early. This temptation does not allow us to create disciplined savings for our future goals. ULIPs have a five-year lock-in period wherein withdrawals are not allowed. As such, a unit-linked plan forces us to create wealth and makes us financially disciplined. These forced savings give us a good corpus which helps us in meeting our financial obligations in future. If liquidity is a concern, in case of an emergency, many banks provide a loan against these policies.

- When we consider the tax implication on mutual funds and ULIPs, ULIPs emerge as the clear winner. Short term or Long-term capital gains from all mutual funds are taxable. This tax implication makes mutual funds less attractive. Three types of tax benefits are available under ULIP. 1. Investment made is eligible for tax exemption under Sec. 80C up to 1.5 lakhs. 2. Death and Maturity benefits are tax free under Sec 10(10D) subject to certain conditions. 3. Partial withdrawals are also tax free. These tax exemptions are not available in mutual fund investments. Another area where tax implication is applied in mutual funds is Switching. If switching is done between funds under Mutual funds i.e, from equity to debt or vice versa, the funds would attract long term or short-term capital gains tax, depending on the tenure of investments. In ULIPs, however, switching between the different funds is completely tax-free.

Few people place an argument that ULIPs have a range of charges like the premium allocation charge, administration charge, fund management charge, mortality charge, etc. These charges make ULIPs unattractive. While the charge structure in ULIPs was always a negative point, new plans available in the market to address this concern. Many unit-linked plans have reduced the allocation charge drastically. Where the allocation charge is applicable, it is either reduced or nullified from the second or third policy year. Even the policy administration charges in many plans have been reduced to zero. In fact, over a long run, the average charges in a unit linked plan become very much competitive in comparison to overall charges in mutual funds.

When it comes to fulfilling future goals such as buying a new home, child's education, retirement planning etc., savings are a must. Without long term savings plans, it is difficult to balance short term needs and future goals. ULIPs help us save systematically and help us plan for these future goals. Various types of ULIPs are available to meet the life goals.

Wealth Creation ULIPs

If we are looking to buy a plan that helps us build the wealth along with the insurance benefit, investing with a wealth creation plan is the best bet. This kind of unit linked plan helps fulfil our long-term financial goals with the life cover.

Child ULIPs

This type of unit linked plan aims to cater the financial needs for our child's future, and it helps to manage expenses such as a child's education, higher education, and marriage. By investing in this plan, our child can easily realize his dreams, even when we are not there.

Health ULIPs

This type of unit linked plan takes care of our health-related expenses. In this plan, our premium amount is invested in a fund and thus provides the fund value and insure our health as well. It provides the dual benefits of health protection plus savings.

Retirement ULIPs

Everyone wants to save a huge corpus for their post-retirement period. Here is the market linked investment plan for retirement that helps us build a sum of money that we can withdraw as a lump sum and the remaining amount is used to purchase the annuities that we will receive for the rest of our life. The annuity plans have different annuity options that we may opt for, as per our financial needs.

Choice of Millennial

As per the survey conducted by ASSOCHAM and India First Life Insurance during July-August 2018 to study savings and investment patterns of individuals aged between 18-35, Life Insurance is the most preferred investment for almost 70% of millennials followed by mutual funds 69% and fixed deposits 64%. The survey also stated that the respondents were aware about the type of insurance products and their preference was Term Assurance Plan. As per the India Protection Quotient survey conducted by Max Life Insurance along with Kantar IMRB, 36% millennials consider Term Insurance as their first choice when comes to Insurance.

According to CAMS, mutual funds are also becoming the preferred choice of investment for millennials. The report added that there is sharp increase of new investors in the past two financial years in mutual fund industry due to the increased confidence of investors in mutual funds as a route to wealth creation. According to CAMS, out of 36 lakh new investors during financial year 2019-20 in the mutual fund industry, a whopping 16 lakh or 47% investors were millennials. As per the report, the preferred mode of investment is SIP (Systematic Investment Plan) by majority of millennials around 10 lakhs and the preferred type of fund being Equity fund (15 lakhs). When compared to bigger cities, millennials in smaller cities also prefer Mutual Funds over other investments.

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If ULIP is a good product, then why it is not able to attract masses? The reason was mis-selling of ULIPs before 2010. Mis-selling means a deliberate, irresponsible or negligent sale of products or services through

misrepresentation of a contract or unsuitability of the product or service as per customers' needs. Mis-selling means a deliberate, irresponsible or negligent sale of products or services through misrepresentation of a contract or unsuitability of the product or service as per customers' needs. But, once the private sector entered this market, they started abusing the product. Instead of building wealth, investors started losing wealth and the life cover. Mis-selling had arisen for 3 reasons. First, most sales personnel were neither trained nor equipped to handle complex product like ULIP due to which they were unable to understand and advise their customers on ULIP products. Secondly, banks were allowed to sell products of many insurance companies under open architecture model and the pressure on competition and achievement of sales targets led to mis-selling. Third, there was lack or no proper investor education by insurance companies.

As per reports from Mint and Goldman Sachs, about Rs. 1.13 trillion invested money dissolved in this scam. ULIP is a useful and good product lost its reputation to negative publicity and mis-selling during the initial period.

Conclusion

Now, the journey of Unit Linked Insurance Policies (ULIPs) in the investment market is a steady one. It has come a long way from its reputation of being a mis-sold product to being as transparent as the other financial products in the market. From the time they were introduced in the early 2000s to where they have reached today, these products have become a value-packed proposition for the customers. The ULIPs are now smart, investor-friendly, more transparent, cost and the tax-efficient. With new guidelines such as increasing disclosures, minimum lock-in period increased to 5 years and commissions capped, the new age ULIPs have become a better financial product. Though Mutual funds are introduced long back, ULIPs give a tough competition to them nowadays. Even returns received from ULIP in the past 10 years is almost near to returns received from Mutual Funds. The comparison of business figures of both shows the same trend. The charges of ULIPs were brought down and spread out evenly over the tenure of the policy and the disclosures were more detailed for the benefit of investors. To attract customers, insurers decided to remove policy administration and premium allocation charges completely. And the investors get the mortality charge back once the plan matures, indicating ULIP as a unique investment option with a free life cover. ULIP also provide customers with the flexibility to choose their asset allocation between equity and debt, depending on their risk appetite. In fact, the customer has the option to choose their investment in 100 % equity or debt. Further, many insurance companies do not even levy charges for switching between the funds. After 5 years the policyholder can choose to withdraw their investments partially or fully.

With careful planning over the years, the wealth created from ULIPs can be used for the child's higher education or other requirements like retirement planning. For ULIP products to be the choice of millennials, the insurers should take the following measures.

1. Introduction of new innovative and customised products to suit the investment needs of the millennials.
2. Wide publicity through various channels. Since millennials are tech-savvy, the products can be marketed through social medias.
3. Insurers must ensure that they make it easy for the Policyholder/Prospect to access the information relevant to their investment decisions which enables them to make comparisons with the other providers.
4. Increasing online selling of ULIP products.
5. Adequate training of field force and sales personnel in promoting ULIP products.

Being one of the strongest products, providing a triple advantage of investments, life insurance cover and tax benefits, ULIPs are surely becoming one of the most preferred investment tools by Millennials.

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Merit Winner

Technical Paper Essay Competition (General)

The Paradox of Rising Premiums and Low Insurance Penetration

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Abstract

The insurance industry in a vastly populous, demographically varied and culturally diverse country like India resembles a maze. While the growth of a large number of private players in the insurance as well as reinsurance sectors has allowed the industry to bring forth extremely sophisticated and nuanced insurance products for the populace at large, a large number of factors including general apathy towards the insurance needs of people and businesses, and high premiums, which in the eyes of the insured convey no immediate benefits, has impeded the spread, growth, penetration and even innovation in the insurance sector in India. This paper seeks to unravel the dichotomy that the insurance sector faces in this country today- A population so large and underserved that it has scope for multiple insurance players to spread their arms wide without competition, and yet an abysmal insurance penetration which counts amongst the lowest in the world. We focus on how insurance premiums, driven by certain actuarial practices and risk management techniques pushes up the cost for purchasing the right kind of insurance. The paper further tries to bring to light the fact that despite statutory mandates in a country like

India, which require that certain activities get necessary insurances, the penetration in those markets still shows alarming gaps due to a number of factors including general apathy, lack of awareness and high insurance premiums despite the high depreciation rates that are announced by the Ministry of Commerce every financial year. For this purpose, we specifically look at Motor Insurance as a subsector in India, where insurance for motor vehicles has been mandated under the Motor Vehicles Act, 1988. The mandate has been in place for a long time in India, but multiple statistical analysis show that there are large gaps in the insurance coverage for this sector, in some cases going to as much as 1/3rd of the total number of vehicles in the segment. The paper further tries to see the causes behind such gaps, and analyses the actions taken to plug such gaps on a war footing. The paper further explores the pricing phenomena behind insurance products in India, and how penetration can be increased without a significant dent in the operating margins for insurance companies, which have been working on razor thin margins for a long time, and in many cases, incurring losses to increase their respective market share.

Pursuing Insurance: Arcane Secret behind a Blooming Economy

Introduction

India is a country which is steadily gaining ground in the field of economic development. Abound with the prospect of becoming a haven for financially prudent minds, promising the capital of businessmen, safety from the caprice of market; and safeguarding the hard earned earnings of the average agriculturists from the whims of nature. It is replete with potential to burgeon and bloom. Pertinent questions crop in the mind after taking into account, factors like:

- Despite such fertile grounds of economic prowess, why does the growth of insurance sector stay stagnant and sterile?
- Despite the Government's will towards bolstering the insurance industry to make considerable strides, what falters it?
- Despite the increased financial capabilities of the citizen, and ever persistent vagaries of the world, what deters him from forging a financial alliance with insurance instruments to safeguard against them?

Insurance is an instrument for protection from financial loss, it's a means of indemnification for the loss occurred. It is a form of risk management, primarily used to hedge against the risk of a contingent or uncertain loss[1].

Understanding the Factual Position

The Insurance Regulatory and Development Authority of India (IRDAI) in its Handbook on Indian Insurance Statistics, 2016-17 provided that India had about 328 million life insurance policies in 2017, Assuming each policy corresponds to a unique citizen, this accounts for only 25% of the population having life insurance cover, leaving the large population of 75% or 988 million Indians without an insurance cover[2].

IRDAI data reveals that insurance industry's penetration increased marginally to 3.70% in FY 2018-19 from 3.69% FY 2017-18,. So far, the industry has recorded highest penetration of 5.2% in FY 2009-10. In terms of density, insurance industry witnessed an increase in density from $73 to $74 in FY 2017-18. Compared to advanced economies, India performs unimpressively in terms of density. The global average of density is $682 in contrast to $74 in India; the highest density in the world is in Hong Kong with $8,863.

Indians remain woefully unprotected from life's caprices. In the event of the death of an earning member, an average Indian has only around 8% of what may be required to protect his or her family from financial shock. Citing the observations of a report by India Spend, a data-driven public interest journalism initiative, "This is much lower than the insurance coverage adequacy of 44% in Japan, 84% in Taiwan, and 67% in Australia," the report, released on Jan. 15, assessed[3].

As of March 2016, the rising participation of private players led to an increase in their share in the life insurance industry, with the market share reaching 29.6% in FY16 from 2% in FY03[4].

Considering the contemporary analytics of the market, the insurance product which has made apparent its prominent penetration of the market is the Motor Vehicle Third Party insurance. The reason behind the high market penetration of Motor Third Party Insurance is, the government's will and mandates steadfastly backing it. The market has been bullish for the past few months, relying earnestly on the general insurance industry's growth prospects. It is imperative to note that the sudden positive anticipation towards the upsurge in the growth of insurance sector has been based, precariously, on the increase in Third-party motor insurance penetration in the populace. The ' promising, yet unpromising ' profligation of Motor Third-Party insurance poses is a paradox for the insurance industry. All factors augur well for the increased penetration of Motor Insurance, yet, its performance stays lukewarm. Despite a regulatory compulsion, to procure a Motor Insurance, the transgression of which will be met with punitive action; many vehicles still remain uninsured. Vehicle owners often do not renew their policies beyond the first year/policy which is attached to the purchase of the vehicle. According to

industry players, insurance compliance with commercial vehicle operators is relatively higher than vehicles owned by people residing in the interiors; the lowest compliance being observed in the two-wheelers segment.

The faith in increase of Motor Insurance penetration has been intensified, owing to two factors. First, the Supreme Court has made it mandatory for vehicle buyers to purchase three- and five-year TP policies on purchase of new cars and two-wheelers, respectively. This will reduce the risk of slippages in second to fifth year; insurers have the option of attaching single or multi-year own damage (OD) policies along with such TP policies. Secondly, the new Motor Vehicle Act, 2019 (which increased traffic penalties on uninsured vehicles) is driving penetration in motor TP as well. Motor insurance had the largest (38.8%) share of general insurance market, with gross premiums of INR607.2 billion (US$9.3 billion) in 2017. An increase in automobile sales and a 2018 regulation mandating sale of three and five year third-party insurance policies on new vehicles, both contributed to its growth. A recently passed law that penalizes driving without an insurance policy is also expected to contribute.

At present, the government has been trying to bolster the efforts to increase the penetration, and grow insurance coverage by introducing schemes for the protection from risk, principally for the socially and economically susceptible sections of the Indian society. Though, the same are inadequate considering the global parameters in coping with the present deficit. But, in practice, it's a heartening step towards progress.

Initiatives by Government to Ensure Insurance

- Measures to increase Insurance Penetration: Opening offices by Insurers in Tier-II and below centers now does not require prior approval of IRDA (subject to compliance on solvency and expenses) as per IRDA Places of business Regulations-2013.Most categories of Business Correspondents approved by RBI are now eligible to become Micro Insurance Agents[5]
- IRDA has made KYC of Banks applicable to insurance policies for POI (proof of identity) and POA (proof of address) purpose provided a copy of such Bank documents are made available[6]
- IRDA has issued IRDA (Licensing of Banks as Insurance Brokers) Regulations 2013 to enable and equip banks to work as brokers for multiple insurance companies with RBI approval[7]
- IRDA has issued the Linked and Non-Linked Product Regulations which aim at improving benefits offered: on death, on surrender, and on maturity. It, also, caps the charges levied under linked products and aims at improving persistency levels[8]

A Ray of Hope for Growth

The various insurance schemes launched by the Government of India, crafted with a positive, noble, and socialistic objective in mind, have not yet reached its finish line because of various indigenous impediments like corruption, lack of awareness, bureaucratic hassles, and red-tapism. Insurers have traditionally found it difficult to target low-income customer segments or semi-urban, rural customer segments viably. Regulatory requirements, as well as, government schemes, such as PMJBY (Pradhan Mantri Jeevan Jyoti Bima Yojana) or, PMFBY (Pradhan Mantri Fasal Bima Yojana), have surely incentivized insurers to target such segments, but they still have a considerable chunk left to yield. The headroom for growth has always been there but lack of awareness among customers and low viability of distribution infrastructure did not transmute the potential into the fruitful fruition of the opportunity[9].

The insurance industry has witnessed a rise and fall in its penetration levels since 2000. In accordance with its annual report, IRDAI states, during the first decade of insurance sector liberalization, the sector reported a consistent increase in insurance penetration from 2.71 percent in 2001 to 5.20 percent in 2009 after which there was a steady decline until 2014 (3.30%).

This gives a window for the private market to grow and shine. The launching of the schemes and its actual fructification are two separate scenarios. The intent loses its worth when the plan does not bear a sufficient yield. As an industry, there is requirement to keep a discerning and perceptive sight of the market to capitalize on an opening or an opportunity. The Government, taking the precedents into consideration, shall always be unwilling to take political risks and that is the window on which the industry should prosper. The Indian insurance industry had a CAGR of 10.49% over the past 11 years[10].

Identifying the Limitations Attached to Less Penetration

There are numerous limitations that are attached to the insurance sector in the present market conditions, and with the present mind-set of the Indians, at large. Identifying limitations helps in narrowing down, and homing in, on the issues that have undermined the penetration levels in India. It's prudent to work simultaneously in identifying and rectifying the same. Identifying helps in better planning.

Firstly, the rural sections of the Indian society remain largely aloof about the benefits associated with insurance instruments, consequencing the insurance sector to leave untapped areas of promising potential. Approximately, 700 million Indians reside in rural areas, and around two-thirds of the workforce is engaged in agricultural and agro-based industries, evidencing the rural nature of India's economy. Despite marginal proportions being aware of such policies, the perfidious correlation of their finances with the whims of seasons engenders an income insecurity which further engenders an apprehension from procuring insurance services.

Secondly, awareness is scant, regarding the products and insurance sector, in entirety. Only a small proportion of the total, from the rural as well as urban India, have adequate and accurate knowledge regarding insurance and its importance. Overall, there are insufficient levels of awareness in India about insurance products. Consequently, even when people opt for insurance policies, they trade proficient coverage for paltry premiums, ironically, defeating the very purpose of the insurance instrument. Furthermore, when we discuss about the economic divergence of channels available to perpetrate awareness about the importance of insurance products, we strike another major impediment: obliviousness of people about the financial security assured by insurance instruments.

Thirdly, there is limited data for pricing. The insurance product which bears the most brunt of this limitation is motor TP insurance. For instance, according to a report published in 2012 by the road transport authority, the driver's fault accounts for a whopping 77.5% of the total road accidents. Yet the pricing is based more on the year of manufacturing of the vehicle, engine capacity, price and the zone in which the vehicle is bought and less on the age, occupation and credit score of the driver and usage of the vehicle.[11]

Fourthly, breach of trust at the hands of the insurance agents engenders deterrence for the peers from procuring insurance instruments.

Fifthly, the lack of pure protection products. Maximum products are not purely protective, but are endowment products that offer protection and investment features to a buyer in the market.

Sixthly, the products are sold on false pretexts and on the basis of unethical market maneuvers, which yields a bad reputation for the industry. Lack of competency building measures of the agents is also a factor that impacts the market negatively.

Seventhly, the avarice for generating copious profits has resulted in peaking the rates of premium, overlooking the financial limitations of considerable proportions of demography, and, hence, resulting in superficial penetration, since not all can afford such hefty premiums. Insurers sway from the objective of underwriting businesses to generating massive profits, often overlooking the paradox at play. What's more, they do so at the cost of distorting the pricing for individuals. Many general insurance policies like health, personal accident, etc. are sold both as group and as individual policies[12].

Eighthly, barring the Motor insurance sector no other insurance has been mandated by the Government[13]. Though there exist various notifications and relaxations in certain fields like agriculture etc.

Ninthly, the legal battle that one has to go through after a claimant claims for the insurance itself is taxing and it acts as a bar for the other customers who take inspiration from such incidents.

Suggestions That Might Bring Good News

Though the situation is risky and governed by economic factors, there can still be efforts that can be made so that in the times to come there can be intensive insurance penetration in India.

1. **Digitization of the documentation and other formalities:** Basically the problem lies in the inconvenience that one has to bear while getting an insurance done. If the forms and the other formalities are digitized the same can lead to more effective selling of the insurance products and the same is cost effective for the Insurer as well. Inspiration of the same can be taken from various telecom service providers for example Bharti Airtel; the agents of this telecom giant will come to the doorstep with only a mobile or a tablet and shall carryout all your documentation and formalities without one having to actually do anything in that regard. Uses and development of applications for mobiles should also be encouraged so that it can act as a plus point for the product.
2. **New products:** Evolving needs and growing niches will impel innovations in development of the product, and subsequent enhancements in nuances of the product. E.g. cyber risk, fine arts, extended warranty products will become more prominent[14]. The products need to cater to the contemporary demands of the public and the product should be mutable enough to allow widening of its ambit, so as to take varied categories of items in its scope.

3. **Customized offers:** A strait-jacket formula constrains the potential of the product to target a myriad of customers. There have to be options which facilitate catering to the needs of an assortment of potential customers — rich or poor, old or young, businessman or service-man, etc. The rates of premiums have to be flexible enough to allow customization, so as to, meet the needs of a diverse pool of customers, consequently, expediting the increase in thorough penetration. Blanket offers and products catalyze stagnation. They retard the development of the sector by limiting the outreach to a select few.

4. **Rural areas should be turned into hotspots or areas of maximum potential:** Every insurer must maintain an index of areas, detailing the potential these area hold. The workforce of offices situated in these localities must have considerable proportions of people belonging to the locality so that they can lend the benefits of their socio-cultural familiarity to increase the market penetration of the product. Anecdotal wisdom directs that dwellers of rural localities prefer familiar faces to entrust their faith, than unfamiliar faces. Furthermore, the insurance offices can take assistance of the Panchayat, or other local governing bodies, to conduct awareness-generating sessions. Goodwill amongst people can be perpetuated by distribution of merchandise such as: pens, notepads, cups etc. The schemes in the rural area should be area specific wherein the people can find the need of taking such risk of putting in their hard-earnt money.

5. Awareness in Urban areas can be increased manifold by improving upon certain aspects of marketing. Promotional tactics such as use of banners, canopies etc, have faded into obsolescence. They do not lure the members of the younger demography, which hold promising potential as prospective customers. Youth can be targeted by interactive maneuvers executed in schools and colleges, like, conducting seminars where the speakers are young eminent personalities, so as to strengthen the connect between addressor and addresses; and holding quizzes having exciting prizes for the winners. Such measures will increase the impact of the exposure on their minds. When it comes to capitalizing on this promising part of the demography, then monotony is to be strictly veered away from, whereas, interactiveness must be deeply embraced. Also, intensification in collaborations with big brands will result in greater social media exposure. Hence a need for allowing an increased number of eyes viewing the product.

6. **The agents and the insurance officials must be conditioned to adhere to ethical practices:** Transgressions must be strictly dealt with, so as to, set a precedent that will deter other agents from indulging in unethical practices. The agent must be apprised about the ramifications of their indulging in unethical practices, making them cognizant about the ill-repute the company gathers due to their ill-deeds.

7. Pure Protection products should be encouraged as there is a dearth of the same and implementation of the same can be an innovative idea in attracting clientele. Also, on a humanitarian consideration as well, it is pertinent that the products should be protective in nature. Schemes and features are fine but the main focus should be on purely protective products.

8. The dynamics of the market are such that high premiums are the biggest reasons for the lack of penetration in Indian Market. The premiums should be decent enough but not in any way a burden on someone's salary or financial Capacity as this discourages one product holder to get the policy renewed and due to high pricing the new buyer and a potential one is unable to afford the same. In various countries in Europe or for that matter any country which has more penetration rate than India the difference maker is the rate of and pricing of the premiums. If the premiums remain pocket friendly the people would get attracted and get into the circle of getting and buying an insurance. The profit on each policy/product sold might be less but the volumes shall increase and this game is of volumes the more you sell the more profit one makes. For example- if an insurance were an apple and the rate of one apple is Rs.100, in the market only a few people can afford to take the same and let's say 10 people buy the product, the money earnt is Rs.1000 but at the same time if the money one was to spend was Rs.50 there will be around 30 people willing to take the product the money earnt on this shall be Rs.1500. So keeping it pocket friendly and in the reach of common man is pertinent. Also, the small business and start-ups should also be covered in this as no one knows what the start up or new business can turn into. Also, if 100 people buy insurance not everyone

claims the same and if such is the situation then why can the relaxation in premiums not be granted.

9. There should be joint operations in the insurance sector in rural areas where the Government is the only Insurance provider. So, the Government can think of and shall give out mandates and relaxations which shall further lead to more clientele and at least an opportunity to expand the insurance sector. Furthermore, there should be discussions and meetings with the Government officials sensitizing them about the importance of insurance, so that they can also think about it as a public service and not a money making drive. There should be representations to the Government to provide for compulsory insurances like fire insurances etc. that can save the money of the common man in case of an incident/ accident.

10. The lust and hunger for earning profits should not be so much, that the insurer goes to the nitty-gritties of the issue in order to release the insurance claim. One must always understand that at the end of the day it's the humanitarian work that has to succeed. If a person who has recently lost someone or the person has recently gone into a fierce legal battle with the insurer this reflects badly on the latter. The intent here is not to fight if there exists a mala-fide but the small technicalities that come into play should be avoided so that the people can trust the insurer and further talk about the same to others and as a result it leads to promotion of the product. Legal battles especially undertaken by the insurer for delaying the cases must be discouraged.

Conclusion

Fun is like life insurance; the older you get, the more it costs.

-Kin Hubbard

Not all hard times require difficult decisions. Sometimes all you need is to get back to the basics. India, as a market coupled with its promising demographic advantages, has the potential for the insurance sector to burgeon and bloom. It awaits to be tapped into, and capitalized, with the help of right marketing maneuvers and effective policy crafting. The present stagnation can be treated with small, yet efficacious measures being deliberately strategized and assiduously implemented. The consequence will be a promising upsurge in the levels of penetration. Adoption of a humane outlook while deciding on business plans, keeping in mind a larger set economically ill-privileged residing in rural areas, who are in utmost need of the financial security promised by insurance instruments; it will help reap greater benefits in the long run vis-a-vis increased penetration. Also, it might soften the perceptions of the customer; the semblance of trust and faith might motivate greater reliance by people on insurance sector. There needs to be specific and area wise study of the rural sectors to locate and mark the potential targets. Customized products and innovations are the need of the hour and their pertinence cannot be understated. It is imperative to make advances in these aspects of marketing in the insurance sector. The objective should not be merely to grow, rather, to ensure that every single Indian who has the means to afford insurance must have been motivated enough to have procured the safety of one. There should be no stone left unturned while increasing the insurance penetration level in India. The need of the hour is to assess the contemporary trends. Modern marketing initiatives must be ushered in, whereas, obsolete and dated techniques which do no longer possess the same efficacy and allurement, which they earlier had, need to be rendered redundant.

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Technical Paper Essay Competition (Health)

Solutions for Health and Wellness Insurance

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Abstract

India faces a double burden of disease. Firstly, due to communicable or infectious diseases and secondly, due to Non communicable and man-made health conditions. The country is transitioning from "The age of receding pandemics" to "The age of degenerative and man-made disorders". In terms of Burden of Disease measured in DALYs, approx.50% of the share is attributed to NCDs. A high share of stroke, injuries, hypertension, diabetes, cancer and respiratory disorders has been due to insufficient and suboptimal public infrastructure for Primary Health. Since the Bhore Committee Report (1948), it has been established that wellness and primary health is the foundation to ensuring decentralized, free of cost and universal health for all that can be State administered. However, the public infrastructure has been insufficient, thus opening a gateway for private players in wellness and primary health insurance.

A primary health and wellness seeker with a paying capacity is inclined towards private care considering factors like better quality of care, freedom to meet specialists, lesser waiting time and

accessibility. The country witnesses a stark 68% of OOP expenditure which is towards doctor consultations, specialist consultations, pharmacy bills and lab tests. This opens a vast opportunity for insurance in wellness and primary health segment. Health Insurance has been recommended by the WHO to ensure basic health needs for all. However, when health insurance in India is explored, fragmented insurance from communities, governments and private insurers leaves the primary health financing unattended.

International models for wellness and primary health provisioning from Thailand, China, Indonesia, South Africa, South Korea and Dubai were compared. Capitated payment models, gate keeping, aggregation of wellness services, financing mechanism for out-patient care, cross subsidization of premiums, progressive taxed based premium strategy, decentralized and home based care, use of enablers like technology and monitoring framework were observed to be key drivers of wellness solution.

Wellness and Primary health products within Indian market were analyzed. Practo technologies, India Health Organization, Apollo Munich, Portea Medical, Narayana Health and ICICI Lombard were assessed. Capacities for aggregation, data tracking, outreach via home care, cashless primary health, gatekeeping and comprehensive health financing were seen in the Indian market.

Basis the learnings from international and national models, key factors of successful wellness and primary health insurance solutions were recommended. Recommendations were further bifurcated into private sector & public sector and short term approach & long term approach.

Solutions for Health and Wellness Insurance

– A study of the Indian scenario, wellness and primary health insurance in national and international context

1 History of Health Planning in India

India documented its first National Health Policy in 1982-83, about 35 years after it achieved independence. Health decisions in terms of strategy, identification of public health concerns, allocation for resource mobilization and expert public health planning were conducted through Five Year Plans of the Central Government of India prior to this policy. Despite Health being a State subject as per the Indian Constitution, there was a central control over the health planning for all the States.[1]

1.1 Bhore Committee Report

The most comprehensive and detailed Health Plan for India was prepared on the eve of Independence in 1946. This was called the 'The Health Survey and Developmental Committee Report', also known as the Bhore Committee Report. The report detailed a plan for National Health Service which would provide a universal health coverage to the entire population free of charges through a state managed salaried health system.

The Bhore Committee endorsed the following in formulating its plan for a National Health Service:

- The services should make adequate provision for the medical care of the individual in the curative and preventive fields and for the active promotion of positive health
- These services should be placed as close to the people as possible, in order to ensure their maximum use by the community, which they are meant to serve;
- The health organization should provide for the widest possible basis of cooperation between the health personnel and the people;
- In view of the complexity of modern medical practice, from the standpoint of diagnosis and treatment, consultant, laboratory and institutional facilities of a varied character, which together constitute "group" practice, should be made available;
- Special provision will be required for certain sections of the population, e.g. mothers, children, the mentally deficient etc.
- No individual should fail to secure adequate medical care, curative and preventive, because of inability to pay for it and
- The creation and maintenance of as healthy an environment as possible in the homes of the people as well as in all places where they congregate for work, amusement recreation, are essential (Bhore, 1946: II.17).

Thus a focus on a comprehensive wellness in health by ensuring availability of primary health units was underscored since the first Health Report for the nation. In the long term plan of the report, recommendation for development of a primary unit for each area to cater to comprehensive health needs of the people including Nutrition for People, Health Education, Mother and Child Health, Health of Industrial Workers, Health Services for School Children, etc. was provided in the second volume of the report. An integrated approach to improve the health needs of the people

through a Socio-economic perspective was suggested by focusing on nutrition, clothing, housing and adequate environment.

In the short term plan on the report a vertical approach of Health Programs to cater to the immediate health concerns of the people was suggested. This included programs for management of Tuberculosis, Malaria, Cholera, Plague, and Cancer mental Health Disorders, Hook Worm Disease, Leprosy, Filariasis etc. was suggested.[2]

1.2 Other Progressive Health Planning Reports and Policies

Since then, the chronological order of national reports and key recommendations are underscored below -

1.2.1 Mudaliar Committee Report, 1962

The role of this committee was to assess the implementation on the Bhore Committee Recommendations and provide a way forward. It directed attention on the shortage of Health Personnel and their training in the Primary Health Centers (PHC). It also suggested inadequate infrastructure of the PHCs. PHCs to cater to a population of greater than 40,000 population and strengthening the quality of health care through these primary units was suggested[3]

1.2.2 Chadah Committee Report, 1963

The role of this committee was to monitor the progress of the National Malaria Eradication Program (NMEP). Attention to Family Planning and data collection was drawn

1.2.3 Mukherjee Committee Report, 1965 and 1966

The role of this committee was to supervise the progress of the Family Planning Program. It declared a camp based approach to family planning a failure and further propagated the use of IUCD, suggested monetary incentives to the acceptors of Family planning options and incentives for private medical professional for helping achieve sterilization targets.

1.2.4 Jungalwalla Committee Report, 1967

This committee was also known as the Committee on Integration of Health services, it focus on the larger question of looking at the Health services as one approach. Directives to improve working conditions, unified cadre and equal pay for health services was suggested.

1.2.5 Kartar Singh Committee Report, 1973

This committee looked at the multipurpose workers in Health services and their utilization in the Family Planning Program. The committee suggested that a PHC only cater to a population of 50,000 and further that each PHC further have up to 16 Sub centers to disperse health program and preventive care.

1.2.6 Shrivastav Committee Report, 1975

This committee was set up provide expert advice on Medical education and Support Manpower. It outlines the hierarchy of Medical officers in the health systems and suggested Referral Matrix for cases to secondary and tertiary centers.

1.2.7 Bajaj Committee Report, 1986

This committee was concentrated on the Health Manpower Planning, Production and Management. This was the last report before a national Health Policy draft was created and a final version of NHP shared in 2002.

1.2.8 National Health Policy, 2002

The national Health Policy 2002 drew attention again on giving primacy for prevention and first line curation initiative, emphasizing streamlining of Traditional Indian Medicines and method of rational drug use. The policy further outlined plans for management of epidemics concerning the country at the moment, namely Polio and Yawa, Leprosy, Kala-azar, Filariasis, HIV/AIDS, Tuberculosis, Malaria and other vector borne diseases

1.2.9 National Health Policy, 2017

The NHP 2002 served as a guiding document. The NHP 2017 however expounded on the changing health scenario in India, including the burden of non - communicable diseases in India. It emphasized on development of Health and wellness centers across the country to strengthen the primary health structure. This involves reducing the out of pocket expenditure and catastrophic expenditure, enhancing fiscal capacity and widening health financing deficit. (Mohan, 2017). The Ayushman Bharat programme launched in 2018 included the health insurance component of Pradhan Mantri Jan Arogya Yojana (PM-JAY)

All the health reports and policies have identified an integrated health approach where wellness through primary, preventive and promotive health was to be strengthened by education, focus on vulnerable groups, affordability, accessibility and availability. However, a focus target based approach of vertical health programs took over the comprehensive approach.. Notwithstanding the fact that such

vertical programs helped alleviate the burden of disease and illness of epidemics, a long term approach on primary health needed immediate attention. As the policies evolved considering the public health situational analysis, the need for wellness and primary health care, focus on lifestyle and communicable diseases and affordability of the citizens became more and more stark.

2 Current Health Status in India

India is going through a period of transition - both epidemiological and demographic. Infectious diseases prevail as a health concern, despite of Health Programs which are vertical in nature. A common concern demonstrated by all the expert reports in Section 1 was lack of attention towards preventive and primary health. Additionally, a trend in increase in lifestyle disorders has also been on rise across the country due to factors such as modernization and urbanization. (Baridalyne, 2004). The country thus faces a double burden of disease; the first from the receding, but still persistent epidemics, infectious and communicable diseases, the second from rising human influences diseases or non-communicable diseases.

2.1 Burden of Communicable and Non Communicable Diseases

Disability Adjusted Life Years (DALY) is a measure of overall disease burden. It is expressed as the number of years lost on account of ill-health, disability of early death. We will be looking at the burden of disease in India to understand the major health condition inflicting the masses.

As per National Commission of Macroeconomics and Health, a total of about 50.3 % share in burden of disease is constituted to Communicable Diseases while the remaining 49.7 % share in burden of Disease is constitute to Non-Communicable Diseases. Please refer to Table 2.1.

Tuberculosis, HIV/AIDS, Diarrheal Disease, Malaria, Leprosy, Childhood disease, Otitis Media, Maternal and perinatal conditions and others constitute communicable diseases. Cancers, Diabetes, Mental Illness, Blindness, CVDs, Chronic Obstructive Pulmonary Disease (COPD), Injuries and others constitute to non-communicable diseases.[4]

In this paper, we will focus on Non-Communicable Diseases, since they are preventable and fall in the realm of preventive, primary health and wellness.

With almost 50% of the burden of diseases falling in the non-communicable disease bracket, it is clearly visible that primary health has been neglected in the country and the same needs strengthening. To further understand the types of Non Communicable Diseases, a further bifurcation in terms of Morbidity and Mortality of the NCDs was assessed.

Table: 2.1 Health Conditions and Disability Adjusted Life Year (DALYs) Lost in India

Disease/health Condition	DALYs Lost (x 1000)	Share in the total burden of Disease (%)
Communicable Diseases, Maternal and Perinatal conditions		
Tuberculosis	7,577	2.8
HIV/AIDS	5,611	2.1
Diarrheal Diseases	22,005	8.2
Malaria and Other Vector Borne Conditions	4,200	1.6
Leprosy	208	0.1
Childhood Diseases	14,463	5.4
Otitis Media	475	0.1
Maternal and Perinatal Conditions	31,207	11.6
Other	49,517	18.4
Non Communicable Diseases		
Cancers	8,992	3.4
Diabetes	1,981	0.7
Mental Illness	22,944	8.5
Blindness	3699	1.4
Cardiovascular Diseases	26,932	10
COPD and Asthma	4,061	1.5
Oral Diseases	1,247	0.5
Others	18,801	7.0
Injuries	45,032	16.7
All Listed Conditions	200,634	74.6
Others	68,319	25.4

COPD: Chronic Obstructive Pulmonary Disorder

Source: Peters et al 2001

2.2 Morbidity and Mortality Patterns of Non Communicable Diseases

Over the past two decades a significant increase in life expectancy has been registered in India from 60.44 years to 68.3 years. Despite of an increase in life expectancy India still lags behind by 15 years from an ideal life expectancy in Japan. This increase in life expectancy has been result of partially successful vertical interventions to address communicable diseases and epidemics. However, as scenario of the nation is changing due to urbanization, industrialization and globalization, a different set of health conditions are emerging as a trend – Non Communicable Diseases. (NCDs). (Baridalyn, 2004). As referred earlier the country faces a double burden of disease both from Communicable and Non-Communicable Diseases.

NCDs are responsible for a total of 32% of death in the country[5] (approximately three million deaths each year). Of the total, Cardiovascular Diseases (CVD) add up to 13%, injuries constitute to o 8.7% and chronic respiratory diseases amount to 6.7 %. Cancers constituted to 3.4% and Diabetes constituted 0.2%.

The prevalence of hypertension is a substantial 10-15% amongst the urban adult population and approx. 3-8% in rural locations.[6] Rheumatic Heart Disease (RHD) is observed to be prevalent as 5-7/1000 in the age group of 5-15 years. There are is a reference of about 1.9 million RHD cases in India, leading to a hospitalization rate of 20-30% across all CVD cases in India.[7] It has been estimated that about 1 million cases of stroke are reported every year in the country, of which about 100,000 cases lead to death. However this number can be underestimated since not all the strokes are recognized for which treatment is sought.[5] Based on the data available, about 2.5 million cases of Ischemic Heart Disease (IHD) are estimated in the country each year.

Table 2.2 Estimated Morbidity and Mortality Due to NCDs in India

NCD (Year)	Morbidity		Mortality	
	Total No. of Cases	Source of Data	Total No. of Cases	Source of Data
Cancer (1998)	593,803	Cancer Registry	292,557	National HH Survey and Death Certification
IHD (1998)	25 Million	From Ad Hoc Surveys	119,936	National HH Survey
Stroke (1998)	1 Million	From Ad Hoc Surveys	102,620	Rural HH Survey and Death Certification
Diabetes (1998)	28 Million	From Ad Hoc Surveys	21,000	Based on Hospital Data
Chronic Respiratory Disorders (1998)	65 Million	From Ad Hoc Surveys	577,837	Rural HH Survey and Death Certification
Injuries (1998)	6.9 Million	From Ad Hoc Surveys	749,983	Rural HH Survey and Death Certification

Source: NCD in South-East Asia Region – A profile. WHO. New Delhi 2002

The International Diabetes Federation has estimated about 32.7 million diabetics in the country. More recent studies of WHO estimates it at 28.7 million[5].

Non-communicable diseases mentioned in Table 2.2 lead to co-morbidities and complication that reduce the immune response and fighting capacity of the body. For example, injuries of the brain can lead to vegetative state like Coma or a State of Loss of Independent Existence. A heart stroke can cause permanent paralysis. Diabetes can aggravate eye conditions like Glaucoma and Cataract. Further infections to respiratory diseases become more likely in case of a pre-existing condition of Diabetes. Aging population of 60-65 years of age is at higher risk of contracting NCD, however the morbidity is seen to be increasing in urban and men and women.[4]

The burden of Non-Commutable disease being approx. 50%, adding a further likelihood of critical illnesses that might be irreversible it is highly imperative to address these conditions at an early stage. This takes us back to section 1 where emphasis on prevention and primary health services; nutrition, environmental hygiene, healthy working conditions have been highlighted. Further free of charge services state run health services have been recommended by the Bhore Committee. Infrastructure and Resources Available for Primary Health.

2.2.1 Primary Health Infrastructures

Health in India is a State subject. The Central Government supported Health Spending with approx. 28.4% and the

remaining 71.6% came from the States for the year of 2013-14.[8] Not all states in the country can contribute equally for the people. Thus the distribution of health facilities can be seen more organized in some states than in others. Further in each state the spending on the curative treatment is much higher as compared to primary care. For Example for the year of 2013-14, the amount spend on primary care by the government was only 25% of the total spending. Thus a challenge in development of Sub centers/ Primary Care Center and Community Centers can be noted.

As per Table 2.3, the number of primary care infrastructure has increased over the years of 1951 to 2000 from 725 to 163,181.There were 23,391 PHCs and 145,894 sub-centers in the country as on 2005 (Sriram et al 2018). However, the number of PHCs and Sub-centers required in the country as per the Indian Public Health Standards (IPHS).

Moreover, the functionality of these centers is reduced due to unavailability of the Medical officers, Class IV employees, staff nurses, drivers, health educators and clerks. Unavailability of drugs, laboratory reagents, Inpatient facility and labor rooms at the government facilities has also been critiqued in the public funded structure.

The country had a bed capacity of 0.67 per 10000 population for the year of 2002 as compared to the WHO guideline of 3.5 and a global average of 2.6 for the year. More than 80% of public health facility in rural areas does not meet the IPHS standard.[9]

2.2.2 Medically Trained Doctors, Nurses and Allied Health Professional

The country had 1.7 allopathic doctor for 1000 population in the year 2000 as compared to the WHO recommendation of 2.5 doctors. The scarcity of allopathic doctors stems out of two major factors. Firstly cost of medical education is high. Seats in government medical colleges are limited, thus aspiring medical students turn to private medical colleges. Search of better paying work opportunities leads to a second problem - preference to specialization over generalization. Also, general physicians and specialists stop practicing and move towards health management, consulting, and similar jobs. This creates a dearth of general physicians.

Medical staff including nurses, doctors and allied health professionals are paid on a salaried basis by the government and a parallel practice private has been banned. The payments in the private hospitals and health organizations are more attractive. Frequent attrition is seen.. Another factor that affects the staffing is the contractual and permanent hiring structure. The salary for a contractual staff is much less as compared to a permanent staff.

Ayurveda, Yoga, Unani, Siddha and Homeopathy AYUSH doctors, which are considered to be the traditional doctors of the country are being trained to be brought in the forefront to practice Allopathy to meet the rising demand of the general physicians in the country.

Health Financing Mechanism both, for the Health and Allied Health Staff and for the general population play a very important in ensuring accessibility and affordability in a Health System. It is clear from section 2.3.2 that financing to public health and allied health officials needs to be improved to ensure the health needs, especially if primary health needs are to be met.

2.2.3 Urban Rural Divide

In the rural areas there have been two major factors leading to a divide for health services. The first is inadequate government facilities for primary health and the second is the private practice of 'quacks' posing as doctors.

The NSSO rural statistics convey that about 80% of facilities in rural areas fail to meet the IPHS standards. No water or electricity supply, no facilities to commute by road, inadequate medical and allied staffing, absence of labor rooms and beds, and availability of specialist quarters have are few points for the failure.

The private practice of doctor clinics does not have a robust monitoring framework and thus medicines catered to the rural population has caused more

Table 2.3 Health Infrastructure Indicators Through the years 1951 – 2000

Year	1951	1981	2000
Sub Center/Primary Health Center/ Community Health Center	725	57,363	163,181*
Dispensaries and Hospitals (All)	9,209	23,555	43,322**
Doctors (Allopathic)	61,800	268,700	503,900+
Nursing Personnel	18,054	143,887	737,000#

** 1999 Rural Health Survey, ** 95-96 Central Bureau of Health Investigation, + 1998-99 Medical Council of India, # Indian Nursing Council*

Source: National Health Policy 2002

harm to the patients than providing relief in some cases. Allopathy is practiced by private providers without a valid authorization.

The urban areas on the other hand have better facilities – both public and private, and both preventive and curative. However, more than 75% of the population of the country still resides in rural areas in the country.

2.2.4 Role of Private Sector in Health

With a low public GDP spending in Health, initiatives for Public-Private Partnership and involvement of Private Health Players were implemented. However the regulation on the private health sector in health still remains a challenge for the country. Private Sector has created approx. 70%new beds from 2002 to 2010 in curative health. As per NSSO morbidity and Healthcare survey 2004, 72% of the total out-patient consultations very conducted by the private sector.

The primary source of healthcare for almost 70% of the urban population is the private infrastructure. This constitutes mainly Out Patient Services of Existing Hospitals, Clinics & Polyclinics (GPs, Specialists): 6.5 – 7 Lakh Clinics. Diagnostics Centres & Path Labs: 70,000+ centres including those operating within hospitals and Pharmacies.

The private pharmaceutical market grew by 15% per annum and private diagnostic service providers grew from by 20% during 2004-09[10]. The Private Insurance market has also increased in the past years however, the focus has remained on In-Patient insurances. Only recently products in wellness and primary health insurance can be seen in the market.

Concerns about a central framework for regulation of private health industry remian. High prices for drugs, diagnostics or consultations have not been regulated by the government to ensure affordability. A quality management audit or medical ethics audit is not conducted by the Center or the State on all the private health providing entities.

2.2.5 Pathways for Wellness and Primary health Seeker in India

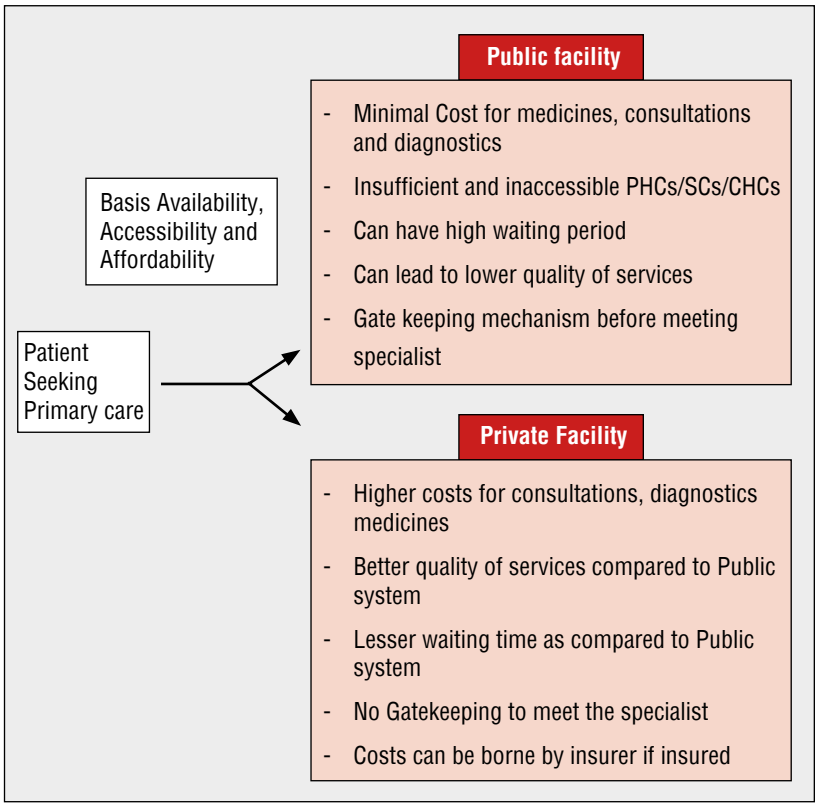
Currently the journey of a wellness and primary health seeker in India can be understood as per Figure 2.5. Due to the various factors mentioned in section 2.3.1, 2.3.2 and 2.3.3, the wellness and primary health seeking behavior is tilted towards private facility for the population which has Out of Pocket Paying Capacity or is insured for primary and preventive care.

2.3 Health Financing Mechanisms

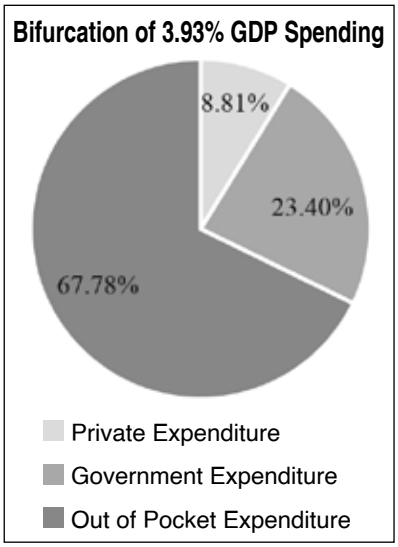
According to the World Health Organization, the total expenditure on health as a proportion of the total GDP was 3.93% for the year of 2015. Of this 3.93%, the government expenditure on health 23.40%, the out of pocket expenditure was 67.78% and the private expenditure was 8.81%[11] for the year 2015.

This implies that out of the total spending in health in India, the costs borne by the patients out of their pockets accounts to about 68% of the total spending. In the year of 2011 about 29.99% of Indian population experienced catastrophic and impoverishment expenditures due to the health conditions faced.[12] Average cost borne per capita was between 35-45 US $.[9]

Figure 2.5 Options for Wellness and primary health Seeker in India



2.4 Bifurcation of Total GDP Spending in Health in India



Source: National Sample Survey, 68th Round, Household Consumer Expenditure, 2011

In comparison with other countries like Japan, Germany, China, United Kingdom and Unites States, India has the highest Out of Pocket Expenditure and the least government expenditure on health as a percent of GDP. The average GDP percent expenditure on health in the world is 10.3%, of which the average government expenditure is about 67%.[13]

It can be seen that about 67% of out of pocket expenditure (OOP) for India is attributed to doctor consultations, specialist consultations, pharmacy bills and lab tests. Indirect OOP like loss of wages, transportation costs and nutrition specific health costs are not included in this calculation.

3 Health Insurance – A Solution to Reduced Health Spending in India

Health Insurance has been thought of as a possible solution to overcome health challenges emerging from inadequate government funded health infrastructure, resources and training in India. The current health insurance industry in India can be bifurcated into the following four broad groups.

3.1 Government run Health Insurance scheme

3.1.1 Employer State Insurance Scheme (ESI)

ESI is the only form of social and health insurance available in India at the moment. The scheme was developed to cater to the employees and the dependents for sickness, maternity, disability, rehabilitation and death due to employment injury. The service are provided through a network of government hospitals, Ngo/ trust hospitals and empanelled private entities. An employee is expected to pay the ESI contribution through his wages for at least 156 days to be able to cover his sickness for 2 years for 34 specified long terms diseases. A 1.75% of the employee's wages are deducted as a premium for the insurance given the wages are not more than INR 21,000 per month.

Given the above challenges, we know that remaining population seeking better quality of Health care, more accessible health care and with income more than INR 21000 requires other form of health insurance to cover their health risks.

3.1.2 Central Government Health Insurance Scheme (CGHS)

This is a scheme run by the central government of India. The scheme is directed towards the central government employees and their families like the members of the parliament, Supreme Court judges, Police Officers, Central Railway employees, Governors, Accredited journalists and members of general public in some specified areas. Deductions are made from the monthly salaries for the officials are made as per the levels of the officials. Monthly premiums range from INR 250 to INR 1000 as per salary grades.

Primary care treatment is not covered on cashless basis, especially when provided from a private hospital, it is also capped as per government rates. The treatment for CGHS for has been[14] criticized for delay in reimbursement when seeking treatment through private hospitals, unavailability of empanelled specialty health centers in a rural areas, unavailability of doctors in empanelled government hospitals.[15]

3.1.3 Universal Health Insurance Scheme

Universal Health coverage scheme was declared in the year 2003 where premium of INR 165 per person per year, INR 248 per family of five members per year and INR 330 per family of seven members could allow a coverage of INR 30000 on a floater basis for the family on an annual basis. This scheme was intended to cover the people below poverty line. The medium of delivery of the services was through government and semi government hospitals.

Challenges faced in this scheme were as follows:

- The rates under the insurance scheme are loss incurring to even government hospitals and thus the hospitals do not invest in propagating the same.
- Paper work and documents like Aadhar Card, PAN Card and ration card are difficult for the poor families to procure thus forgoing the eligibility for the scheme
- Identification and empanelment of all the families below poverty line

was not successful thus leading to an adverse selection of only those who need to avail the health services immediately within an adverse selection of poor families lead to losses for insurance companies

3.1.4 Rastriya Swasthya Bima Yojana (RSBY)

This scheme was launched in 2008 by Ministry of Labor and Employment, Government of India.

An aggregation of Hospital Network to deliver the health insurance was done by the Central Government. The target population was the Below Poverty Line (BPL). RSBY created a network of around 60,000 Hospitals and enabled the doctors for treatment by providing them smart card readers, finger print scanners, cameras, etc. to improve coordination. A technology advisor was taken onboard for the activity.

Even though technology was leveraged in this insurance scheme, the payments for the hospitals were expected to be online and delay in payment lead to hospitals leaving the network. The enrollment of the beneficiaries was through biometric enrollment and provision of Aadhar Card and ration card.

3.1.5 Mahatma Jyotiba Phule Jan Arogya Yojana (MJPJAY)

Formally known as Rajiv Gandhi Jeevandayee Arogya Yojana (RGJAY), MJPJAY scheme catered to the health needs of BPL and Above Poverty Line (APL) Population. The concept of Arogya Mitra is unique to this scheme. A facilitator of the scheme is available at the hospitals to ensure awareness to the relevant individuals. An annual coverage of INR 1,50,000/- is provided for the family on a cashless basis to cover 971 medical/surgical procedures and 121 follow-up procedures through a network of government, private and trust hospitals.

3.1.6 Ayushman Bharat Insurance Scheme

In the Ayushman Bharat scheme, which focusses on strengthening primary care through development of Comprehensive primary Health Center (CPHC) and Wellness Centers.

An insurance scheme was launched in 2018. The scheme was renamed as PM Jan Arogya Yojana (PMJAY). It provides a cover of up to INR 500000/- for a family for secondary and tertiary care. The scheme is to subsume, the existing RSBY scheme and the coverage for the same. Special criteria to identify the vulnerable families who need financial support in rural and urban areas have been identify to ensure coverage to urban poor.

3.2 Insurance offered by NGOs or Community based organizations

Such insurance schemes are organized by Non Profit Organizations and trust organization for vulnerable populations. Sustainability and scalability of the scheme suffers since the participants are low income group and all provide a flat premium, not a progressive premium based on income slabs. Communities also struggle for grants and support from government bodies to ensure sustainability.

Some popular Community Based Health Insurance Schemes are Self Employed Women's Associate (SEWA), Tribhuvandas Foundation (TF), The Mullur Milk Co-operative, Sewagram, Action for Community Organization, Rehabilitation and Development (ACCORD), Voluntary Health Services (VHS) etc.

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3.3 Employer Based Insurance Schemes

Employer sponsored health insurance is provided in both public and private sector for hospitalization and inpatient care. Pre-existing conditions are covered basis the large number so employees who need to be insured. The Railways, Defense and Security forces, Plantation sector and Mining sector run their own health services for employees and their families. There is no standardization in the coverage of Health insurance. Some organizations also deduct a lump sum amount from the employee in order to fund the insurance. Once the employee leaves the organization, he also has to forgo the health insurance provided to him. Less than 7% of employees have

a voluntary/private insurance bought separate once the employer provides health insurance for the time he/she is employed.

3.4 Voluntary or for Private – for – Profit health Schemes

Voluntary Health insurance is bought by general population on a voluntary basis. Since such insurance is provided by private organizations, it is almost always a profit making business. Various Health products are available in the market by private insurance companies ranging from basic emergency cover to comprehensive health cover including in-patient procedures. Due to high premiums private insurance ensures a rather healthier population with premium paying capacity in the insurance pool. At the same time, the pre-policy checks and exclusion criteria ensure that individuals with prior health conditions, are not covered immediately. From a population perspective, the creamy layer is able to be afford such insurances and the ones in real need of such insurance remain out of the scope of cover.

It is clear that the government insurances lack factors like quality of care, waiting time, insufficient technological involvement, insufficient cover and due to the targeted approach at the BPL/APL and vulnerable families always lead to adverse selection. In government insurance primary and preventive care is not insured, in spite of the largest share of OOP expenditure from wellness and primary health expenses. The Private insurance companies develop products that, avoid adverse selection. Customization of products as per health needs is done to maximize profit. Even though Health Insurance has been advised by health experts as the most effective health financing mechanism, the delivery of the same has been fragmented and a large remains uncovered for wellness and primary health insurance.

4 International Preventive and Wellness Health Models

In this section we will analyze the health models in countries of Thailand, China, Indonesia, Brazil and South Africa since they are easier to compare with the Indian Market of developing economy and to adopt to pragmatic approach.

4.1 Thailand

Thailand has a population of approx. 68 million. The country indicates GDP spending of 4.6 % in Health (Preventive and Curative). The country covers the entire population via three national insurances. Social Health Insurance (SHI) for the privately employed individuals. Civil Servant Medical benefit Scheme (CSMBS) for public sector employees and UCS for the rest of the population.

By 2004, 95.5% of the population was insured with 75.2% of population insured under UCS.[16] Thailand has also increased the sale of essential drugs, for example drugs for Diabetes management.

Individuals can enroll in this scheme at a Local Contracting Unit for Primary Care (CUP). The individuals can select a private or public primary care facility under the registered CUP. A budget is provided by the government to each CUP to enable a capitated system of funding. Under the capitated system, a fixed amount for each enrolled individual is provided to the Provider.[17] The amount remains constant irrespective of the services used by the individual. The individual might utilize all the services or none of the services.

Three major takeaways from this model are the use of a Gate Keeping Mechanism for utilization of services through the CUPs and second is the Capitation Model for Payment of Providers. Both these factors have helped to ensure a health system that provides choice to the customers and at the same time maintains a decent cost mechanism for the providers. Third is monitoring and maintaining sales and prices of essential drugs to ensure affordability.

4.2 China

China is a developing country with a population of 1.4 Billion people. The country indicates a spending of approx. 5.6% of its GDP in Health. The basic Medical Insurance Scheme which was implemented in 1998 and completed its implementation in 2003 had 2 major components. The First was social pooling for in-patient services and individual medical savings accounts for out-patient services. The medical savings account is fed by 2% of employee wage and 8% of employer payroll. For an average employee this is sufficient to cover three consultations per year per contributor[18]. Post the threshold in the saving account is exhausted the individuals are expected to bear OOP expenditure on health. In 2008 more than 80% of the Chinese population was covered under health insurance. The doctors are paid on a capitation model and on the performance based system from patients in terms of patient satisfaction and prescription rate.

The three pronged approach by the country, first strengthening the wellness and primary health system by improving the quality of 3-tier

service delivery systems in rural and urban areas. Second the Basic Health Programme mandatory for the working class. Third, pooled system for Medical Saving Account for the employees for Out-Patient care ensured more than 80% insurance coverage in the country and actual use of health facilities has increased markedly post the implementation of the scheme. (Richard et al, 2010)

4.3 Indonesia

Indonesia has a population of about 249.9 million. A 3.1% GDP spending is seen for preventive and curative care in the country. The government of Indonesia launched universal health coverage for basic health case in 2014. Salaried employees pay a premium to the government of up to 5%, of which 1% is the contribution from the employee and 4% from the employer. The informal sector employees and self-employed pay a monthly flat premium which is mandatory.

The Indonesian health provision is a through a mix of public, non-profit and private health providers. These are regulated by the government.

A strong wellness and primary health network with primary care huts in villages to community healthcare centers has decentralized the health requirement and ensured basic health needs are met.

4.4 Brazil

With 205 million population and a GDP expenditure in health for 9.7% for primary and preventive health. The health structure in Brazil is completely government funded. This ensures every citizen can access health facilities from health checks to heart transplant free of cost. The system is funded primarily through taxes. The government has developed a Unified Health System, which adopts coding standards for the medical data and maintains electronic health records. Family Health Program and Family Health Team model which replaces the PHC model into a team of 6 member team for patient care has been pivotal in improving the health. This team includes one doctor, one nurse and four to six community Health agents.

The gatekeeping model and government initiative that can be seen in Brazil are key takeaways for India.

4.5 South Africa

Similar to the Brazilian approach, South Africa adopted National health Insurance Policy in 2014. It focused on re-engineering the wellness and primary health structure and worked on decentralization of health services. Ward-wise outreach teams were developed using a defined primary care package. Health promotion at household levels with screening and referral capacities. The data from the outreach campaigns was coded and OPD consultations were also recorded electronically.

A proactive Community approach with decentralized insurance funded wellness and primary health model is can be seem in South Africa.

4.6 Other Interesting Models

4.6.1 Dubai

The Dubai Health Authority (DHA) has developed a network of insurers through his health services are delivered. Health Cards have been replaced by Cashless Health Insurance Cards. These cards track each and every health related service payment including General Physician visits, specialist visits, surgical procedures, tests, investigations and emergencies. Bill payment for medicines are also tracked using a Pharmacy Benefit Management System. Both these two platforms help in tracking and monitoring of Health Needs.

In India the pharmacies are not connected centrally to a system for such tracking. At the same time the neither government nor private clinics have a central cashless OPD cash system. These can be inputs that can be replicated as per the capacity of the country.

4.6.2 South Korea

The government of South Korea has complete control over the health market in the country. It solely regulates the wellness and primary health provision and encourages investment from private providers.

The country has been able to consolidate all the paying systems together to create a payment pool thus managing a competitive incentivized private health provisioning in the country. This has enabled them to ensure affordability to masses. A central administrative platform which records all the patient data for further development has also been created through this mechanism.

Indian government play a pivotal role in terms of central administration, patient record and morbidity tracking and regulating the health market like the South Korean government.

5 Preventive & Wellness Health Models in Indian Markets

As indicated in section 2 it has been observed that only 11.5% households in rural areas and 4% households in urban areas seek primary treatment from PHCs and SCs in a government set up.[19] It can also be seen from the section 2.4 that 67% out of pocket expenditure

is attributed to doctor consultations, specialist consultations, diagnostics and medicines. Thus the remaining 89.5 % rural population and 96 % urban population is seeking preventive care at their own expense without any financial support.

The current state of fragmented public funded insurance and exclusion based private insurance schemes which cater majorly only to hospitalization, little focus on preventive care can be seen. Thus leaving the market wide open for products in long term preventive care for the population.

Private insurance companies and health aggregators have started entering this blue ocean and a few Outpatient products have already been developed. Details for a few of them are mentioned below.

5.1 E-Mamta App

Tracking Data of High Risk Groups

E Mamta is an initiative of the State Government of Gujrat which is used to track the health status of pregnant mothers and newborns. It was released in the year of 2010. This platform is an adaptation of the Reproductive Mother and Child Health and Adolescents (RMNCH+A) program of the Government of India and looks at name based tracking of pregnant women for Antenatal, Postnatal services. Immunization of newborns and adolescent services for the target population. The platform has received national recognition for better tracking of the status of pregnant women and children due to features like SMS alerts to Health worker and incentive tracking for them. The data is collected through the National Health Survey and fed into the platform.

In an Indian context a national comprehensive database on health status of the population is unavailable. With platform like E-Mamta, it becomes possible to track high risk groups on a large scale. This aids in developing products to cater to their health needs. Platforms like E-Mamta demonstrate a capacity to aggregate, maintain and track health conditions of the target population.

5.2 Practo Technologies

Aggregation of Medical Professionals to Form a Strong Network

Practo technologies has developed a network of more than a 1000 doctors, thus developing a platform through which appointments for general physicians and specialists can be booked. It has leveraged technology to include tele-consultation and virtual calls with the doctor. The platform now also enables the user to order medicines online and book for regular preventive health checks at home. The strength of this platform is driven from aggregation of a network of medical professionals. As the number of doctors practicing privately in India has been on a rise since the past two decades. Such doctors look at income from platforms like Practo which can help then have more patients in their clinic. This type of aggregated network proves that just like a network of hospitals for inpatient services, a network for out-patient clinic is also possible and can work successfully.

5.3 Indian Health Organization

Annual Membership Plans, Virtual and Tele-Consultations

This organization has developed the concept of Health Cards or Discount Coupons which provides the patients all the Out Patient Services on a discounted

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rate in exchange for an annual fee. These Hard Cards or Discount cards cover all the treatment including cosmetic treatment and provide a stipulated discount for having the same done through a network of doctors. The organization has stressed on virtual and telephonic consultations and has recorded 78% reduction in physical examination and consultation. Thus making the concept of virtual medical rooms a potential reality.

5.4 Apollo Munich Preventive Care Plan

Comprehensive Out-Patient Plans

In addition to consultations with the physicians, specialists, medicines and diagnostics, there are more

comprehensive inclusions. The product offered by this organization adds the components of dental treatment, for which there has not been any insurance in the country. Dental treatments are capped and specified treatments are included. Spectacle and Out-Patient vision treatment up to a certain specified treatments is included. The cost for lenses is also included in the product. Components like a tele-consultation and annual health checks are also included. This plan attempts to include more out-patient cost to avert the financial risk for preventive care.

5.5 Portea Medical

Catering to Accessibility by Providing Home Health Care

This startup has worked towards an aggregation of Physicians, Nurses and allied health personnel so as to ensure a long term health care at home model. The services are available in about 24 urban cities and packages for high risk groups like Maternal Health, Geriatric Care and routine health checks have been the most utilized services of the organization. This model ensures that a barrier to accessibility is overcome by delivering health at home and at the convenience of the patients.

5.6 Narayana Health

Gate Keeping Model for Consultation

The demand for cardiologist and cardiac specialist in India has been on the rise. Narayana Health Team thus worked on developing a mechanism through which Electro Cardiograms (ECG) could be transmitted to a central team of cardiologists in their main hospital in Bangalore in case a General Physician could not refer conclusively from the graphs. Thus a model for gatekeeping for Specialist Consultation created. This helps reduce the surplus demand of cardiologists in cases where the patients voluntarily wish to visit the specialist directly.

5.7 ICICI Lombard General Insurance

Preventive Health Insurance and Cashless Delivery

The organization has developed its own network of clinics and has partnered with aggregators who already have an established network. It includes component of emergency care and ambulance services, Annual health check, general physician and specialist consultations, cover for diagnostics and medicines that is capped up to a certain level depending on the premium. The push is towards rendering a cashless delivery from a mobile app to ensure the buyer sticks to the network thus reducing the costs for the insurer, however reimbursement models are also available. As cited in section 3.1, public funded insurance schemes have been critiqued for delay in reimbursement thus impacting the paying capacity of the patient. A movement toward a completely cashless model is a solution to regain the confidence in such scenarios.

6 Conclusion and Recommendations

Need for a comprehensive wellness and primary health system with a strong financing mechanism has been recommended for India since 1948. India's demographic shift depicting double burden of Disease; transitioning from Communicable to Non-Communicable diseases demands a robust wellness and primary health facility. As the population of the country ages, the need for wellness and primary health is estimated to increase.

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Funding mechanism for wellness in health and overall health in the country remain weak and 90-95% population pays OOP for primary health. This can be attributed to doctor and specialist consultations, pharmacy bills, diagnostic tests, and medicine procurement. Due to poor health infrastructure in the country, inclination towards treatment seeking from private players can be seen, especially by the families, which can afford the OOP expenditure without facing a catastrophic or impoverishment impact.

WHO recommends Universal Health Coverage to ensure basic health needs

to all. Health insurance has been deemed as a solution to meet the health costs and to reduce the burden of OOP for the masses. While looking at the Health insurance system in the country, fragmentation of groups can be observed. Leading to Adverse Selection by the Public insurance solutions and Creamy Layer selection by the Private Insurance providers. Health insurance in India covered only 5% of Indian Population in 2004. From within 5% insured population, insurance for wellness and primary health is provided only by private players. This leaves a large gap as well as a great opportunity for the insurance market to explore.

There is a huge market for wellness and primary health Insurance for Insurers. We draw learnings from international and national models for delivering wellness and primary health from section 4 and 5. Countries that have similar economies to ours have been analyzed. Current innovation wellness and primary health solutions have been analyzed and summarized.

Central Platform for Patient Data Management

Lack of a centralized data recording platform from private and public clinics, hospitals, pharmacies and diagnostics has been a barrier towards cost effective and predictive health insurance products. A retrospective model is being used in India at the moment for research in the sector.

Dubai's Health Cards through which primary health and wellness is accessed, and platform through all medical purchases can be collated provided a robust data set. Such live, mass data sets can be used for predictive trends and modelling. Use of a mobile app as a platform for data collection done by ICICI Lombard and E-Mamta helps record real time data. This can used for further analysis. Everyone subscribing the primary care services is mandated use of a mobile installation, which can track all health concerns, tele-consultations, doctor visits and chats with specialist like counsellors and nutritionists, etc.

With data recording, data security, confidentiality and management also requires support. Ethical hacking, encryption of data, backup mechanism like cloud storage, anti-malware protection, progressive privilege login rights to the administrators, managing remote location access to the database, etc. are some watch outs while managing such large scale confidential data-points. An informed consent for collection and storage of data must be taken from the patient while recording it.

Comprehensive Approach towards Wellness in Health

Wellness is not only about out-patient care. It also involves healthy lifestyle management. For example behavioral choices of sleeping, food preference, hydration preference, etc. can impact obesity and stroke management. Awareness about diseases like HIV/AIDS, Coronavirus, etc. can help in preventing social taboos and the disease itself. Sanitation and Personal Hygiene help in managing problems like Urinary Tract Infection and spread of other diseases that occur due to sewer and open deification. Information about exercising and following a routine medicine regime can help in chronic disease management like Diabetes. Nutrition, mental health and wellbeing, physical activity, etc. all of it falls under the purview of Preventive Health. To bring about behavioral changes and to support Preventive Health Infrastructure, focus on Behavior Communication Change (BCC) is recommended.

Comprehensive health model developed by Apollo Munich includes components of dental and eye care in the membership plan. Portea Medical has a home health care model developed to support especially the elderly. Indian Insurance scheme of MJPJAY includes travel reimbursement while seeking health services. China, South Africa and Brazil have developed health outreach components in their public health systems to reach the community on a regular basis. This is a combination of a proactive health approach and connecting the last mile approach. Even though efforts towards reducing the gap between wellness health solution needs can be seen through these solutions, an integrated solution is yet to emerge.

Aggregation of Primary Care and Wellness Services

There is no central aggregator to bring all private health providers on a common platform. Aggregation within wellness and primary health industry and aggregation across wellness and primary health industry helps in cost reduction, reducing servicing time and innovation as per the requirement to maintain standardization. There is a need from pharmaceuticals, diagnostic labs and aggregators to work in an insurance model.

Aggregation of hospitals through the RSBY Scheme, aggregation of private doctors, specialists, super specialists, pharmacy and diagnostics through Apollo Munich, ICICI Lombard, Indian Health Organization, Apollo Munich and aggregation of medical personnel by Portea Medical are examples of a successful aggregation approaches. Health insurance in Thailand is an

aggregation model where one entity aggregates public, private and NGO health center and a customer can use any health center within the pool. This also shows that aggregation of wellness and primary health components is possible and scalable. It is a win-win situation for the provider, since it brings in profitability and for the beneficiary since it brings in swift transition from one provider to another.

Leveraging Technology

Cashless delivery of wellness and primary health services, virtual platforms for awareness sessions, use of artificial intelligence for health ailment prediction models, tele-medicine, instant medical data transformation into digital data forms are a few examples of technology leveraging in wellness and primary health sector that can be seen.

Cashless insurance for wellness by ICICI Lombard, use of mobile apps by Practo technologies, E-Mamta application by government of Gujrat are examples of how technology can bring value to the wellness and primary health market in India. Use of health cards in Dubai, is also a strategy of leveraging technology which can be used for insurance in wellness and primary health delivery.

Customer Friendly Insurance Premiums

Premiums for private health insurance are high and have extensive exclusion criteria. This can be owing to the cost of innovation, technology usage and maintenance cost. On the other hand, premiums are affordable when offered through public health insurance. This leads to a further problem of adverse selection in public health insurance and creamy layer selection in private health insurance. However, wellness is not covered through government insurance. The focus is on hospitalization and inpatient health expenses. A mandated insurance for all, with progressive premiums, cost subsidization and risk mitigation and inclusion of all health criteria is a recommendation for this. Progressive premiums ensure everyone pays as per their paying capacity. This leads to mitigating the risk of high-risk and low-risk groups into one pool through cross subsidization. It will be difficult to seek a higher premiums from the high paying capacity group in such a scheme thus it should be made mandatory. Further, the recommendation will be valid only if enrollments to the scheme happen in scale. Progressive premium can also be mixed with Pay-Per-Risk models that are used to assess the risk of each individual, social and economic background of each individual for the deciding the premium for insurance.

Government of Thailand has implement a progressive premium model where three schemes covering three different paying capacities are pooled into one single system for paying health expenses. China's Medical Savings Account deducts a fix amount from the salaries of all the employees progressively, pools all the premium to ensure each employee is give the same basic allotment of services under the premium paid.

Management of Medical Personnel

At the moment public medical professionals are paid on a salaried model, either permanent or contractual as discussed in section 2.3.2. While private health professionals are paid as per pay-per-service directly from patients. Thus two approaches can be seem for payment. A standardized model for payment is thus required for this in public and private primary insurance. This can be achieved by capitation model. Capitation means a capped flat amount per person who has enrolled in the insurance policy. It deletes the scope of disparities in payment and ensures better performance of the professional to add more uninsured candidates to the pool.

Cashless delivery of wellness and primary health services, virtual platforms for awareness sessions, use of artificial intelligence for health ailment prediction models, tele-medicine, instant medical data transformation into digital data forms are a few examples of technology leveraging in wellness and primary health sector that can be seen.

Capitation can be seen in Thailand, China, and Indonesia as a solution for satisfaction, retention and standardization of payment to the medical professionals.

Gatekeeping

Gatekeeping ensure patient cannot meet a specialist consultant before meeting a general physician. It ensures one cannot buy medicines without a prescription, or cannot get a particular diagnostic test without investigation advice. Such a system reduces the burden on health facilities. India currently has more specialists than general physicians, thus a supply induced demand for consulting these specialists can be observed. This has also lead to lesser general physicians in government facilities, as they leave to receive specialization or super specialization.

Gatekeeping model to meet a specialist can be observed in Narayana Health and in Brazilian health system. In a wellness and primary health insurance model, this will help in cutting down costs for specialist consultation unless absolutely required.

Private Sector in Primary Health and Wellness Insurance

Private sector insurance companies can explore and experiment in the in the industry of wellness and primary health in India, since the country has no wellness insurance through the government. This means the individuals with OOP capacity will definitely subscribe for it private sector wellness insurance.

Specialized need based insurance packages for chronic care, for elderly and geriatric care, for maternity care, for children care, for family planning and contraception, for mental health, rehabilitation from drugs are few of the recommendations. These packages can cover specific OOP primary care costs like diapers for babies during diarrhea, IUD installation cost, home care for elderly, additional costs at rehabilitation centers, etc. can be covered. This will reduce the OOP expenditure and at the same time ensure profitability to private insurance organizations.

Once the market has been tested for these options, in the long run the private insurance sector should also work towards Public-Private-Partnership and eventually with the government. This will ensure an insurance scheme in wellness and primary health that has huge number of subscriptions.

Public Sector in Primary Health and Wellness Insurance

Strengthening the current wellness and primary health structure to improve quality of health. Coming as close as possible to the Bhore committee recommendations and ensuring a decentralized wellness and primary health system, which distributed across rural areas are the short term recommendations. Government should support private insurance companies with the available public health data for better research and product development, so that new products can be created and experimented by the private sector. Successful products developed by this approach can later be integrated with government schemes. PPP initiatives will be pivotal in catering to the entire population, thus engagement between the public and private sector must increase. Provision of strong regulatory oversight for the private provides and insurer is another recommendation. Both are short term recommendations.

A universal health insurance scheme for wellness and primary health with 100% coverage, a progressive tax based system, which has a capitation approach for paying medical professionals and is affordable for all is the long term recommendation for the government.

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Merit Winner

Technical Paper Essay Competition (Micro)

Role of Technology in Making of Micro-Insurance More Effective

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Abstract

"Innovation is the only way to win."- Steve Jobs (co-founder, Apple Computer)

These few words sum in itself the future need, scope and prospect of every social or economic venture and the same is applicable in the context of Micro insurance, the topic being discussed and explored in this article.

Micro insurance is a specialized segment of the insurance sector which majorly caters to the vulnerable section of society. Death or illness of the primary income earner of the family or loss of property are critical risks faced by every household, but for a minimal income family, marginal exposure to these risks is enough to push them into deeper poverty and threaten their very existence.

As per the International Labor Organization, over 80 percent of the Indian economy is in the informal sector, while only 6.5 percent constitutes the formal sector. In such a socio-economic context, risk assessment and pooling and financial inclusion of the population become all the more necessary. Micro insurance products that are customized

for the weaker sections of the society offer protection from various risks at low cost.

Being a low cost-high volume product, the success of this segment is dependent on its increased penetration, which means reaching out to more number of the target population. However the current penetration levels are abysmally low. And herein technology can play a huge role in expanding the reach of microinsurance and realizing its potential in true sense.

Technological Innovations are key differentiators that give a competitive edge to the companies as well as serve as a catalyst to explore new areas and ideas.

The objective of this paper is to study the trends of micro-insurance in India and the role of technology in increasing the effectiveness and reach of microinsurance in India.

1. Insurance Sector in India

Though insurance has a long history in our country, its prominence and need have been in focus since the last few decades. In 1993, the Malhotra committee was appointed by the government under the chairmanship of RN Malhotra, former Governor of RBI, to make recommendations for reforms in the Indian insurance sector. The recommendations resulted in the introduction of the Insurance Regulatory and Development Authority (IRDA) legislation in 1999 and the establishment of the Insurance Regulatory and Development Authority in 2000. The committee also recommended an inclusion of private players and foreign players in the sector, which led to an increase in product offerings and overall reach of the sector.

Since then, continuous efforts and changes have been made in policy frameworks and regulations to make the sector more customer-centric.

At present, the Indian insurance market consists of 24 life insurance companies (23 private and one public) and 34 general insurance companies (including private, public, specialized and standalone health insurers). And yet, we have insurance penetration[1] of 3.7% -: 2.74% in the life insurance segment and 0.97% in the non-life segment. In 2001, the insurance penetration in India was reported at 2.71%. In 2009, it increased to 5.2% but thereafter a declining trend was visibly followed by a marginal increase in the last 3-4 years.

2. Micro Insurance in India: Snapshot

2.1 What is Micro Insurance and how it is different?

Insurance is a contract between a customer or entity and insurance company in which the insurance company promises to pay an assured amount in case of any contingency (as mentioned in the policy), in exchange for a regular amount of money paid (premium). The insurance sector is broadly divided into three types - Life, General and Health. The general insurance is much diversified with products like crop insurance, motor insurance, property insurance, fire insurance, etc.

Micro Insurance is a specialized type of insurance product targeting people at the bottom of the pyramid. Due to the nature of the target population, they are designed as low premium, low sum-assured insurance products offering risk protection in life, general and health contingencies. The distribution network also works differently from the traditional distribution networks as partnerships with Self-Help Groups (SHG), Non-Government Organizations (NGOs), Business Correspondents, etc. acting as major channels for customer acquisition.

2.2 Evolution of Microinsurance Sector

When the insurance sector was liberalized, the regulator wanted to ensure that rural areas are not neglected and insurance companies remain inclusive in their objective and operation. With this objective, IRDAI introduced mandatory guidelines for rural and social sector obligation in 2002. It stated clearly the definition accepted by the regulator for the rural and social sector and the percentage of policies to be sold and lives to be covered by the insurance companies in rural and social sectors.

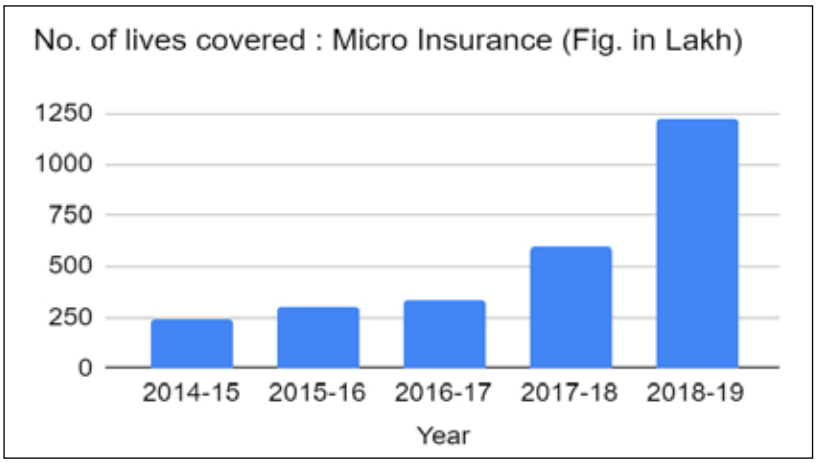
With companies already lining up low cost products to fulfill the mandate of rural and social sector guidelines, the government of India constituted a group in 2003 to study the possibility of customized schemes for the poor considering different aspects like reach and pricing. Eventually, the regulator came up with IRDA (Micro-Insurance) Regulations 2005 which offered specific guidelines on product design, underwriting, distribution, etc. for life and non-life players.

The IRDA micro-insurance Regulations, 2005 defines micro insurance as a life or general insurance policy with a maximum sum assured of Rs 50,000. In 2015, IRDA issued new regulations which included some modifications of the existing regulation 2005. In this regulation, some more intermediaries and life micro insurance norms were

[1] *Insurance penetration is measured as ratio of premium to GDP*

added. The Insurance Regulatory and Development Authority of India (Micro Insurance) Regulations 2015, defines micro-insurance as life insurance policy with a maximum sum assured of Rs 2 lakh or less. The coverage amount starts as small as Rs 5,000 to Rs 10,000 for a small period.

The chart[2] below shows the growth in the micro insurance sector in the last few years. As shown, the number of lives covered[3] under micro insurance has been increasing over the last 5 years, the change being more prominent in the last 2-3 years.



The total premium (individual + group) from micro insurance sector in FY 2018-19 was reported at Rs. 3238 crore, showing an increase of 125% from the last fiscal year. The number of micro insurance agents as on 31.03.2019 was 72857, showing 38% growth from last year. The private sector reported 52931 micro insurance agents while the Life Insurance Corporation reported 19926 agents. Approximately Rs. 1000 crore was paid as death claim settlement (individual + group) in FY 2018-19.

As of 31st March 2019, 44 micro insurance products of 16 life insurers were available in the market for sale. Of these 44 products, 24 are Individual products and the remaining 20 are Group products.

2.3 Why Microinsurance is necessary in Indian Socio-economic context?

A majority of Indian population is dependent on agriculture and other unorganized sectors for their livelihood. With agriculture and other unorganized sectors still using the nascent stages of technology, scale and supply chain management, the population dependent on it are left with insufficient and irregular supply of income which results in a poor standard of living.

In such circumstances, with poor nutrition, education and access to services, vulnerability to risk is very high. This makes the need for insurance, mainly customized products like micro insurance all the more necessary to protect their financial well-being in the face of any unforeseen adversity like disease or natural calamities like flood etc.

Challenges faced by vulnerable section of society

- ***Irregular income*** - People engaged in agriculture suffer from seasonal unemployment. They are unemployed or under-employed in seasons where their crop-related activities are minimal. Also, due to a weak supply chain and lack of reforms in this sector, returns on their investment are insufficient and risky. Similar situation is faced by people engaged in other activities like cattle rearing etc. If the scale of operation is very small, a small crisis like spread of a disease can lead to loss of the investment made
- ***Financial burden on single member*** - Large families which are financially dependent on single family member are highly vulnerable to any type of risk
- ***Poor access to services*** - Poor financial condition is a major obstacle in getting standard education and health services. Lack of awareness is a major hindrance in getting right help at the right time
- ***Dependency on informal credit systems*** - Lack of assets or collateral, poor documentation like proper identification proof etc. initially forced the poor to depend on informal sources like moneylenders for their credit needs. Though the practice has declined with financial inclusion initiatives, yet it exists in many deeper pockets of the country, giving rise to a vicious debt trap for the poor

In such socio-economic conditions implementing risk mitigation strategies is a prime requisite to ensure welfare and progress of the poor. However a huge demand supply gap exists for the insurance sector in India.

2.4 Demand Supply Gap in the sector

The market for microinsurance in India is mainly supply driven. With insurance

[2] *Source - IRDAI Annual Reports*

[3] *For calculation, number of lives under individual and group category are combined*

regulator IRDAI at helm, insurers are obligated to comply with certain percentages of new business catering to economically backward population. The step is aimed to make persistent and focused effort to insure the ones who need it the most. Also, Central and state governments have time and again taken steps and launched schemes to increase the variety and fluidity in supply. However the same cannot be said about the demand side. The target population of micro insurance are the vulnerable section of our society. Mostly they fail to understand the importance of insurance or how it works. Also in India, people are accustomed to freebies offered by the government. They are quite reluctant to pay for the services like insurance whose benefits are long term in nature.

The insurance density in India is well below the other developing countries, even in Asia. The world's average insurance density is approximately ten times more than insurance density in India. Even if we compare our insurance density to another Asian counterpart China, owing to the similarity in population density and size, we are significantly behind (As of 2018, insurance density of China is about five times that of India). The table below gives a glimpse of insurance density in India in comparison to other prominent countries of the world. It's imperative to stress here that if we want to become an affluent nation economically, we need to focus on keeping the risk vulnerability of the population low.

INTERNATIONAL COMPARISON OF INSURANCE DENSITY*

(In us $)

Countries	2017**			2018**		
	Total	Ute	Non-Ute	Total	Life	Non-Ute
Australia	3247	1304	1942	3160	1203	1957
Brazil	398	224	174	345	196	159
France	3446	2222	1224	3667	2370	1296
Gernany	2687	1169	1519	2908	1161	1747
Russia	152	39	113	164	50	114
South Africa	842	674	167	840	669	170
Switzerland	6811	3522	3289	6934	3555	3379
United Kingdom	3810	2873	938	4503	3532	971
United States	4216	1674	2542	4481	1810	2672
Asian Countries						
Hong Koog	8313	6756	1557	8863	8204	659
India#	**73**	**55**	**18**	**74**	**55**	**19**
Japan#	3312	2411	901	3466	2629	837
Malaysia#	486	339	147	518	361	157
Pakistan	13	9	4	14	10	4
PR China	384	225	159	406	221	185
Singapore	4749	3835	915	4958	3944	1014
South Korea#	3522	1999	1523	3465	1898	1567
Sri Lanka	47	22	25	49	23	26
Taiwan	4997	4195	803	5161	4320	841
Thailand	348	237	112	385	262	123
World	**650**	**353**	**297**	**682**	**370**	**312**

Source: Swiss Re, Sigma Volumes3/2018 and 3/2019

**Insurance denslty is measured as ratio of premium (in US Dollar) to total populalion.*

***Data pertains to the calender year 2017 and 2018.*

#Data related to financial year 2017-18 & 2018-19.

3. Major Challenges of Micro Insurance Sector in India

Indian insurance market has many players who have established products and processes to increase new business. Yet the microinsurance sector is still lagging in pace and is not one of the major contributors in total business. Following are some of the challenges which has led to low penetration of microinsurance among its target population.

3.1 Demand Side Challenges

- ***Lack of liquidity*** - Irregular, low income often leaves the poor with insufficient money to spend even on essential items like food. In such a scenario they are hesitant to spend on insurance
- ***Lack of knowledge among the target population*** - The rural and economically underprivileged people are the main target population for microinsurance. However, due to socio-economic constraint this segment is often caught in the cycle of unawareness. They fail to realize the importance of insurance as the advantage of this product is not immediate and tangible
- ***Geographical constraints*** - Though rural connectivity has improved a lot in the last decade, yet no doubt a considerable size of our population are physically less connected. They don't have access to information and services as compared to urban areas

3.2 Supply Side Challenges

- ***Less flexibility offered in product design*** - Due to the unstructured nature of the job engaged in, the economic challenges faced by the target group are also plenty and varied in nature. The blanket products don't add any value addition and in case the products are not solving their specific constraints, the prospective customers are hesitant to come on board.
- ***Distribution challenges*** - The target population is mainly concentrated in rural areas. However the distribution process of these products is difficult, costly and more time consuming in these areas. Though various partnership models are in place, yet their monitoring and ensuring their optimal productivity is a challenge.
- ***Less impact on bottom line*** - Due to low ticket size of the product, the total micro insurance business constitutes a very small portion of the total business of insurance companies. As per Life Insurance Corporation's Annual Report 2018-19, the contribution of microinsurance vertical in LIC's new business was 2.89% in terms of number of policies, which is almost at par with last year.

  The value proposition of spending the resources on this sector is low as the impact on the topline and bottom line of the business is very less as compared to the investment being made. This mostly restricts the initiatives made by Insurance providers.

Insurance companies and other stakeholders are trying to overcome these challenges with the help of technology. Technological advances are changing customer behavior and thus the business strategies.

4. Digital Penetration in India

India is one of the largest growing digital markets, with a surge in internet subscribers, estimated to be more than half billion at the end of 2019. The Digital India programme launched in 2015, is providing and constructing the basic framework on which the digital penetration in India is being driven. The programme provides broadband connectivity in rural areas via optical-fiber cable to gram panchayats, public internet access at common service centers, railway stations, post offices etc. and emphasizes universal mobile connectivity. Many digital platforms for improved service efficiency have been launched under this flagship scheme. Coupled with decline in prices of mobile devices and internet charges, the usage and presence of users have increased among low-income households and rural areas also.

Due to low ticket size of the product, the total micro insurance business constitutes a very small portion of the total business of insurance companies. As per Life Insurance Corporation's Annual Report 2018-19, the contribution of microinsurance vertical in LIC's new business was 2.89% in terms of number of policies, which is almost at par with last year.

5. Drivers of Technological Integration

Technological integration in different aspects of our target population

The government initiative to link Jan Dhan accounts with Aadhar and mobile has brought a larger section of society under financial mainstream. The continuation of this initiative means authenticated customer data with proper contact information which makes delivery of information and services reliable. Just a decade back a major time and effort was consumed to ensure that customer or claimant information is correct or not. These challenges can be easily mitigated if more number of people will imbibe JAM

has increased over the years due to several factors. The key drivers of this technological boom are discussed here.

- ***Penetration of mobile phones and easy accessibility of low cost data*** - This has ensured that information flow is not only rapid but also reliable. With easy availability of low cost devices and service providing applications based on mobiles, penetration has become easier. It is also easy to train the customers how to use the application. It reduces the operational time and increases the stakeholder participation
- ***JAM (short for Jan Dhan-Aadhaar-Mobile) Trinity*** - The government initiative to link Jan Dhan accounts with Aadhar and mobile has brought a larger section of society under financial mainstream. The continuation of this initiative means authenticated customer data with proper contact information which makes delivery of information and services reliable. Just a decade back a major time and effort was consumed to ensure that customer or claimant information is correct or not. These challenges can be easily mitigated if more number of people will imbibe JAM
- ***Increasing financial inclusion*** - With various government incentives being linked to bank accounts, economically underprivileged people are encouraged to open their bank accounts. This not only expedites the delivery of services but also brings transparency in the process
- ***Government umbrella schemes*** - With umbrella schemes like Fasal Bima Yojana, Jeevan Jyoti Bima Yojana, Aam Admi Bima Yojana etc. promoted by the Government, people are becoming more aware about insurance and its benefits
- ***Reducing Digital divide*** - Demonetization in 2016 was a watershed event in Indian digital history which gave digitalization a big push in every nook and corner of the country. Coupled with initiative under Digital India, digital footprints of users have significantly increased from rural India also
- ***Unforeseen business disruptions*** - Natural calamities like flood etc. and more recently pandemics like Covid-19 are threats that disrupt the whole business chain. Adoption of technology ensures business continuity and sustainability in such situations. The recent global pandemic has caused all the major services to shift on online platforms. Talking about insurance, the companies who have invested in their online customer acquisition platforms in the last few years are hoping to take less fall in comparison to their traditional counterparts

6. Role of Technology in Addressing Challenges of Micro Insurance

Financial services like banking and insurance are also in the process of increasing their reach and efficiency by adopting technology in the process and services.

6.1 Impact of Technological Intervention in Insurance

Usage of new technology and continuous innovation in insurance has increased the effectiveness of the sector due to changes noted below:

- ***Reduced operational time*** - New business and policy servicing requests are being addressed in less time span due to new applications which allow easy upload of documents and photos, request services etc from customer end and easy access and verification from provider's end.
- ***Increased transparency*** - Real time tracking of the process with all the stakeholders being in loop at different stages, has brought transparency to the whole process.
- ***Easy monitoring*** - Use of technology has reduced the manual errors significantly and made monitoring

of the process smooth resulting in increased accountability from all stakeholders.

- ***Fraud detection*** - Many companies have invested in risk detection models and forecasting applications which not only identifies the risk level of a prospective client but also divides the existing business in different risk categories which makes it easy to monitor the policies and take corrective steps at the right time.

- ***Faster reach to customers*** - More numbers of existing and potential customers can be reached in less span of time by combining traditional platforms like television and radio with comparatively newer ones like social media platforms, digital ads etc.

- ***Data Storage*** - With data storage not restricted to physical files, information accessibility is easy as well as comparatively safer. Also, with usage of technology, data collection has also become less tedious and more reliable. Purity of data is the prime requisite of the risk assessment process, which has a direct implication on the pricing of products. With the use of technology we can gather large information in desired format and store it for as long as it is needed at less incremental cost.

- ***Better Efficiency of delivery channels*** - Technology has made possible the evolution of online sales significantly in the last few years. Even for the traditional delivery channels like agency model, it has led to increased efficiency and better customer satisfaction.

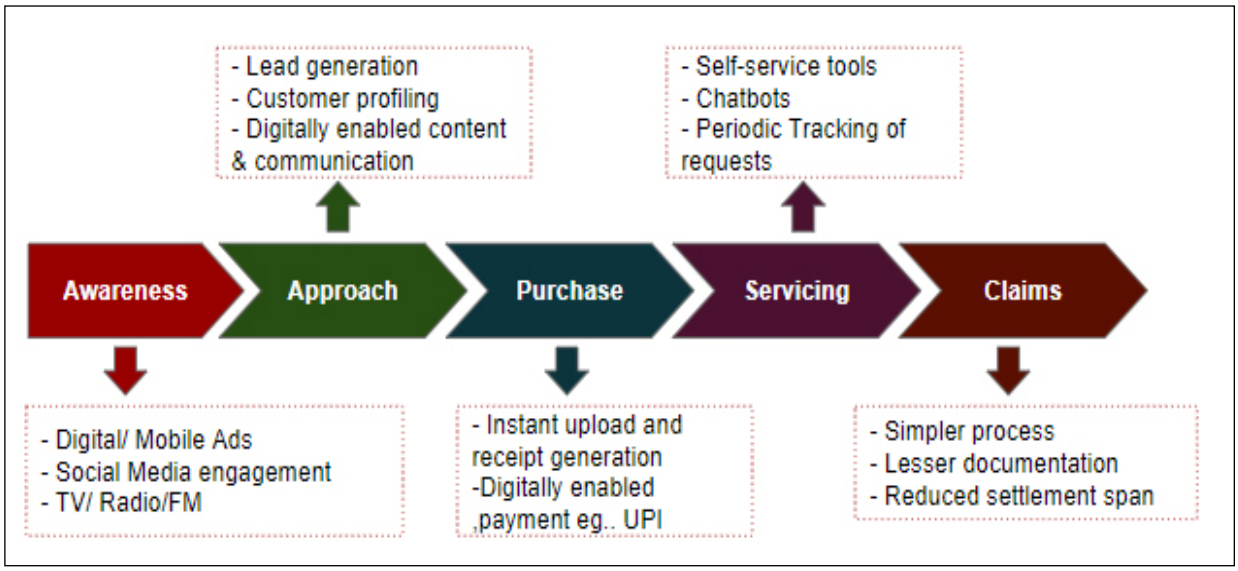
- ***Decreased operational costs*** - Implementation of technology in processes means decrease in traditional operational costs like postage, printing, storage etc. Cost of acquisition, distribution, operation plays a significant role in pricing of an insurance product. If the acquisition and operational costs can be reduced, the cost of insurance comes down as a result. Lower pricing with an enriched customer experience makes insurance, more specifically the segment under discussion -microinsurance an attractive proposition for the poor and also incentivize the insurer to venture into this segment by realizing the true market potential and opportunity it holds.

Use of technology by Insurance companies has resulted in increased transparency, efficiency, and reach and customer satisfaction. With future prospects under discussion like Blockchain Technology, the insurance sector is continuously exploring new ground.

The same benefits are extended to Microinsurance also. The chart below explores different ways in which customer touchpoints of the target population are being enriched by technology.

6.2 Technology Intervention across the customer touchpoints

Right from lead generation of prospective customers to their profiling and on-boarding to the servicing and claim stage, insurers are exploring new ideas and partnerships to make the process more efficient.



6.3 Current Initiatives

Insurance companies are coming up with innovative ideas to enrich customer experience. Many companies are recognizing the value-addition, technological implementation can provide and thus are investing in upgrading their infrastructure and processes. The process started gaining prominence about a decade back with prominent companies like Iffco Tokio General Insurance using radio frequency identification device (RFID) tags into insured animals to reduce fraud in the claim process.

More recently, many companies are launching initiatives to provide better customer experience and access deeper reach. The table below is a compilation of such initiatives to showcase the different ways in which technology is making insurance, more specifically micro insurance more effective.

However, the initial cost Involved in Adoption and implementation has acted as a hindrance for rapid adoption and implementation of technology across the sector. No doubt, once implemented effectively, usage of technology can increase operational efficiency at low cost. Yet, for this to happen, first the company needs to invest its resources in its set-up, implementation and training across the delivery partners. This involves not only cost but a change in the mindset of the management too.

With the new entrants already coming with smart solutions and innovative strategies, established and big players are also making fundamental changes in their business structure. An example mentioned here in case is ICICI Lombard General Insurance which reportedly invested around Rs 43 crore in technology a couple years back, focusing on AI, machine learning and data analytics etc. to increase operational efficiency.

6.4 Covid -19: Insurance in uncertain times

The current global pandemic is changing the way business used to be done. Even after we overcome this global health crisis, a massive change in

Examples of some ways in which technology is being used in insurance sector to increase the efficiency and reach:

- Gram cover, an Indian startup in the microinsurance sector is using technology for effective distribution in rural India. They provide facilities like direct documents upload and processing, real time updates, mobile enrolments and comprehensive dashboard.
- Max-Bupa Health Insurance is reportedly using Flow Magic automated solutions for processing inbound documents. It has reduced manual dependency and thus has resulted in simplified operations.
- Bajaj Allianz Life Insurance has a mobile app to hire agents which helps in training, exams and licensing. With the help of this solution, it has cut down processing time by half which helped in bringing about 15,700 consultants on-board digitally in the past year. It has also rolled out a virtual branch for customers, known as 'Mosambee', which is modelled on the concept of providing 'branch-in-a-box'. It enables their insurance consultants to provide customers with all services at their doorstep.
- ICICI Lombard has developed an IoT-based (Internet of Things) instant health check facility for corporate customers, and is using telematics (tracking and monitoring an asset like car etc. by using GPS) to identify and segment vehicle users based on driving behavior.
- Digit Insurance (also known as Go Digit), an online general insurance company is India's first digital insurer. It offers small value non-life insurance products. It is using blockchain-based systems at the backend and a smartphone enabled self-inspection process for customers to speed up claims processing.
- Acko general insurance, another digital insurer offers low ticked sized products across multiple categories that like travel, gadgets, last-mile cabs and bikes, food delivery and online lending in partnership with various platforms.
- HDFC Life Insurance has recently introduced a new digital assistant 'Elsa', based on Amazon's Alexa. It can handle about 200 different enquiries and provide policy insights.
- Insurtech Riskcovry provides an API platform (Application program interface) to partners to integrate and automate their insurance distribution. Recently it has partnered with NPCI (National Payment Corporation of India) to provide Covid-19 health insurance to RuPay card and UPI users in India.

Source : Newspaper reports, company websites

customer behavior is predicted with emphasis on less physical contact and doorstep delivery of services. It has become imperative now to support the traditional distribution channels based on relationship building, with new innovative solutions which provide the necessary services while keeping customer participation intact like virtual conferencing, service on-call etc.

Also, this crisis has clearly exposed the risk vulnerability of poor people. With lakhs of people jobless and business processes disrupted, the need to safeguard against financial risks is very eminent and needs to be addressed on priority basis. Insurance intermediaries need to come up with new strategies to overcome this challenge.

7. Recommendations

With the government acting as a catalyst and technology at forefront, micro insurance has the potential to provide risk coverage to the needy. However, more exploration and research in policy and product design needs to be discussed to come up with target-specific low cost products.

The regulator needs to consider several suggestions offered by experts or the practices in other parts of the world. Some of the ideas to be looked into are usage-based insurance i.e. payment based on how much we are using the product or event based insurance which means, products designed to cover a specific incident. However, more research is needed into these kinds of custom-stitched products and the regulatory and feasibility aspect of the same.

The insurers need to accelerate adoption and implementation of technology in their solutions to maintain their competitive edge. During the 2018 Kerala Floods, Reliance General Insurance came up with video-chat provision for claim settlement, a first in the country to assess motor vehicle claims. Such timely interventions which simplify the processes go a long way in building trust among customers. In case of micro insurance, the cost to the company can significantly reduce with adoption of technology like self-service platforms for on-boarding and servicing. They can also leverage it to ensure the bottom line impact of the same is positive in the long run.

Also insurance companies need to train and incentivize their staff and prospective and existing customers to use the services, so that value addition of the investment made in the technological integration can be optimal.

8. Conclusion

India has a huge potential in microinsurance. But, despite the potential, the increase in penetration is well below the expectation and need. For the micro insurance sector to realize its full potential, focus should be on factors which drive the purchasing decision of a customer at the bottom of the pyramid such as low pricing, flexible product design, simple delivery channel, easy to understand process etc.

With advancement in technology and easy availability of low cost devices, this is an excellent period to accelerate the penetration rate. This requires dedicated intent and means. Insurance intermediaries and policymakers should make concentrated effort to increase the penetration which will involve not only change in delivery system but also product designs.

To improve the efficiency of the delivery system, technology alone is not sufficient to overhaul the situation of microinsurance in India. It can work and generate desired results only when it is supported with efficient and well-trained human touchpoints. So, it is high time to consolidate our efforts and resources and provide the sector the much-needed momentum.

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Merit Winner

Technical Paper Essay Competition (Pension)

Is Pension, Effective and Adequate Solution to the Challenges of Ageing?

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Abstract

The advancement in medical facilities and new technological innovations for keeping oneself healthy is leading to an improved life expectancy amongst individuals. Though this is a positive technological advancement on one side, it also has its post effects on the other which needs to be looked upon seriously. Retirement income will continue to be a focus area for financial experts. Pension systems vary across different economies based on the demographic profile of the subscribers. This paper is an attempt to highlight the intricacies of effective, sustainable, and adequate pension systems by analyzing the global trends. It looks at the vital post-retirement needs of the individuals by considering their relevance in today's world. It uncovers the role of insurance companies to make the pension industry a robust and sustainable one. The paper also looks at the World Bank's approach towards inclusive, sustainable pension penetration.

Keywords

Longevity, Pension, Defined Contribution, Defined Benefit, Adequacy, Sustainability, Effectiveness, Insurance, Annuities.

Introduction

The second innings in a cricket match is tactically different from the first, as players are more tired, and wickets have deteriorated. Similarly when we think of retirement, one thing that haunts us is that we would no longer be receiving a regular stream of income as we continue to receive it today.

Planning for one's retirement is easier said than done. The reason this is so is because everyone wants to spend on their immediate needs and refrain from the thought of saving for the future. Perhaps this may be the reason for introducing mandatory contributions from the employee/employer towards the accumulation of pension corpus. With the advent of several financial tools and calculators and awareness amongst the people, we have now started to emphasize on post-retirement savings. What we fail to adequately gauge is the amount of corpus that we will need to sustain the current lifestyle post-retirement.

Increasing life expectancy across several economies have forced the governments and insurance companies to design solutions to address the concern of longevity risk. As per the directives of the government, each organization diverts some amount towards a fund established by a trust to cater to the post-retirement needs. Accordingly employees, too, voluntarily contribute towards the fund. Through this paper, I would go a bit deep to address the financial needs of the elderly population.

Longevity Risk

Longevity risk refers to the risk of living too long which may have a danger to outlive the assets built over the productive years which an individual has amassed. With the nuclear family system in place, in most of the countries, longevity risk coupled with the new family structure poses a serious threat of old-age poverty. With improved health care systems and preventive check-ups now available on the tip of the click in tandem with fitness wearables, the current young population is definitely in a better position to live longer than the current senior citizens. The global average life expectancy at birth is 71[1] which was only 34 a few generations ago.

Perhaps, living long can pose a serious challenge if financial plans are not aligned with future needs. Considering the figures (2018) publish by the World-Bank, a vast majority of the countries have a life expectancy of over 68 years.

Life Expectancy Globally

Source:https://data.worldbank.org/indicator/sp.dyn.le00.in?view=map

The rising life expectancy severely impacts the budget of a household after retirement. This is attributed majorly to the amount spent on buying household items, medical costs including hospitalization and of course since older people have unfulfilled dreams that they wish to pursue! Consider a scenario, where an individual starts working at the age of 20 and continues to work till he retires at 60. Effectively he has worked for 40 years. If he lives for 25 years more (ie. till he turns 85 years of age), he should have sufficient savings in place that will support him as well as his spouse for at least the next 25 years. Only a robust, less volatile, financially viable and economically sustainable system can address this issue.

Workforce

Pension schemes in most economies have mostly evolved on the grounds of employee-employer relations. A large and growing number of workers globally are self-employed or work in small businesses and so lack easy access to employer-sponsored long-term savings plans. The employer contributes a specific portion of the salary of the employee to build a retirement corpus for the employee. Similarly, the employee contributes his share as mandated by the government.

[1] *Roser M. "Life Expectancy," available at https://ourworldindata.org/life-expectancy*

He may also voluntarily contribute more amounts if he wishes. Although this ritual has been in place for several years now, it has seen its presence mainly in the formal or orgainzed sectors. This is done to comply with the statutory needs of the respective governments. But a major part of the workforce belongs to the informal or unorganized sector. Bringing this sector into the purview of the pension system is itself a major task. This is largely attributed due to the reluctance of the unorganized sector to plan well in advance for retirement needs. In other words, the coverage is highly skewed towards the organized workforce.

There is an increased urgency to improve this coverage towards the unorganized sectors as well. In India, a country with the world's second-largest population, the informal sector accounts for more than 90% of jobs[2]. The solution here is that more people should be encouraged to incorporate equal participation of the organized as well as the unorganized sector. Providing old age financial support should be means-tested and specifically be targeted to cater to the needs of all the strata of society. In some countries, a larger and longer-lived retiree population relies on outdated public and private pension systems that are unsustainable. In other words, they are inadequate to meet the financial promises being made. On the other hand, a rapidly rising middle class is finding virtually no system in place to help them save for old age.

Gender Imbalance

Women face a more substantial long term savings gap than men. With lower average pay and longer periods out of the workforce, women have retirement balances that are typically 30%–40% lower[3] than those of men. Compounding the problem, women live longer than men on average and so require their savings to last longer.

Post Retirement Needs

If we narrow down further to establish the financial needs of the individuals, two major priority areas after retirement are:

1) **Regular Stream of Income:** Because the person will no longer be receiving a regular salary as he was receiving before, it poses an inherent problem of planning the household budget. To guarantee this regular stream of income, sufficient funds should be kept aside. This is not only in the form of investment into pension funds or life insurance plans of insurance companies but can be into assets such as a house, shops, or can be fixed income securities guaranteed by the government.

   The beauty of a guaranteed stream of income is that it allows the individual to plan well in advance based on his needs.

   Building a guaranteed component in any product comes at a cost that can have financial implications on the provider of the product or service. The element of guarantee also erodes the chances of earning more, had the person invested in an asset, which has a component of risk coupled with high returns.

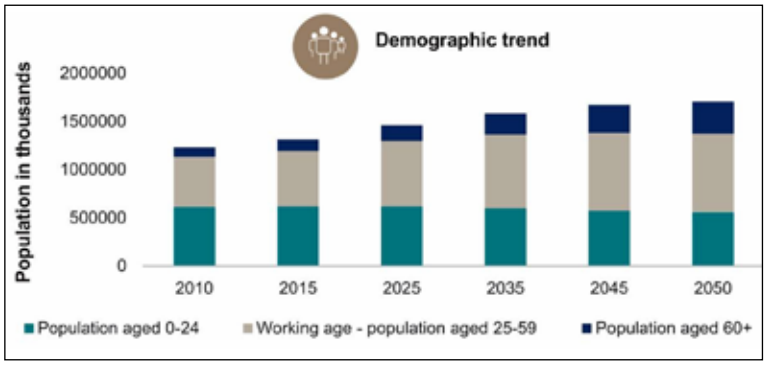
2) **Access to Capital:** Another important piece of post-retirement needs is access to capital invested. Consider if a person invests Rs. 50 lakhs in fixed income security that provides a regular stream of pension of Rs. 30,000 per month with no access to initial invested capital of 50 lakhs. This poses a serious threat to the needs of the person in case of immediate requirements. This mechanism does not completely solve the question of sustainable financial position post-retirement. Many pension funds are operating on the same principle.

   But, as a layman, are we solving the needs of the individuals after retirement? To some extent, yes, but not holistically.

Life Insurance Companies

Life insurance companies have been providing a regular stream of income by way of annuities to the annuitant

India Population Trend



Source: UN population estimates

[2] *Waghmare A. "6 Indicators of India's Looming Demographic Disaster,"*

[3] *Mercer: 'Bold ideas for Mending the Long term Savings Gap'*

wherein different varieties are offered to suit the diverse needs of the customers. In India, the annuity market has been quite sluggish as far as private life insurance companies are concerned. The reason for this sluggish approach lies in undertaking the responsibility of providing a 'guaranteed' income stream to the annuitant throughout his lifetime. The risk lies in investing the corpus appropriately in a combination of different securities as well as equity. The downside is that if the level of returns is not generated by the insurance company through its investment patter, the company may bear of risk of losing out from its pocket to honor the commitment.

Moreover many life insurance companies, today are focusing on one of the important parameters to measure sustainable growth-Value of New Business (VoNB). VoNB is nothing but the Present Value (PV) of future profits. Several annuity products have a high VoNB only if the annuity being offered is a 'deferred' annuity. This possesses an acute challenge before the sales force of an insurance company to sell the annuity product to the right customer. People are reluctant to lock the bulk amount of capital for several years to receive a guaranteed stream of income few years later. On the other hand insurance companies are not able to offer a lucrative return if the customer chooses an 'immediate' annuity option because the inherent nature of providing an annuity is based on the investment horizon. The shorter the time horizon, the less returns the fund can generate. Also volatility increases in the short run.

Demand

Considering the demand for annuity products, it mainly comes from two frontiers, first, a person suddenly decides that I am retiring in a couple of weeks and I need to buy an annuity. The second is that a person is saving towards retirement for a while and now a substantial amount of corpus is ready. This substantial amount of corpus may be in the form of a deferred pension that matures or it could be superannuation which matures when a person reaches superannuation age or in case of the Indian population, it could be an NPS accumulation which is due to be annuitized. These parts of savings towards retirement have to necessarily be annuitized at some point in time, irrespective of what the yields and annuity rates that are being offered by different life insurance companies are. So the demand for this section of retirement savings, ie. by creating a retirement corpus that has a mandatory element of annuitization will not be affected by any fluctuation in interest and annuity rates.

Defined Benefit & Defined Contribution Schemes

Defined Benefit (DB) Scheme

In a defined benefit fund, an employer, through a retirement fund, assures the employee, a formula based benefits in retirement. A defined benefit pension scheme is a risky solution to the provider as it bears the Longevity and Investment risks.

The need for robust pension solutions is exacerbated by 2 critical trends that have led to an increase in the liabilities of Defined Benefit Schemes.

(i) **Increase in Life Expectancy:** These are certainly due to the improvements in human mortality mainly due to improved access to medical care as well as fitness tracking devices which help the individual to maintain a level of fitness as per his current health conditions. If the assumptions of mortality improvement are not accurately considered, it may lead to a higher liability on the part of the pension provider.

(ii) **Lower Investment returns from equities and bonds:** The inherent nature of the pension system is to invest the corpus in long-duration bonds and equities. This exposes the corpus for volatility in equity returns and also to a larger extent for a fall in the bond yields. This, in turn, puts an upside pressure on the pension provider. This may also eventually lead to an asset-liability mismatch.

In a defined benefit fund, the longevity risk, as well as reward, resides with the employer or the retirement fund.

Defined Contribution (DC) Scheme

An employer, through, a retirement fund, promises to make contributions on behalf of the employee to the retirement fund. The employee, too, makes voluntary contributions towards this fund. In other words, a defined contribution fund can be viewed as a 'pot of money' that grows until retirement.

In a defined contribution fund, the longevity risk as well as reward, reside with the concerned employee. Many countries are now moving towards a defined contribution scheme as it reduces the financial burden on the government or the employer to fund future pension liabilities.

We will now move on towards assessing various factors that play a critical role in determining whether pension is an effective, sustainable and adequate solution for managing longevity risk.

Effectiveness

Effectiveness of the pension can be evaluated on various parameters:

1) **Income:** The amount that the pensioner receives should be in line with what he requires to maintain the same lifestyle as before. Another soft point to note is that the lifestyle of a person does not remain the same post-retirement. His interests may change. Perhaps he may like to live a simple lifestyle than before. This depends on an individual basis. But the reality is that not many people live a lavish lifestyle after retirement. This aspect makes a significant impact on the amount to be received in the form of a pension.

2) **Inflation:** Inflation is a 'silent killer' of the accumulated corpus. The retirement income received in real terms may bring less value than anticipated. Inflation may seriously affect the planning process of the individual. The reason for this is that no one can accurately predict the futuristic inflation rate.

3) **Coverage:** The mass coverage for people to adopt the pension scheme is a function of proper awareness that needs to be made by the government by creating a sustainable environment for pension players to operate. If not, the government can create a trust which is responsible for administering the pension corpus. The success of 401K has been largely due to the mass adaptability of the scheme.

Sustainability

Sustainability of a Pension scheme can be evaluated on parameters like:

1) **Solvency:** The trust administering the corpus is responsible for carefully overlooking the investment of the individual. The major reason why several economies are moving to a defined contribution scheme from a defined benefit scheme is that it becomes increasingly difficult for the pension provider to continue paying the pension benefit, should the person live more than expected. Of course, this is balanced by the early deaths as well, but it is not only the question of mortality, but also investment returns that the fund can generate. With a consistent fall in the bond prices, it is difficult for the pension providers to keep up their promises.

2) **Flexibility & Agility:** The other reason for a successful pension system is the flexibility that it offers. The subscribers can contribute voluntarily to the scheme along with what is mandated. The interesting part is withdrawals. The reluctance in saving through a pension vehicle is due to the limited option that it offers for withdrawing the corpus. Although it is justified to generate a decent amount of returns in the future. But it is not always the returns that matter, the flexibility that is offered by the pension scheme is also of much relevance.

3) **Economies of Scale:** Pension deliveries and retirement systems in many economies are very fragmented with substantial long term liabilities overshadowing long term costs. Research suggests that economies of scale can be achieved in operations and investment management. Moreover, pension and retirement solutions cost and fees are computed as a percentage of Assets Under Management (AUM). This, on the other hand, grows with increasing AUM. Other operational tasks such as onboarding members and subscribers, collecting & allocating contributions, and at the same time maintaining records, etc. lead to significant costs as far as the entire pension system is concerned. But this dominant way of measuring sustainability as a percentage of AUM is a disadvantage for many and reduces the efficiency of high asset pool systems.

Adequacy

The adequacy of benefits is perhaps the most vital part of any pension system. After all, the primary objective of any pension system is to provide an adequate retirement income. The adequacy of the benefits is in turn affected by the features and design of the pension systems.

1) **Voluntary Contributions:** Voluntary contributions made by a subscriber should offer some sort of advantage over other investment avenues. For example, the investment amount towards the retirement fund should be tax exempted as well as the interest earned on the accumulated corpus should be tax exempted. Thus differential treatment based on tax rules provides an added incentive to save towards the retirement fund.

   It is recognized that the tax treatment of pensions varies across the world. There are two components to consider tax deductions on the amount contributed and differential tax treatment on the interest earned on the accumulated corpus.

2) **Income stream:** Some governments mandate the amount that can be commuted and annuitized. It can happen that due to the prevalent

regulations the amount to be received as an income stream is less, despite the corpus of money is larger. Many systems around the world provide lump-sum retirement benefits that are not necessarily converted into an income stream. In other words, the system just acts as a savings vehicle to accumulate funds in the 'Pot of Money'.

3) **Net Investment Return:** One of the critical parts in any pension system is the amount of return that the fund can generate. Some economies have allowed substantial investment into equities, but some regulators across the world have adopted a conservative approach, restricting the investment into equities considering the market volatility and subscriber's interests. The effective return is also deeply affected by the charges on the accumulated corpus. This, in turn, reduces the net returns if high costs are incurred. However, it is possible to design a system that has minimal involvement of intermediaries as well as fewer allocation costs using economies of scale.

4) **Net Replacement Rate:** Net replacement rate is a commonly used measure to determine the adequacy of the benefits provided by a retirement income system. They represent the level of retirement income divided by a measure of pre-retirement earnings. In essence, they measure the level of retirement income provided to replace the previous level of employment earnings. The replacement rates should be higher for lower-income earners than average or above-average income earners.

Designing Effective Solutions to Help Ensure Adequate Savings

With the traditional systems already in place, it is now necessary to provide greater support to individuals in making sound savings and investment decisions to close the long term savings gap. However there are numerous other priorities that the individual needs to address, the primacy of the immediate over the long-term, voluntary contributions to long-term savings simply may not be enough.

The pension systems across the world that are amongst the highest ranked as per the **Melbourne Mercer Global Pension Index** score high on adequacy, sustainability and integrity – which includes those of Denmark, Netherlands and Australia. They are designed in such a way to make savings contributions compulsory, both on the part of the individuals and the employer. Moreover, individuals do not know how long they will live and maybe imprudent in managing the savings after retirement, systems can be designed in such a way to prohibit individuals in withdrawing all the pension funds in a lump sum. Instead, they are required to take the pension as lifetime annual income that is sufficient to meet their expenses through old age.

Investment Functions

Delivering adequate returns on the pension portfolio is a function of comprehensive asset allocation. The current market environment has forced the systems and providers to reevaluate their investment strategy, operating models and asset allocation. In today's world, many pension systems are wrestling with very fundamental questions regarding their investment beliefs, risk management, investment decisions, strategic asset allocation, investment models as well as their governance. This possesses a great challenge for the pension fund managers in the growing DC world.

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Pension vs Other Investment Options

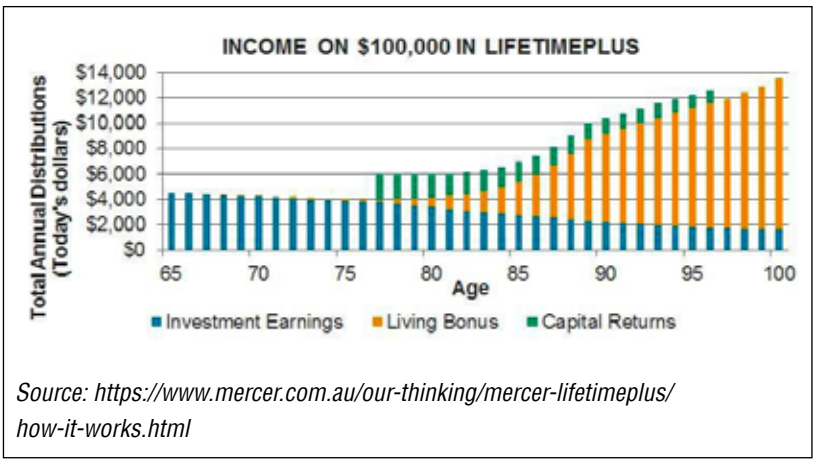
The other important question that arises, is whether pension the sole financial instrument for post-retirement needs? The answer to this question can vary amongst different individuals. But a minute study entails that currently, pension is the way forward to satisfy the needs after retirement. The other investment options consist of stocks, mutual funds, government securities, housing, etc which may generate more returns than what is provided by a pension fund manager. But the volatility is also significant. You never know when the stock market would crash causing loss to masses. Similarly, in housing, to survive on a rental income, there can be significant costs associated with it. And then there is a problem of indivisibility.

Contribution to pension systems enjoys tax deductions on the overall income. Moreover, the returns generated are also tax-free in many economies. Withdrawal from the pension corpus is also taxed at different rates. All these points make pension more attractive to the subscribers as compared to other investment avenues.

Housing

It is interesting to note that the choice of where to invest in the long run depends on the concept of opportunity cost. A property purchase requires a substantial initial expenditure. Pensions, on the other hand, allow the individual to save for retirements through monthly payments which many people can do so. Considering the high housing prices in India, it is difficult for a person to buy a property without taking a loan. Timescales to sell could differ due to demand and supply issues and negotiations. The trend in India is that landlords purchase a property, let it out to a tenant and pay the interest on the loan using these rental payments. This process on a larger scale can lead to high investment gains. But it may also lead to renovation costs, management costs, tax on the rental income received capital gains tax as well as maintenance costs.

Risk is also limited within a pension by the fact that you are only investing the money you have (unlike housing where a person may take out a loan), so you cannot lose more than you invest. With regards to pensions vs housing, the key question is how much risk does the individual willing to take?



Source: https://www.mercer.com.au/our-thinking/mercer-lifetimeplus/how-it-works.html

Product Innovations

Mercer Australia has launched an award-winning retirement investment option that is unique and different from other forms of retirement options offered in other countries. It has launched a product 'Lifetime Plus', which provides income for life. However, unlike an annuity, the income from Lifetime Plus increases as customers get older, delivering returns when other assets may be running out. This product provides income from three different sources:

1) **Investment Earnings:** A conservative investment strategy delivering reliable returns for life.
2) **Capital Returns:** 2.5% of capital returned in cash every year starting from 12th year, paid for 20 years.
3) **Living bonus:** Payments from the living bonus pool that increase with time.

Lifetime Plus uses a very simple approach to provide income for the entire life of the customer. In this arrangement, every customer is a part of a large pool that generates income for as long as they live and remain invested. When any investor leaves or dies, they will leave at least some amount in the 'Living Bonus Pool'. The rest of the money is returned to them or their legal heirs. The money in the Living Bonus Pool is distributed to the remaining investors.

World Bank's Approach Towards Inclusive Pension Penetration

In its influential report 'Averting the Old Age Global Crisis', the World Bank in 1994 recommended a multi-pillar system for the provision of old age income security which comprises of multiple pillars.

Pillar 0

A basic public pension that provides a minimal level of protection

Pillar 1

A public mandatory and contributory system linked to earnings

Pillar 2

A private mandatory and fully funded system

Pillar 3

A voluntary and fully funded system

Pillar 4

Financial and non-financial support outside formal pension arrangements

World Bank's experience suggests that there are no universal solutions to the complex array of pension issues nor is there a simple reform model that can be applied in all settings. The Bank has, however, developed principles of analysis and a conceptual framework to guide its work in this area. This framework incorporates assessment of initial conditions and capacities concerning a multi-pillar model of the potential modalities for pension systems that establish a broad but defined range of potential reform designs. These possible designs are then evaluated against a set of primary and secondary evaluation criteria in an attempt to reach an outcome that is contoured to country-specific conditions, needs and objectives.

The conceptual framework starts with an assessment of the initial conditions that establish the motivation for, and constraints on, feasible reform options. Initial conditions include inherited systems, the reform needs of such systems, and the enabling environment which may or may not be conducive to potential elements of a reform design and process. The inherited system includes existing mandatory and voluntary pension systems, the acquired rights of workers and retirees, related social security schemes, existing family and community support of retirees, and old age vulnerability and poverty prevalence. Reform needs are determined by applying the adequacy, affordability, sustainability, equity, predictability and robustness criteria discussed below to existing schemes. Finally, the enabling environment includes the demographic profile; the macroeconomic environment; the capacity of administrative, regulatory and supervisory institutions; and the breadth, depth and efficiency of financial markets, particularly with respect to long-term instruments.

Way Forward

For a pension system to be effective, leading pension providers need to rebalance the way they exploit numerous opportunities by analyzing the solutions on a global basis. An integrated, effective and sustainable approach, as well as a reliable operating model, will help maximize long term retirement benefits and contribute to global industrialization of the pension industry. This would be an equally winning situation for the private sector, governments, regulators and most importantly for the subscribers.

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Systemically Important Financial Institutions (SIFIs)

Some of the large and interconnected financial institutions that are categorised as 'Too Big To Fail' create an expectation of Government support at the time of distress so as to avoid a major shock to the economy. Rather than necessitating Government intervention to ensure financial stability, it is felt essential to have in place regulatory policies that aim at reducing the probability of failure of large and interconnected financial institutions, also called as Systemically Important Financial Institutions.

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Individuals, institutions or groups of institutions, known as economic agents play an active part in economic activities. In the process, they establish economic relationships and interdependencies with each other. The financial system consists of instruments, institutions and markets that gather or pool money and make available either for consumption or investment. Thus, the financial system plays an important role in the economic development and is of great importance for the stability and sustainability of the economy. Banks and insurance

companies play a crucial role in financial intermediation and safety of assets. Apart from protecting assets, insurance companies are also long term investors and they keep premiums invested for paying claims, if and when made by the insureds.

Supervision is intended to ensure the stability, resilience and efficiency of the financial system. Regulations are made and enforced to prevent systemic risk of the possibility of sudden and unexpected events that are capable of affecting the financial system as a whole. Regulations also help in instilling confidence in the financial system.

The effects of the 2007 global financial crisis and the sovereign debt crisis of 2010 brought as a consequence the need to increase the stability of the financial sector and the institutions. It was learned during the global financial crisis that problems faced by large and interconnected financial institutions could hamper the orderly functioning of the financial system as a whole, which, in turn, could negatively impact the national economy. Some of the large and interconnected financial institutions that are categorised as 'Too Big To Fail' (TBTF) create an expectation of Government support to them at the time of distress so as to avoid a major shock to the economy. Rather than necessitating Government intervention to ensure financial stability, it is felt essential to have in place regulatory policies that aim at reducing the probability of failure of large and interconnected financial institutions, also called as Systemically Important Financial Institutions (SIFIs). In October 2001, the Financial Stability Board (FSB) recommended the need to have in place a framework to reduce risks attributable to SIFIs. A methodology for assessing the systemic importance of SIFIs was also developed. A series of reform measures had been unveiled for banks, via Basel III to improve the resiliency of banks and banking systems. These include increase in the quality and quantity of regulatory capital of the banks, improving risk coverage, introduction of a leverage ratio to serve as a backstop to the risk-based capital regime, capital conservation buffer and liquidity risk management.

As, there is a greater chance of damage to the financial system and economy due to failure of a large institution, size is an important measure of systemic importance and, therefore, size indicator is assigned more weight than the other indicators. Interconnectedness is also an important aspect as larger the number of linkages with other institutions, the greater is the potential for the systemic risk getting magnified. Apart from size and interconnectedness, financial institution infrastructure and complexity, including cross-border activity are other factors behind deciding on the status of institutions as 'Too Big To Fail'. SIFIs could be subjected to additional quantum of capital requirements compared to other entities. It is also important to monitor SIFIs on Return on Risk Weighted Assets (RORWA) for taking care of the earnings volatility. The link between earnings volatility and capital is central to ensuring stability. The assessment methodology for assessing the systemic importance of institutions is supposed to be reviewed on a regular basis by sector regulator.

While Bank for International Settlements (BIS) is mandated to take care of the global regulatory framework for more resilient banks and banking systems, the International Association of Insurance Supervisors (IAIS) participates in a global initiative, to identify global systemically important financial institutions and guides insurance sector. While Basel Committee is raising the resilience of the banking sector by strengthening the regulatory capital framework, IAIS does a similar activity for insurance sector by way of suggesting Risk Based Capital norms.

The effects of the 2007 global financial crisis and the sovereign debt crisis of 2010 brought as a consequence the need to increase the stability of the financial sector and the institutions. It was learned during the global financial crisis that problems faced by large and interconnected financial institutions could hamper the orderly functioning of the financial system as a whole, which, in turn, could negatively impact the national economy. Some of the large and interconnected financial institutions that are categorised as 'Too Big To Fail' (TBTF) create an expectation of Government support to them at the time of distress so as to avoid a major shock to the economy.

In the insurance sector, the main policy reform in response to the global financial crisis was introduction of capital adequacy requirements for Global Systemically Important Insurers (G-SIIs) by IAIS. It is critical that insurers' risk exposures are backed by a high quality capital base. Failure to capture major on and off-balance sheet risks, as well as derivative related exposures could also be destabilising factor for insurers. A framework to promote the conservation of capital and the build-up of adequate buffers above the minimum that can be drawn down in periods of stress is the prescription for stability.

The insurance business model being different from banking, the impact of insurance failures on other financial institutions and the economy would also be different. For insurers the technical provisions constitute the largest portion of liabilities. Actuaries are expected to provide accurate estimates of provisions and ensuring the quality and safety of invested assets in support of these provisions. It is also important to pursue an appropriate duration matching of assets to liabilities. Insurers' investments are funded by premium income and are generally held to match liabilities. Insurance business model follows disciplined implementation of a liability-driven investment approach; creation of reserves as against declaring and distributing profits and flexibility available in claims payments through strict and disciplined investment and liquidity management. Insurance supervisors have already put in place monitoring and enforcement of minimum capital and provisioning requirements for insurers and methodologies for monitoring. Though the historical evidence of insurance failures is limited compared to banking, insurers are not immune to failure. Major causes of insurance impairment could be said to be quality of management, level of governance, under provisioning and inadequate pricing. Also, rapid growth coupled with deficient risk management could lead to failure.

Reinsurers contribute to the global diversification of risks and to an efficient allocation of capital and improved risk management on the side of primary insurers. Reinsurers need to understand the risks of the cedants and availability of information about cedents' underwriting portfolio is basic prerequisite. While the fundamentals of the insurance business model apply to both the reinsurance and the primary insurance sectors, certain activities have emerged that are more relevant in, or are practised exclusively by, reinsurers. The financial strength rating, provided by rating agencies, is a contributing factor to the selection of reinsurance exposures.

The extreme stress test that include financial market distress, severe natural catastrophes, and the failure of one large reinsurance company showcase that reinsurance groups and conglomerates are engaged in non-insurance activities as well are likely to be originators of systemic crises. The intrinsically global nature of the reinsurance business in general, and the evolving nature of alternative risk transfer products with their affinity to the financial markets in particular, make it necessary for regulators to monitor the reinsurance sector along with primary insurers.

For the year 2020-21, in the Indian financial system, in banking sector, SBI, HDFC Bank and ICICI Bank have been declared as domestic Systemically Important Banks (D-SIBs) meaning failure of any of them would have a cascading effect on Indian financial system. Life Insurance Corporation (LIC), General Insurance Corporation (GIC Re), and the New India Assurance Company Limited (NACL) have been identified as Domestic Systemically Important Insurers (D-SIIs). So, as per Indian regulators, the continued functioning of these D-SIBs and D-SIIs is critical for the uninterrupted availability of financial services in the domestic financial system, for which regulators could enforce a higher level of supervision and periodic reporting.

Indian Real Estate Title Disputes- an Outcome of Asymmetrical Information Based Market: Real Estate Title Insurance- A Finance Panacea

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Abstract

The geographical territory of India has been experiencing both the changes in the demography and its ecological balances. The explosion of population followed by environmental pollutions are matter of concern to all stake holders. In 3,287,263 Sq. KM of land surface of India, 137 crores of population of India Inc are putting a constant pressure with the population density of 455 persons per single square KM of land surface. Consequently, to this, different issues have even been crops up on air, water, environment, on ecology. Absence of an appropriate regulations has added stimulation to market irregularities to this respect and has added further stimulation. Absence of sound and scientific pricing mechanism of real estate and absence of strict surveillance on the environmental pollutions and presence of asymmetric information-based market leads to a chaotic situation with lot of market irregularities involving a high volume of finance. These irregularities have a negative effect on the nation's Gross Domestic Product (GDP). As of now, as many as ten nations have implemented "Real Estate Title Insurance" and India is still continuing the status in an "exclusion category". Though under section 16

of The Real Estate (Regulation and Development) Act, 2016, there is a provision of "Obligation of promoter regarding insurance of real estate project" but so far nothing significant has been done to execute the same. But even if it is executed as per the Act, its parameters on 'title issues' will be very limited only. On implementation of the proposed concept with a dedicated "real estate title insurance", it would amount to ease of doing real estate trading in India and thereby to drive the nation's economy in such a horizon which would ultimately lead to an ease of achieving US dollar 5 trillion on GDP by 2024. To build up a general conscientious on this issue, an effort has been made to explore an academic exercise in Indian context and thereby to establish its possible application in India Inc. Hence, this observatory research works, based on secondary data, is the outcome of the same.

Key words

Asymmetric Information Based Market, Title Insurance, Market Irregularities.

Introduction

PAN INDIA has been experiencing Real Estate Title Dispute at different magnitude, ever since its independence from the British Rulers. Ever since the Indian constitution came into being, the subject "Land" was put in the state list, resulting states liberty on framing land laws, in their customized way. As a consequence, to that, as per the Hindu Succession Act,1956 states belong to the Dayabhaga Coparcenary system and Mitakshara Coparcenary systems of land title succession. As per the law of the land, Dayabhaga prevails in the states of West Bengal, Assam. Tripura and in most part of Orissa. Similarly, Mitakshara is followed in the rest of the part of India, which is again divided into Banaras, Maithili, Mayukha (Mumbai) and Dravida (Southern) sub-school. Moreover, good number of land title deeds are based on commercial purposes too. Hence, based on family, social or commercial events of land title transfer, regulations vary from one event to another. Influence of multiple parameters in different land deals, no uniformity in the land regulation could be maintained. Different land regulations have addressed "Estate" which in legal phraseology meaning an interest in real property i.e. an aggregate of rights over land vested in the individual owning the property. Land cannot be the subject of absolute ownership of any individual, the state is the ultimate owner of land. State laws are not enough to address disputes on various estate issues (Real Estate Title Disputes).

Moreover, Indian real estate transactions are being affected due to the absence of a sound and scientific pricing mechanism. Under the present circumstance, seller has more or superior information over the other and as a result owing to the ignorance of the other party, the seller can take the advantage of the information gap. In turn, prolong persistence of this gap would lead to a chaotic situation in the market.

In order to bridge the gap, the parties especially with regard to the product information, appropriate formation of market specific regulation, to address financial irregularities in dealing with the real estate deals, an attempt has been made to make a general awareness amongst the citizens of India on the issues in question such that a general conscientious can be built up in formulating a demand for such appropriate legislation leading to the constitution of "Real Estate Title Insurance Organization" and thereby to arrest market irregularities in dealing with real estates which is an Asymmetrical form.

Significance of the Study

The real estate sector comprises with sections namely housing, retail, hospitality and commercial. Real Estate Size in India:

1. In 2019, its market was US$1.72 billion, and it is projected that by 2040 it would be US $9.30 billion. Real Estate sector in India is expected to attain the size of $1trillion by 2030 and would contribute 13% of the country.

2. In connection with the FDI inflows, construction is the fourth largest sector in India.

3. Government initiatives:

Both the state and central governments have adopted several initiatives to encourage the development. Some of those are:

A. The Union Cabinet has approved the setting up of an alternative Investment Fund (AIF) of US$3.58 billion to revive around 1,600 stalled housing projects across the top cities.

B. Blackstone crosses US$12 billion investment, a milestone in India.

C. Under Pradhan Mantri Aawas Yojana (Urban), 1.2 crore houses have been sanctioned, creating 1.20 crores jobs.

D. Government has created Affordable Housing Fund (AHF) in the National Housing Bank with an initial corpus of US$1.43 billion.

E. SEBI has given its approval for the Real Estate Investment Trust (RETI) platform which would help in allowing all kinds of investors to invest in the Real Estate Market. It would create an opportunity worth US$ 19.65 billion in the Indian Market over the year.

It is discernible from the aforesaid statistical facts that the Real Estate sector in India is going to establish as an economic hotspot zone with high potentiality of bearing a significant stake holding of India's Gross Domestic Investment (FDI) inflow too.

Objectives of the Study

The study will have the following objectives:

(i) To study the nature of the Real Estate Market of India.

(ii) To identify parameters, based on which market irregularities can be addressed through an economic model.

(iii) To examine the viability of the model in virtual application on four metros of India.

Research Methodology:

(i) Nature of the study:

Observatory study has been made on secondary sources of data available in the public domain.

(ii) Sources of data:

This study is primarily based on secondary sources of data available from the different public domains.

(iii) Periodicity:

From the the birth of an Act in year 1876, which has allowed the incorporation of the Title Insurance in Pennsylvania, USA to regulatory provisions as mentioned in the Real Estate (Regulation and Development) Act 2016.

(iv) Limitation of the study:

This study is based on the secondary data only. So, the inferences drawn, based on this study, may not reveal a true picture of the nation of a whole but invariably it can exercise a projection of an "economic model" in Indian scenario. To infer more accuracy on the proposed model, a nation-based survey is needed.

(v) Future scope of research:

The study on the issue in question, has got immense potentiality as its development will directly reflect on nation's GDP and state's treasury scenario. No nation can develop, undermining regulatory framework of real estate market.

Analysis of Secondary Data and Its Findings

Towards the objective number one, that is to study the nature of the Real Estate Market of India. It has been observed form the facts mentioned in the achieved, that India has a very rich and strong heritage of multi-faceted real estate corruptions, most of them are linked with "Title Dispute". If we investigate the history of so called "Fund Flow Irregularities" relating to the real estate, one can easily understand the quantum of fund involved in such irregularities. These types of irregularities which are followed by no specific or appropriate regulatory provisions to address these issues which relate to an artificial market with asymmetric information. The resultant fact could be a harmful situation, or one party can take the advantage of the other party's ignorance. Information asymmetric is in contract to perfect information which is a key assumption in neo-classical economics. Prolong constitution of this asymmetric information leads to market uncertainty. To bring such a situation under control, Indian Real Estate Market need to be regulated in a befitting way such that it does not flourish any more. The standard economic norms for ascertaining a market as a symmetrical information market, the following seven basic points are to be fulfilled:

(i) Prevalence of more than one buyer and seller

(ii) Rational behavior of consumer

(iii) Consumer's sovereignty

(iv) Sellers seeks to maximum profit

(v) Perfect knowledge about the product in question

(vi) Perfect mobility of resources

(vii) Absence of restrictions on the entry of new sellers.

Since, out of seven features of Symmetrical Information Based Market, the fifth feature i.e. the perfect knowledge about the product in question is absent and hence the Indian Real Estate Market is not a symmetrical but asymmetrical information-based market.

Towards the objective number two, that is to identify parameters, based on which market irregularities can be addressed through an economic model. About the real estate dealing in India, it has been observed that the market is fully behaved like an entity without having regulations of its own. As a result, proper surveillance to all real estate dealings in the market has become very difficult and even to sustain itself.

To combat with such uncertainties, an attempt has been made to pinpoint the specific parameters, based on which the whole gamut of "Real Estate Market Irregularities" can be addressed. Accordingly, the following two parameters have been identified:

(i) Real Estate Title Insurance and

(ii) Asymmetric Information based markets.

The combination of the two important parameters could give a positive result on the century over title disputes on the real estate related issues. Let us discuss both the parameters one by one as follows:

(i) Real Estate Title Insurance:

It stands for the indemnity insurance against the financial loss from defects in title or real estate (property) and from the invalidity or enforceability of mortgage loans. It's a contractual arrangement entered to indemnify the losses or damages resulting from defects or problem relating to the ownership title of real estate property.

But, in practice it is discernable from the ground reality that no specific regulation guarantees or assures the protection of the "Title of the Real Estate" of the true owner. Therefore, it's a fact that even a registered sale deed does not assure the "Title" of the owner, it simply acts as an evidence of the transaction with respect of the "transfer of owner" from person to another and in the event of any dispute, the matter can be resolved with the help of judiciary.

The Real Estate Title Insurance is predominantly found in the US, Canada, Australia, UK, Mexico, New Zealand, Japan, China, Korea and thought the European countries. Basically, this concept of "Title Insurance" was discounted way back in 1874, in the US. In connection with one legal issue- Watson Vs. Muirhead which was heard by the Pennsylvania Supreme Court wherein the plaintiff Watson had lost his investment in a real estate transaction as a result of a prior lien on the property. The Defendant Muirhead had discovered the lean prior to the sale and it was clear after the lawyer had (erroneously) determined that the lean was not valid. The court ruled that the Defendant was not liable for mistakes based on the professional opinion. That setback compelled the Pennsylvania legislature to give a second thought to strengthen the regulation relating to real estate and accordingly they passed an Act kin 1874 allowing for the incorporation of "Title Insurance Companies". Accordingly, Joshu Marris of Philadelphia, for the first time, incorporated a Title Insurance Company on 28th March 1876. American Land Title Association (ALTA) is a national non-profit trade association representing the interest of 4500 Title Insurance Companies in the US. For the first time the title insurance company came into being in the US by the name of "First Title Insurance Company".

(ii) Asymmetric Information based markets:

The information asymmetry contrasts with perfect information which is a key assumption in neoclassical economics. Asymmetric market is a situation in which one party is in a transaction, has more or superior information over the other and there is absence of market regulation to that respect. But under such a situation, the resultant fact could be harmful as one party, can take the advantage over the other party's ignorance and the regulation is silent over the issue.

Now the question arises about the regulations relating to the real estate in India. Sound regulations never give such scope to happen in the real estate market. So, it is the high time to address the relevant regulatory aspects and to identify the gaps or flaws, if any, in the system. To address this issue, it would be desirable to identify those principal regulations responsible to act as a watchdog or regulator. An attempt has been made to highlight those regulations as follows:

1. Indian Contract Act. 1872
2. Transfer of Property Act. 1882
3. Registration Act. 1908
4. Special Relief Act. 1963
5. Urban Land (Ceiling & Regulation) Act. 1976
6. Indian Evidence Act. 1872
7. Indian Stamp Act. 1899
8. Income Tax Act. 1961
9. Respective State Laws Governing Real Estates
10. Rent Control Act.
11. Real Estate (Regulation and Development) Act, 2016 (RERA)

Even the Indian Accounting Standard 7, 9 and 18 deals with the techniques of accounting treatment in connection with the revenue generation on Real Estates, but nowhere it is mentioned that the valuation of a real estate where the title in question is irregular owing to asymmetric market information. Ultimately, on disclosure of the facts or

information on the real estate the chaotic situation will arise.

It is discernible from the aforesaid legal provisions that no specific regulation (even the section 16 of RERA is not enough for that) guarantees or assures the protection of "Title of the Real Estate" of the true owner. Therefore, it is a fact that even a registered deed does not assures the "Title" of the owner, it simply acts as an evidence of the transaction with respect of the transfer of owner from one person to another and in the event of any dispute and the matter can be resolved with the help of judiciary. So, considering the ground reality of our own nation, especially regarding real estate title disputes, it has been observed that most of the corruptions are basically on title related issues. If we investigate the history of so called "Fund Flow irregularities" relating to real estate, one can easily understand that the degree/quantum of fund involved in each irregularity and followed by its sequences (maintaining a negative and pecuniary heritage) since long.

Basically these types of irregularities which are followed by no specific or appropriate regulatory provision to address these issues which relates to an artificial market with asymmetric information whereas others do not, this situation leads to a financial chaos and in the context of Economics terminology, it is termed as "market with asymmetric information". Prolonged continuation of this asymmetric information leads to market uncertainty. Hence, this needs to be checked with the appropriate regulatory provisions. Reference may be made in this context that the three economists namely George Akerlof, Michael Spence and Joseph Stiglitz who analyzed the US secondhand car market as an Asymmetric Information based market with asymmetric information and were awarded the Noble Prize in the year 2001.

Towards the objective number three, that is to examine the viability of the project of the model in virtual application on four metros of India. In order to establish its possible viability or otherwise, in Indian socio-economic scenario, it would be worthwhile to through some light on the following:

(i) The pricing mechanism at different point of equilibrium at symmetrical information-based market.

(ii) The pricing mechanism at different point of equilibrium at asymmetrical information-based market.

On being considered the Indian Real Estate market as an Asymmetric Information based market, the resultant fact is that the market force influences on the pricing mechanism through the different points of equilibriums resulting which the demand curve shifts from the "Perceived Demand Curve" to "Actual Demand Curve". This scenario can be diagrammatically explained under two scenarios:

Firstly, the point of equilibrium under a symmetric information-based market (in general circumstances):

Here under the general circumstances where there is no limitation in the supply curve, the point of intersection of both the demand (D1) and supply (S1) curve is the point of equilibrium.

Secondly, the point of equilibrium under asymmetric information-based market showing the gap between the perceived demand curve and actual demand curve (in case of real estate):

Here owing to the limitation of supply of real estates, the curve is parallel to the OY axis. The perceived demand curve

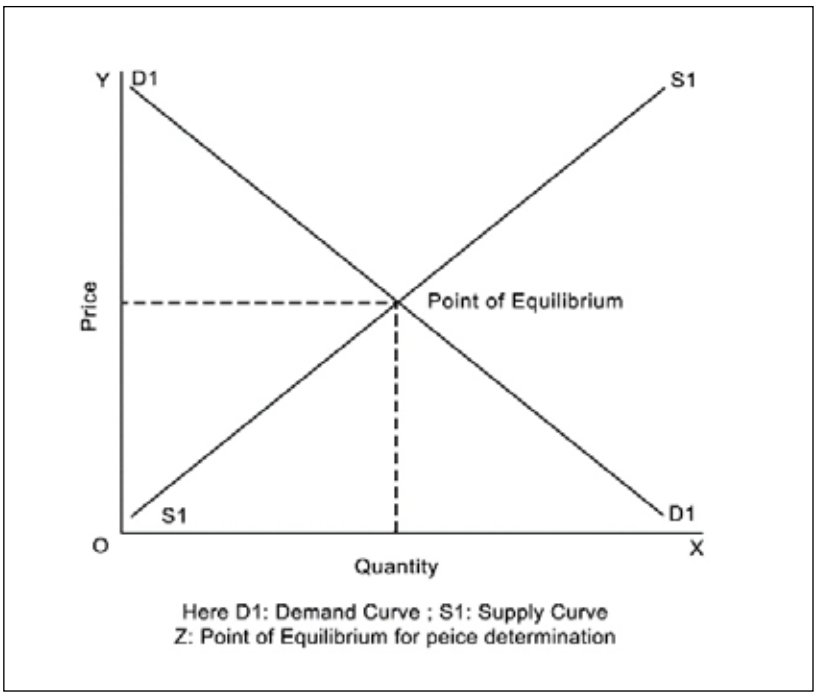

Diagram No: 1 (Source: Self drawn)

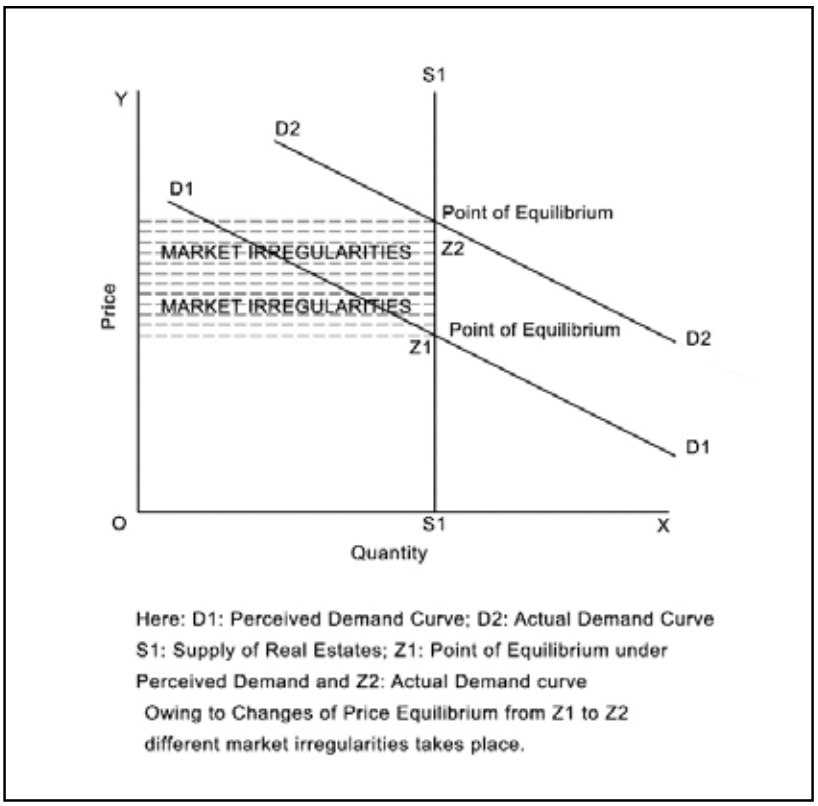

Diagram No: 2 (Source: Self drawn)

usually shows lower equilibrium point under (D1) demand curve. The actual demand curve (D2) usually shows at the higher side of the of the equilibrium point. Hence the point of equilibrium will be higher than the perceived point of equilibrium. The gap between the two points of equilibriums (Z2 and Z1) is the effect of asymmetric information-based market that is market irregularities. It results in price escalations and hike in demand on real estates with indifferent supply position and ultimately several irregularities in the real estate take place.

In order to examine the application of this model in virtual application on four metros of India, an attempt has been made to examine the same in the following way:

It has been observed in one study that if this concept is applied on only in four metro cities in India namely: Kolkata, Chennai, Mumbai and New Delhi which covers only 0.16% of the available land surface of India that is 521.64 crore square meter. If (say) @Re 0.50 per sq. Meter only is charged for the initial registration cost, then it would fetch about Rs 255 Crores. Whereas, as per the IRDAI Act 1999 and subsequent amendments, it requires that to introduce a non-life insurance company in India, a minimum paid up capital is Rs 100 Crores only. The revenue collection (through the cost of registration only) from the four metro cities is much more than the required IRDAI norm. This hypothetical assessment is based on only 0.16% of the available land surface of India and it does not include premium for the Title Insurance. Then on being application of this concept, through the nation, one can easily imagine its potentiality for the huge amount of revenue generation for the same.

To establish the probable viability of this model in Indian circumstances, we need to incorporate the principle of "Maximum Advantages". Since this concept is relates to both the social cost and social advantages so, to justify its applicability in Indian scenario, we need to incorporate the principles of 'Maximum social Advantages'. It was introduced by the British Economist-Professor Hugh Dalton. It is the most fundamental principle lying at the root of the public finance which secure the maximum social advantage from its fiscal operation.

This principle is based on the following assumptions:

1. All taxes result in sacrifice and all public expenditures lead to benefits.
2. Public revenue consists of only taxes and no other sources of income to the government
3. The government has no surplus or deficit budget but only a balanced budget.
4. Public expenditure is subject to diminishing marginal social benefits and taxes are subject to increasing marginal social sacrifices. On the contrary, if we consider those nations which have already introduced these-concept, as mentioned earlier, Australia and EU countries shows surplus budget and rest are having defecting budget. As the regulation of Real Estate Title Insurance is already in practice in those nations, since decades, so the assumption number 3 is not a rational one. Hence, India being a 'Sovereign Socialist Secular Democratic Republic Country', it justifies implementing the concept in question.

In a hypothetical situation in Indian economy, it also appears that on application of the Principle of Maximum Social Advantage, it becomes socially advantageous and justifying the financial operations. The duty of charges that would be payable by the Real Estate Title holders i.e. the "Social Sacrifice" would be lower than the "Marginal Utility" or the "Social Benefits" & hence the Maximum Social advantage is undoubtable an achievable one in Indian scenario. This can be explained by the following diagram:

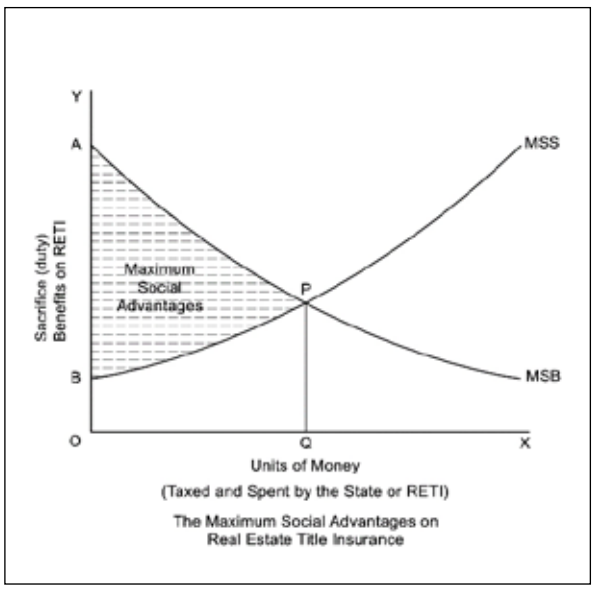

Diagram No: 3 (Source: Self drawn)

Here, MSS represents the Marginal Social Sacrifice showing the upward sloping curve that is the social sacrifice per unit of taxation goes on increasing with every additional units of money raised and MSB represents Marginal Social Benefits showing the downward sloping curve that is the social benefit per unit diminishes as the public expenditure increases. P being the point of equilibrium between the two that is the maximum social advantages point. Triangle ABP is the Marginal Social Advantage.

Here, at the point 'P' social sacrifice is equal to social benefit and h the maximum social advantage is achieved and beyond this point, the social sacrifice will be higher, and the social benefit will be lower. At point 'P1' the marginal social benefit is 'P1Q1' which is greater than the marginal social benefit 'S1Q1'. As the benefit is higher than the sacrifice so it induced/ encouraged more and more amount of taxes and public expenditure. Again, if we look at point 'P2', here the sacrifice 'S2Q2' is more than the benefit 'P2Q2'.

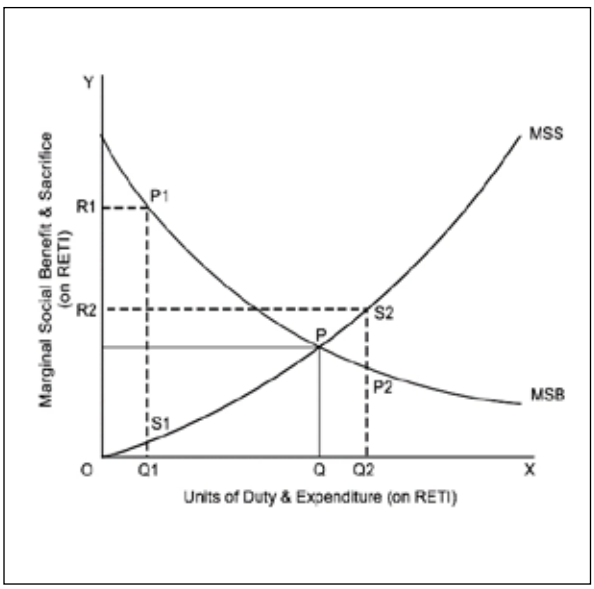

Diagram No:4 (Source: Self drawn)

Hence, beyond the point 'P', further increase in the level of taxation and public expenditure may bring down the social advantage.

On application of this concept in Indian scenario, the following probable advantages could be identified:

1. The recognition of "Real Estate Market" as an Asymmetric Market will lead to revenue recognition of untapped and unaccounted amount generated from various land and property deals.
2. Declaring it as an asymmetric market, it will inspire the authority to frame appropriate regulations.
3. Recognition/introduction Real Estate Title Insurance as one of the remedial regulatory provisions will lead to multi-dimensional effects in the nation. Some of the positive (prospective) outcomes are as follows:

(i) Introduction of this concept in the regulatory framework will give birth to a third dimension (Life and General Insurances being the 1st and 2nd dimensions) in the insurance industry.

(ii) Introduction a third dimension in the insurance industry will generate a huge potentiality of employment in the country.

(iii) Mandatory insurance coverage of all real estate, especially at the time of trading, will lead to a huge amount of revenue generation in the Government Exchequer.

(iv) Non-insured real estates would be barred by the authority to register their "sale deed".

(v) Buyers of real estate will be totally free from tension/disturbances as regards the title of the property is concerned.

(vi) Introduction of this concept will curb substantially the undervalue registration of real estates.

(vii) Introduction of "Real Estate Insurance" will put a break (to a considerable extent) in generation of black money out of the real estate deals.

(viii) Since the whole nation is under exclusion category, introduction of this concept would make all states and union territories at par on "Title Insurance".

(ix) Since the insurance company (s) will act as the third-party service provider, so in the event of any dispute, every matter will be taken care by the concerning insurance company(s).

(x) On introduction of this concept in India, it will be the ninth nation in the World to have such scheme in the real estate market.

(xi) Introduction of this scheme will restore overall peace and harmony in the real estate deal and every stake holder, sellers, buyers, service providers and government will be in a gain-gain situation, it would be easier on the part of the Government to boost up the economy to the extent of USD 5 trillion GDP by 2024 and thereby 'Good Governance in Real Estate market' will prevail.

It is discernable from the aforesaid discussions that all the three objectives have been addressed and tried to empirically establish, based on the secondary data, the real status of Real Estate Market in India and its established parameter. Further, the viability of the suggested model has also been established based on virtual application on four metros of India. The possible positivity of the intended model has also been pointed out. However, the acceptability or otherwise of the said model in Indian scenario can only be ascertain with the passing of reasonable time. The policy makers' due attention, in this domain is desirable, keeping in mind the general wellbeing of the citizen in general.

Conclusion

India being the largest democratic country in the world, and it has been observed that there is undermining of importance of Real Estate Title Insurance (RETI) in true sense of the term. It also reveals that in RETI having been implemented in India, it would have a highly positive impact on the Indian economy and at the same time the proposed scheme would invoke a balance in the social justice too. In a welfare economy like us, the application of 'Maximum Social Advantages' for ascertaining the viability of any proposed scheme is a significance indeed. As more than ten nations of the world have already been applied this insurance scheme and keeping in mind the socio-economic significance of this scheme, they are highly satisfied with the outcome. Taking the positive outcomes from those ten nations, think tankers and policy makers should ponder over this thought provoking and high level potentiality of this multidimensional, socio-economic development scheme and the stake holders should seriously develop an indigenous 'Real Estate Title Insurance' in India with a distinguishing identity in the Indian Insurance Industry.

In fine, the implementation of Real Estate Title Insurance scheme in India, in letter and spirit would uphold the interest of both the home buyers and the Government as a whole, the nation's economy will attain a historical high altitude and ultimately all stakeholders would be in a gain-gain situation.

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Impact of Covid-19 on Health and Life Insurance (Released on 8th September, 2020) and Ensuing Deliberations at III Virtual Round Table on Covid-19: Learnings for the Insurance Ecosystem

The Covid-19 pandemic has revealed that the insurance world is not yet prepared to manage pandemic situations. The most important aspect is that the virus cannot be defeated in isolation unless it is defeated everywhere. It has also given us one great learning that we can only face this type of situations through interdependence and global cooperation at economic, political and social levels.

Insurance Institute of India (III) has been a pioneering academic institution spreading Insurance education and awareness since 1955 in India and also in multiple countries. III recognizes the importance of cooperation with all stakeholders of the Insurance Industry at local and global levels. In the process, in addition to conducting certificatory courses and examinations in multiple countries and classroom training programs, III continuously provides platforms for exchange of ideas at local, national and international levels through diverse channels like essay competitions, research reports, the III Journal and other publications as well as thematic seminars, workshops and round table discussions. One such round table discussion ***"III Virtual Round Table on Covid-19: Learnings for the Insurance Ecosystem"*** was organized on the virtual mode on 8th September 2020, involving distinguished dignitaries and thought leaders from Insurance Companies and Insurance Regulators of neighboring countries including Bangladesh, Nepal, Bhutan, Sri Lanka, Maldives, Myanmar and Afghanistan. The idea of this round table discussion was to share the experiences and responses of the insurance ecosystem of different countries to the Covid-19 pandemic.

Mr. N D Kokare, Secretary, Insurance Institute of India (III), commenced the discussion by giving a formal introduction to the activities of Insurance Institute of India (III) and its training arm, College of Insurance (COI). This includes roles like conducting training programs in different streams of Insurance, conducting professional examinations leading to Licentiateship, Associateship and Fellowship certifications, developing study material, conducting researches and surveys on Insurance related subjects. He pointed out III's mandatory role in supporting the Insurance Regulator as a training cum examining body for Insurance Marketing Firms, Health Third Party Administrators, Web-Aggregators Corporate and individual Insurance Agents. III trains Insurance Brokers as well. In collaboration with the University of Mumbai, III conducts Post

Graduate Diploma in Health Insurance (PGDHI) and in Insurance Marketing (PGDIM), and also offers Ph. D. Course in Business Management. He explained how III was both responsible and responsive in playing its role for the Insurance Industry as it moved through different phases during its journey of 65 years.

Mr. Deepak Godbole, Secretary General, Insurance Institute of India (III) welcomed the distinguished participants and explained the context

and relevance of the Webinar. He drew their attention towards the new realities that the pandemic situation had posed for the insurance industry and the new challenges that were slowly unfolding before insurers worldwide. The industry became aware of the low insurance penetration and the new needs of the market. The pandemic had forced the world to accept the new normal and adapt to the same. Examples include working from home, strengthening online customer servicing, realizing the futility of high cost components like real estate and travel in running the insurance business. Mr. Godbole suggested prioritization of actions on Business Continuity Planning, Customer and Employee Safety and Wellbeing, Crisis Management Task Force, Stakeholder Communication, IT Infrastructure Stability, Standardization of Remote Working Practices and Cyber Security. He pointed out that world's response to Covid-19 pandemic was reactive as it was not ready for the same. He informed that Insurance Institute of India has responded well to Covid-19 situation by adapting to changes immediately as required by the situation including redesigning its courses, resorting to online mode of training, leveraging technology and undertaking surveys to understand the impact of Covid-19.

Mr. Muktesh Chaturvedi, Director, College of Insurance (COI), released the - Survey Report on "Impact of Covid-19 on Health and Life Insurance" on this occasion. The survey was conducted and prepared by III Research Department. The survey attempted to ascertain how the Covid-19 pandemic situation had influenced the sentiments of the insurance market and to what extent the insurance industry could respond to the requirements of people effectively. The survey focused on Life and Health

Insurance for obvious reasons and tried to explore whether new opportunities presented themselves. While explaining the importance of the survey done, he pointed out about the negative effects of the Covid-19 pandemic on human life and on the economy - by way of disruption in supply chain, fall of interest rates, reduction in insurance sales and renewals and disproportionate increase in health claims. He pointed out that neither the affected countries nor the insurers were actually prepared for facing the Pandemic or its economic fallout.

Mrs. Madhuri Sharma, Faculty, College of Insurance (COI), III presented an overview of the findings of the Survey on "Impact of Covid-19 on Health and Life Insurance".

She shared the methodology adopted for doing the survey as also the key findings, conclusions and recommendations for the Insurance Industry. She added that the survey of 493 respondents across age groups, gender and occupation was carried out by the Research Department of III to understand insurance awareness and certain issues and concerns with reference to the Life and Health Insurance Industry. The survey had made an attempt to understand the preferences of the public regarding the type of treatment desired while going for Health insurance and their experiences while availing of the treatments.

Covid-19 Experiences from Different Countries

Prof. Archana Vaze, Assistant Professor, College of Insurance (COI), III initiated the ensuing discussions and Round Table proceedings and moderated the discussions on the Impact of Covid-19 in multiple countries. She requested the distinguished participants to share experiences from their countries in the light of Covid-19 Pandemic and discuss the insurance industry's responses. She urged them to talk about matters of topical interest like providing regulatory assistance, introduction of new products, addressing legal concerns, application of Insure Tech and working from home experiences.

Covid-19 Experiences from Bangladesh

Mr. Syed Moin Ahmed, MD, Green Delta Insurance, Bangladesh shared the experiences of Bangladesh during

Covid-19. The lockdown was first started on March 26 and extended till August. He opined that Covid-19 had opened the eyes of insurance companies in Bangladesh. The pandemic had highlighted the importance of Health Insurance, Retirement Benefits, development of IT infrastructures, and designing the new products. Bangladesh Insurance Companies have witnessed huge number of corporate queries for Insurance. Mr Ahmed stated that Life Insurance Companies of Bangladesh had already extended their Health insurance coverages. The Covid-19 Pandemic had opened new opportunities for Insurers. They were also designing new Cyber and Pandemic covers.

Country-wise COVID 19 Statistics

Country	Cases	Death	Cured (Number)	Cured (%)	Active
India	4204613	71642	3250429	77.31	882542
Bangladesh	327359	4516	224573	68.60	98270
Nepal	47236	300	30677	64.94	16259
Bhutan	233	0	151	64.81	82
Maldives	8667	29	6052	69.83	2586
Sri Lanka	3123	12	2926	93.69	185
Afghanistan	38494	1415	30557	79.38	6522

As on 7th September, 2020 *Source: https://www.coronatracker.com/country*

Covid-19 Experiences from Sri Lanka

Mr. Chandana L. Aluthgama, CEO, Sri Lanka Insurance Corporation Ltd., Sri Lanka appraised the participants about the Covid-19 situation of the country. He mentioned that Covid-19 cases were so far low in Sri Lanka, thanks to the various measures taken

by the Government, such as creating awareness and declaring some services as essential services. The Sri Lankan Government had extended free Covid-19 cover for all officials fighting the Covid-19 pandemic in diverse ways. He informed that the Government had declared various financial concessions and credit facilities to help citizens face the Covid-19 pandemic situation. He further informed that the insurance industry had adapted to the new normal set by the government by embracing technology and working from home, to serve the country.

Mr. Udeni Kiridena, CEO, Sri Lanka Insurance Institute (SLII) explained that the insurance industry of the country had adapted to the changes very fast. The Insurance Regulator, the Insurers, the Sri Lanka Insurance Association and the SLII had realized the importance of collaborating and working with better closeness during these difficult times. SLII was successful in conducting online courses and online examinations

during this period. SLII officials visited Branch Offices of Insurance companies to conduct Agents' examinations maintaining social distancing norms. In Mr. Kiridena's assessment, the Country was on its way back to the normal ways of working.

Covid-19 Experiences from Nepal

Mr. Bhoj Raj Sharma, Chief Executive Officer, Insurance Institute of Nepal and ex-Advisor, Beema Samiti (Insurance Regulatory Authority of Nepal) described the situation of Nepal in the face of the Covid-19 pandemic. The country had been through periodic lockdowns. Covid-19 cases were going up, with a recovery rate of 65%. Mr Sharma informed that the economy and the GDP growth had been badly affected, the supply chain had been thrown out of gear due to lockdown conditions and migrant workers had stopped sending remittances. The

hospitality industry, including tourism, aviation, transport, agriculture and the insurance industry were very badly affected. He stated that the Insurance regulator had been playing its role to protect customers and that Insurers were not allowed to reject claims due to the pandemic situation. The regulator had devised a Covid-19 policy to cover Government employees. Mr. Sharma informed about the formation of an insurance pool to provide cover for Covid-19 claims. The employees of the insurance industry had also adapted to the new normal by working from home and selling policies on the digital platform. He pointed out that the Covid-19 pandemic had made people more aware about insurance.

Covid-19 Experiences from Myanmar

Mr. Aung San, Chief Executive Officer, National Insurance Institute of Myanmar, informed that Covid-19

positive cases were still very low in Myanmar. The Government and the people were working together. The Government had been taking various people-centric measures. Mr. Aung San further informed that the impact of Covid-19 on the overall economy was not too harsh though there were some effects on Insurance marketing and on the transportation industry. The recently opened up Insurance sector of Myanmar had witnessed the Non-Life

insurers slowly trying to acquire some share of the market, while Life Insurers were still in the nascent stage. He opined that as the Covid-19 pandemic had increased the insurance awareness of the people, adapting to technology had become the need of the hour. He felt that the emerging scenario would help in the growth of the insurance industry and hoped that there would be more recruitments in the Insurance sector.

Covid-19 Experiences from Maldives

Mr. Uz. Hassan Fiyaz, Executive Director, Maldives Monetary Authority spoke about the economy of Maldives. He said that the Maldives was very

small country and the insurance industry was also very small, with a premium of around 60-million-dollars. There were only 5 insurance companies including one composite insurance company. Maldives has a tourism based economy and the Covid-19 pandemic had affected the tourism industry badly. More than health of people, the pandemic had affected the economy of Maldives. The Government had imposed lockdown and business was not happening. Covid-19 had affected Insurance business in the country though there were very few numbers of claims due to the Covid-19 pandemic. The Insurance Regulator was providing all necessary support to the Insurance Industry during this period of struggle. Mr. Fiyaz was hopeful that thing would be better once the lockdown was over and the border was opened.

Mr. Mohamed Liwaz Latheef, Maldives Monetary Authority, added that the Financial Results had been affected badly with a reduction of 25% in the premium of the second quarter. He too confirmed that the Regulator has been continuously working with insurance companies and monitoring the situation. In his opinion the new normal was likely to continue.

Covid-19 Experiences from Bhutan

Ms. Yeshey Lhamo, Development Officer/ Assistant Manager, Financial Institutions Training Institute (FITI), Bhutan sent her views as a written note as the communication networks were not optimal.

She conveyed that on the first detection of a Covid-19 positive case, His Majesty the King initiated a host of measures for the benefit of the citizens of Bhutan. Restrictions on gatherings were imposed, schools were closed, 'work from home' implemented, payments made through electronic modes, loan

payments deferred and measures taken to bring back citizens stranded in other countries. The Covid-19 pandemic had affected Bhutan's economy badly. In the month of August, the GDP was -6.7% because there was zero revenue from Tourism and as all the businesses were closed due to the lockdown. With the international border gates getting closed, the import of goods was affected and the construction industry was affected. However, revenue from hydropower sector was not affected. She informed that Bhutan has only two insurance companies the business of which were also affected negatively as project works and import of vehicles etc. were halted. The use of technology had also increased but there was a concern about cyber security.

Mr. Pradip Sarkar, Principal, College of Insurance (COI), Kolkata concluded the Virtual Round Table by summarizing the takeaways. He

appreciated the speakers for sharing the varied experiences and situations of Covid-19 in their countries and the impact of the pandemic on the economy and the insurance industry. He summed up the learnings from this angle. He proposed the vote of thanks to the participants and all others who made the Virtual Round Table successful.

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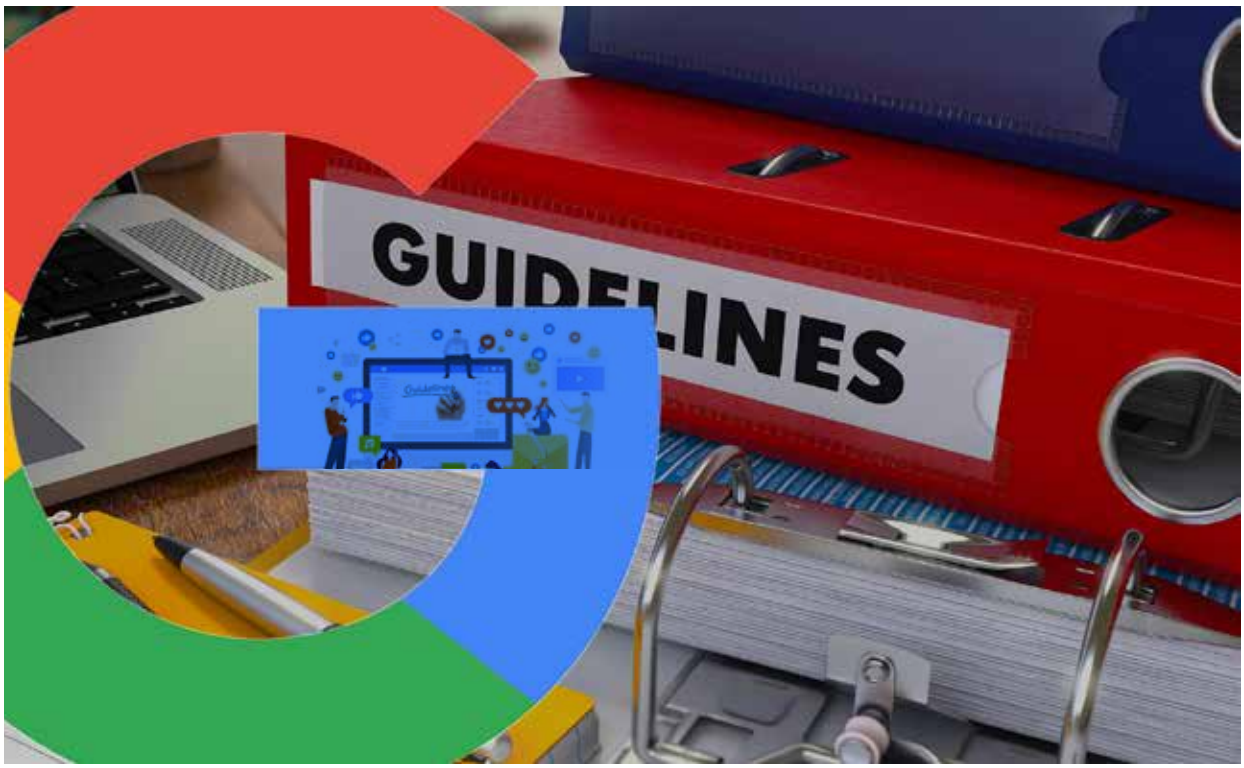

Appendix I

Declaration by the Authors

I/We (Full Name of the Author(s))……

……, hereby declare that I/We are the author(s) of the paper titled

"……"

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(Signature Author I)	**(Signature author II)**
Name:	**Name:**
Date:	
Place:	

PROGRAM CALENDAR

In view of the movement restrictions imposed by authorities due to the Covid-19 pendamic, the campus based programs have been put on hold. The College of Insurance has instead started virtual classroom training programs. The readers may check our website for details of the programs.

NOTES

NOTES

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