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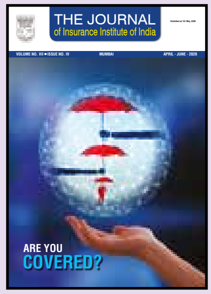

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EDITORIAL

This issue of the journal is being brought out at a time when mankind is confronting its greatest threat in living memory. There is virtually no country, affluent, non-affluent alike, that has been spared. Economies across the world are confronted by the spectre of recession, poverty and hunger. The cause of all this misery and challenge that confronts us today is an entity that cannot even be seen with the naked eye – the 'Corona Virus'. Nature is teaching us a great lesson: all it takes is an insignificant speck to bring mankind to its knees.

A few years ago, Insurance Institute of India had organized an international seminar at Mumbai in partnership with the United Nations Environment Protection – Financial Initiative [UNEP-FI] on the subject of Sustainable Insurance. The purpose was to highlight the growing incidence and impact of what the UNEP-FI termed as E S G {Environmental, Social and Governance} risks. The message was simple: if insurance industry is to sustain in future, its environment, including society, has to be sustainable. Pandemics, of which the Corona attack is a prime example, forms one of the key social risks that has to be grappled with.

Hopefully mankind will learn its lesson – there is a lot of work we all need to do to save our earth for future generations. The present pandemic serves as a wake - up call for all of us.

This issue being non-theme, we have featured some very interesting articles on a variety of subjects, some of which may be very significant in days to come. We hope the issue would be a rewarding learning experience.

The next issue would be on the theme of 'Insurance and Fraud Management'. The last date to submit the articles is 31st May 2020.

An Assessment of Service Quality Among Health Insurance Policyholders in Greater Mumbai: An Empirical Study

Abstract

India is one of the important countries in world trade as far as the service sector is concerned. The health insurance sector continues to be one of the most dynamic and fast-evolving constituents of the Indian Insurance Industry. This paper makes an attempt to examine the expectations and perceptions of policyholders regarding health insurance service quality of public and private sector general insurance companies. The data is collected from 800 health insurance policyholders in Greater Mumbai region, Maharashtra, India using simple random sampling technique. Structured questionnaire is used for collecting primary data. Secondary data is collected from journals, books, websites etc. The top 8 general insurance companies including the public and private sector, operating in India, was selected. The study is based on the SERQUAL model developed by Parasuraman et al. The study is based on five factors of health insurance service quality viz; Reliability, Empathy, Access, Responsiveness and Tangibles. Statistical tools used in the study are Parametric Paired 't' test, mean and standard deviation. The study revealed that there is a significant difference in

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the expectations and perceptions of policyholders regarding Health Insurance Service Quality factors (Reliability, Empathy, Access, Responsiveness and Tangibles) in both public and private sector general insurance companies. Also, all differences are positive, which denotes that customer's expectations exceed customer's perception. The general insurance company should try to bridge the gap between expectations and perceptions of the customers to satisfy the customers and to retain them. Customer satisfaction depends on the agreement between expectations and perceptions of service quality.

Keywords

Health Insurance, Customer Satisfaction, Service Quality, Expectation, Perception, General Insurance.

1. Introduction

India is one of the important countries in world trade as far as the service sector is concerned. The health insurance sector continues to be one of the most dynamic and fast-evolving constituents of the Indian Insurance Industry. With the liberalization, privatization and globalization, the competition among the insurance companies is becoming intense. The growth and development of the service sector business enterprises depend on the quality of the service delivery. Enterprises have to provide superior service quality as compared to their competitors to satisfy and to retain long term loyalty of the customers. The insurance sector is becoming competitive as the customers' expectations are continuously increasing thereby demanding higher standards of service quality. Service providers have to persistently make efforts to delight the customers as the expectations and perceptions of the customers are continuously evolving. Service quality is essential for the survival of the service providers. In the past few decades‘ service quality is one of the areas which have grabbed the interest of consultants, managers, academicians and researchers as it creates impact on the performance of the business, lowers costs, enhances customer satisfaction, loyalty and profitability.

2. Review of Literature

Swan and Comb (1976) differentiate that the consumers judge the products based on the narrow set of attributes, in which some of them are comparatively vital in determining the consumer satisfaction, while others may not be critical for the satisfaction of the consumer but at the same time if the performance is unsatisfactory it may relate to dissatisfaction of the consumer. **Oliver (1981)** terms satisfaction as a psychological state which origins when the customer is emotionally surrounded with the actual experience which is attached with the customer's prior expectation about the experience. Parasuraman, **Zeithaml and Berry (1988)** have distinguished service quality and satisfaction. According to them, service quality which is perceived as a global judgment or attitude which is related to the superiority of the service delivered while satisfaction is related to a specific transaction. **Carman (1990)** argued that since the importance of each item in SERVQUAL is quite distinct from the customers‘expectations, it is relevant to the assessment of service quality. **Bateson (1991)** in his study developed a model of sources of customer satisfaction. According to the researcher, satisfaction results from a comparison between expected service and perceived service. **Disend (1991)** in the paper correlated the

India is one of the important countries in world trade as far as the service sector is concerned. The health insurance sector continues to be one of the most dynamic and fast-evolving constituents of the Indian Insurance Industry. With the liberalization, privatization and globalization, the competition among the insurance companies is becoming intense. The growth and development of the service sector business enterprises depend on the quality of the service delivery.

Gaps Model with the concept of service quality. He implied that the poor service results if the difference between expectations and perceptions is negative, but if the number, by chance is zero, service is acceptable (expectations match perceptions). If a positive value emerges (perceptions exceed expectations), the service organization has achieved exceptional service. **Bolton and Drew (1994)** in their empirical study, concluded that the gap between performance and expectation was the key determinant of overall service quality. **Rust and Oliver (1994)** briefed that SERVQUAL gives management a clear indication of how the organization is performing in the customers' eyes. According to Asubonteng, **McCleary and Swan (1996)**, service quality is the difference between customer's expectations for service performed before the service encounter and their perceptions of the service received. **Kotler (2000)** states that satisfaction is a human being's emotion of pleasure or disappointment which result by comparing a product perceived performance in relation to their expectations. **Wisniewski (2001)** attempted to define Service quality as the extent to which a service meets customers' needs or expectations, that it is the difference between customer expectations of service and perceived service. Sureshchandar, **Rajendran and Anantharaman (2002)** revealed that service quality and customer satisfaction are undeniably independent, but at the same time they are closely related. **Malherbe and Pearse (2003)** defined service quality as being about value, the conformance to standards, excellence, and meeting or exceeding customers' expectations, resulting in delight. **Kolb (2005)** in his article, confirms "the well-known SERVQUAL model as a solution to the problem of measuring the elusive quality concept". Authors were of the opinion that for evaluating customers' expectations and perceptions, SERVQUAL is considered as one of the best model **(Pakdil and Aydm, 2007; Chen, 2008)**. The authors of SERVQUAL presented it as a measurement method of service quality which can be applied easily to the different service sectors **(Mauri, Minazzi and Muccio, 2013)**. S**inghal and Gupta (2013)** in their research paper, found there was no significant difference between the expectations and perceptions of policyholders in terms of tangibility, reliability, responsiveness, assurance and empathy. **Irulappan and Roseline Bincy (2014)** found a statistically significant difference in the perceptions compared to the expectations of customers in LIC. **Sahoo and Satpathy (2015)** revealed that there is a significantly high difference in the service quality of the public and the private sector non-life insurance companies in the 7 out of 33 items of service quality related variables whereas for remaining 26 items it was significantly indifferent. **Chawla and Sharma (2017)** concluded a statistically significant difference on 25 variables out of 39 in the case of public sector general insurance service quality and 18 variables out of 39 in the case of private sector. Paposa, **Ukinkar and Paposa (2019)** found that the service quality has a significant impact on customer satisfaction in the life insurance industry.

3. Objective of the Study

To examine the expectations and perceptions of policyholders regarding service quality health insurance of the public sector and private sector general insurance companies.(need to specify what service parameters – policy issuing or claims.

4. Research Hypothesis

There is statistically no significant difference between expectations and perceptions of policyholders regarding health insurance services quality of public and private sector general insurance companies.

5. Research Methodology

Both primary and secondary data is used for the study purpose. Primary data is collected with the help of a structured questionnaire. A sample of 800 health insurance policyholders in Greater Mumbai region, Maharashtra is selected using a simple random method. Primary data related to the study is collected from the health insurance policyholders of public and private sector general insurance companies viz; New India Assurance, National, United, Oriental, ICICI Lombard, Bajaj Allianz General Insurance, HDFC General Insurance, Star Health and Allied Insurance. Secondary data is collected from books, journals, newspaper etc. The study is based on five factors of health insurance service quality viz; Reliability, Empathy, Access, Responsiveness and Tangibles. The statistical tools used in the present study are Parametric Paired 't' test, mean and standard deviation.

6. Analysis, Results and Discussion

6.1. Customer Profile

Table No. 1 Demographic Profile of the Respondents

			Public Sector	Private Sector	Total
1.	**Gender**	Male	240 (60.0)	238 (59.5)	478 (59.8)
		Female	160 (40.0)	162 (40.5)	322 (40.2)
		Total	400 (100)	400 (100)	800 (100)
2.	**Age**	21-30	47 (11.8)	95 (23.8)	142 (17.8)
		31-40	104 (26.0)	131 (32.7)	235 (29.4)
		41-50	162 (40.5)	104 (26.0)	266 (33.2)
		51 & Above	87 (21.7)	70 (17.5)	157 (19.6)
		Total	400 (100)	400 (100)	800 (100)
3.	**Educational Qualification**	Upto SSC	55 (13.8)	41 (10.3)	96 (12.0)
		HSC	63 (15.7)	40 (10.0)	103 (12.9)
		Graduation	222 (55.5)	249 (62.2)	471 (58.9)
		Post Graduation	60 (15.0)	70 (17.5)	130 (16.2)
		Total	400 (100)	400 (100)	800 (100)
4.	**Occupation**	Service	229 (57.3)	224 (56.0)	453 (56.6)
		Business	62 (15.5)	61 (15.2)	123 (15.4)
		Profession	62 (15.5)	64 (16.0)	126 (15.8)
		Others	47 (11.7)	51 (12.8)	98 (12.2)
		Total	400 (100)	400 (100)	800 (100)
5.	**Family Monthly Income**	Less than Rs 50,000	110 (27.5)	153 (38.2)	263 (32.9)
		Rs 50,000 - 1,00,000	139 (34.8)	134 (33.5)	273 (34.1)
		Rs 1,00,001 - 1,50,000	71 (17.7)	43 (10.8)	114 (14.3)
		Rs 1,50,001 & Above	80 (20.0)	70 (17.5)	150 (18.7)
		Total	400 (100)	400 (100)	800 (100)
6.	**Marital Status**	Married	344 (86.0)	280 (70.0)	624 (78.0)
		Unmarried	56 (14.0)	120 (30.0)	176 (22.0)
		Total	400 (100)	400 (100)	800 (100)

Source: Computed through Primary Data
Note: Figures in bracket indicate percentages

The demographic profile of the 800 health insurance policyholders of Greater Mumbai region with regard to their gender, age, educational qualification, occupation, family monthly income and marital status is presented in Table 1. It is observed that majority of the respondents are males i.e. 59.8%. Most of the respondents i.e. 266 (33.2) belong to the age group of 41-50 years followed by 31-40 years. It is observed that 58.9% of the respondents have attained graduation as their educational qualification. It is found that 453 (56.6%) respondents are in the service class and 273 (34.1%) respondents have a family monthly income between Rs 50,000 to Rs 1,00,000 followed by income less than Rs 50,000. Most of the respondents are married.

6.2 Gap Analysis between Expectation and Perception towards various Health Insurance Service Quality Dimensions and Variables

6.2.1. Gap Analysis between Expectation and Perception towards various Health Insurance Service Quality Dimensions and Variables for Public Sector General Insurance Companies

The present study is based on the

SERVQUAL scale measures service quality, based on the difference between expectation and performance perception of policyholders using 21 items (instead of 22 items) and five-dimensional structure.

Here, the expectations and perceptions towards various health insurance service quality dimensions and variables for public sector general insurance companies is analyzed using Paired 't' test. Table 4 demonstrates the mean score of expectations, mean score of perceptions, gap mean score (E-P), t value and p value.

Table No. 4 Health Insurance Service Quality Model of Dimensions and Variables of Public Sector General Insurance Companies

Factors	Variables	Expected Mean (E)	Perception Mean (P)	Difference of Gap Mean (G=E-P)	Std. Error Mean	t	Rank	p value
Reliability	Insurance company deliver the services on time (timely settlement of claim)	4.34	3.73	.6050	.06231	9.710	3	.000
	When insurance company promises to do so by a certain time, they do so	4.19	3.72	.4775	.06006	7.950	5	.000
	The services of a insurance company are performed correctly right at the first time	4.29	3.81	.4725	.05607	8.427	4	.000
	Customers have a problem; Excellent insurance company show sincere interest in solving it	4.46	3.77	.6850	.06314	10.849	1	.000
	Insurance company insist on Error free Records	4.16	3.79	.3675	.05221	7.039	7	.000
	Customers of an insurance company feel safe in all their transaction	4.24	3.65	.5950	.05666	10.501	2	.000
	Tell customers when exactly the services be performed	4.33	3.96	.3700	.05039	7.343	6	.000
Empathy	Employees / Agents of an insurance company give their customers personal attention	4.18	3.59	.5900	.06473	9.115	4	.000
	An insurance company have a customer's best interest at heart	4.25	3.66	.5925	.05555	10.665	3	.000
	Employees / Agents of an insurance company understand the specific needs of their customer	4.37	3.69	.6825	.05337	12.787	1	.000
	Easy to reach appropriate staff person of an insurance company	4.38	3.64	.7400	.06288	11.769	2	.000
Access	Easy online access	4.27	3.67	.6000	.06754	8.884	1	.000
	Your insurance company has got simplified formalities for transactions	4.32	3.90	.4175	.05113	8.165	2	.000
	Easy telephone access	4.35	3.91	.4350	.05359	8.118	3	.000

Factors	Variables	Expected Mean (E)	Perception Mean (P)	Difference of Gap Mean (G=E-P)	Std. Error Mean	t	Rank	p value
Responsiveness	Willingness of Employees/Agents to help customer	4.32	3.79	.5350	.06170	8.671	3	.000
	Employees/Agent of an insurance company give prompt service	4.49	3.92	.5775	.05212	11.080	1	.000
	Employees/Agents are never too busy to respond to customers request	4.25	3.85	.3975	.05837	6.810	4	.000
	Employees/Agents have the knowledge to answers customers question	4.41	3.83	.5750	.05922	9.709	2	.000
Tangibles	Convenient location of the branch office	4.10	3.76	.3400	.05740	5.924	2	.000
	Materials associated with service i.e. clarity of policy statements	4.23	3.81	.4125	.05467	7.546	1	.000
	Visually Appealing Materials (E.g. Brochures)	4.11	4.04	.0650	.05095	1.276	3	.203

$p<0.01$, 1% level of significance
Source: Computed through primary data

It is observed in all the 21variables, that expectations of the public sector health insurance policyholders exceeded their perceptions. It indicates that the health insurance service providers were not able to provide services as per the expectations of the health insurance policyholders. The dimension of Reliability has seven variables; it has been observed that statistically, there is a significant difference between the expectations and perceptions in all the variables. In the case of reliability, the highest significant gap is seen in the variable "Customers have a problem; Excellent insurance company show sincere interest in solving it". The dimension of Empathy has four variables; significant difference is observed in all the variables. In case of empathy dimension, the most significant gap is seen in the variable "Employees / Agents of an insurance company understand the specific needs of their customer". In the case of Access dimension, there are three variables and it is observed all the variables have statistical significant difference between the expectations and perceptions. The highest significant gap in case of Access dimension is seen in the variable "Easy online access". The dimension of Responsiveness has four variables; it has been observed that statistically, there is a significant difference between the expectations and perceptions in all the variables. In case of responsiveness, the highest significant gap is seen in the variable "Employees/Agent of an insurance company give prompt service". The dimension of Tangibles has three variables, significant difference is observed in all the variables. In case of tangibles dimension, the most significant gap is seen in the variable "Materials associated with service i.e. clarity of policy statements".

Table 5 depicts the health insurance service quality mean scores of public sector general insurance companies. The highest gap score is observed in Empathy dimension (0.65125), followed by reliability (0.51065), responsiveness (0.52125), access (0.48438) and tangibles (0.27270). Hence, it has been proved that the mean expectation score of health insurance policyholders of public sector general insurance companies is significantly different than the perception score of health insurance policyholders. Therefore, the researcher rejects the null hypothesis that statistically, there is no significant difference between expectations and perceptions of policyholders regarding health insurance services quality of public sector general insurance companies.

Table No. 5 Health Insurance Service Quality Mean Scores of Public Sector General Insurance Companies

Factors	Expected Mean (E)	Expected Std. Dev.	Perception Mean (P)	Perception Std. Dev.	Difference of Mean (G=E-P)	Difference of Std. Deviation	t	Rank	p value
Reliability	4.2841	0.57696	3.7735	0.67815	0.51065	0.84798	12.044	2	0.000
Empathy	4.2944	0.61089	3.6431	0.91543	0.65125	0.99337	13.112	1	0.000
Access	4.3100	0.65811	3.8256	0.80868	0.48438	0.96009	10.090	4	0.000
Respon-siveness	4.3663	0.59123	3.8450	0.84443	0.52125	0.89547	11.642	3	0.000
Tangibles	4.1418	0.72015	3.8691	0.73619	0.27270	0.88243	6.181	5	0.000

p<0.01, 1% level of significance
Source: Computed through primary data

6.2.2. Gap Analysis between Expectation and Perception towards various Health Insurance Service Quality Dimensions for Private Sector General Insurance Companies

The expectations and perceptions towards various health insurance service quality dimensions for private sector general insurance companies is analyzed using Paired 't' test. Table 6 demonstrates the mean score of expectations, mean score of perceptions, gap mean score (E-P), t value and p value.

It is observed in all the 21 variables expectations of the private sector health insurance policyholders exceeds their perceptions. *It indicates that the health insurance service providers were not able to provide services as per the expectations of the health insurance policyholders.*

The dimension of Reliability has seven variables; it has been observed that statistically there is a significant difference between the expectations and perceptions in all the variables. In case of reliability, the highest significant gap is seen in the variable "Tell customers when exactly the services be performed". The dimension of Empathy has four variables, significant difference is observed in all the variables. In case of empathy dimension, the most significant gap is seen in the variable "Easy to reach appropriate staff person of an insurance company". In case of Access dimension, there are three variables and it is observed all the variables have statistical significance difference between the expectations and perceptions. The highest significant gap in case of access dimension is seen in the variable "Your insurance company has got simplified formalities for transactions". The dimension of Responsiveness has four variables; it has been observed that statistically there is a significant difference between the expectations and perceptions in all the variables. In case of responsiveness, the highest significant gap is seen in the variable "Employees/Agent of an insurance company give prompt service". The dimension of Tangibles has three variables, significant difference is observed in all the variables. In case of tangibles dimension, the most significant gap is seen in the variable "Materials associated with service i.e. clarity of policy statements".

Table No. 6 Health Insurance Service Quality Model of Dimensions and Variables of Private Sector General Insurance Companies

Factors	Variables	Expected Mean (E)	Perception Mean (P)	Difference of Gap Mean (G=E-P)	Std. Error Mean	t	Rank	p value
Reliability	Insurance company deliver the services on time (timely settlement of claim)	4.03	3.64	.3950	.05470	7.221	7	.000
	When insurance company promises to do so by a certain time, they do so	4.25	3.66	.5900	.05756	10.250	4	.000
	The services of a insurance company are performed correctly right at the first time	4.18	3.64	.5400	.05792	9.324	5	.000
	Customers have a problem; Excellent insurance company show sincere interest in solving it	4.27	3.60	.6700	.05968	11.227	2	.000
	Insurance company insist on Error free Records	4.24	3.80	.4400	.05313	8.281	6	.000
	Customers of an insurance company feel safe in all their transaction	4.30	3.66	.6450	.05836	11.052	3	.000
	Tell customers when exactly the services be performed	4.39	3.70	.6900	.05717	12.070	1	.000
Empathy	Employees / Agents of an insurance company give their customers personal attention	4.33	3.62	.7075	.05701	12.409	4	.000
	An insurance company have a customer's best interest at heart	4.31	3.41	.9000	.06660	13.513	3	.000
	Employees / Agents of an insurance company understand the specific needs of their customer	4.23	3.39	.8400	.06171	13.612	2	.000
	Easy to reach appropriate staff person of an insurance company	4.32	3.18	1.1400	.06910	16.497	1	.000
Access	Easy online access	4.27	3.65	.6225	.05838	10.662	2	.000
	Your insurance company has got simplified formalities for transactions	4.36	3.71	.6500	.05735	11.333	1	.000
	Easy telephone access	4.36	3.74	.6175	.06000	10.292	3	.000

Factors	Variables	Expected Mean (E)	Perception Mean (P)	Difference of Gap Mean (G=E-P)	Std. Error Mean	t	Rank	p value
Responsiveness	Willingness of Employees/ Agents to help customer	4.26	3.60	.6600	.05297	12.461	3	.000
	Employees/Agent of an insurance company give prompt service	4.34	3.50	.8375	.05577	15.017	1	.000
	Employees/Agents are never too busy to respond to customers request	4.16	3.58	.5825	.05353	10.882	4	.000
	Employees/Agents have the knowledge to answers customers question	4.37	3.62	.7475	.05803	12.881	2	.000
Tangibles	Convenient location of the branch office	4.28	3.95	.3300	.05313	6.212	2	.000
	Materials associated with service i.e. clarity of policy statements	4.35	3.74	.6100	.05919	10.306	1	.000
	Visually Appealing Materials (E.g. Brochures)	4.24	4.05	.1950	.05767	3.381	3	.001

$p<0.01$, 1% level of significance
Source: Computed through primary data

Table 7 depicts the health insurance service quality mean scores of private sector general insurance companies. The highest gap score is observed in Empathy factor / dimension (0.89688), followed by responsiveness (0.70687), reliability (0.56795), access (0.63058) and tangibles (0.37870). Hence, it has been proved that the mean expectation score of health insurance policyholders of private sector general insurance companies is significantly different than the perception score of health insurance policyholders. Therefore, the researcher rejects the null hypothesis that statistically, there is no significant difference between expectations and perceptions of policyholders regarding health insurance services quality of public sector general insurance companies.

Table No. 7 Health Insurance Service Quality Model of Private Sector Insurance Companies

Factors	Expected Mean (E)	Expected Std. Dev.	Perception Mean (P)	Perception Std. Dev.	Difference of Mean (G=E-P)	Difference of Std. Deviation	t	Rank	p value
Reliability	4.2355	0.53568	3.6675	0.77598	0.56795	0.82561	13.758	3	0.000
Empathy	4.2950	0.70722	3.3981	0.92570	0.89688	1.02559	17.490	1	0.000
Access	4.3261	0.64547	3.6955	0.82534	0.63058	0.99251	12.707	4	0.000
Responsiveness	4.2806	0.59195	3.5738	0.86830	0.70687	0.85886	16.461	2	0.000
Tangibles	4.2895	0.55434	3.9108	0.77056	0.37870	0.92509	8.187	5	0.000

$p<0.01$, 1% level of significance
Source: Computed through primary data

7. Findings

In the case of the public sector, the highest service quality gap score exists for the health insurance service quality factor "Empathy" followed by Reliability, Responsiveness, Access and Tangibles factors. In the case of the private sector, the highest service quality gap score is present for the health insurance service quality factor "Empathy" followed by Responsiveness, Reliability, Access, and Tangibles factors.

8. Conclusions

The difference is statistically significant, which indicates that the expectations of the policyholders regarding health insurance services quality are more than the perceptions of the health insurance services quality. *It is found that the "Empathy" factor of health insurance service quality has highest service quality gap score in both the public and private sector general insurance companies. It further concludes that the general insurance company is not delivering its service quality as per the expectations of their customers. The company should attempt to decrease the service quality gap existing between the expectations of the policyholders and their perceived services.*

9. Managerial Implications

This study has some practical inferences. The finding of the study will help the managers of the general insurance companies providing health insurance products to revise their strategies and to focus on each of the individual service quality variables to reduce the existing gap between the expectations and perceptions of the health insurance policyholders. It is advised that the company should identify the needs and requirement of its customers, once it is done, then it will become easy for the company to deliver the services based upon the needs of the customers. Employees/Agents of the companies should work upon their skills to provide better services to the policyholders.

10. Limitations and Scope for Future Research

Every research has its limitations and this study is also no exception to it. This study is carried out mainly in Greater Mumbai; therefore, the results obtained may not be significant to the country as a whole. In spite of sincere and full-hearted research efforts, certain problems may remain unsolved. This will also indicate the scope of further study. Data is collected from the respondents of a few general insurance companies and hence the findings of the present study cannot be applied to all the general insurance companies operating in India. Findings and conclusions which are drawn in the present study are based on the Survey method adopted by the researcher to collect the opinions and views of the respondents which may or may not be free from personal biases. In future, many more dimensions of health insurance service quality can be integrated to validate the findings of the study further. IJ

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A Brief History of Market Regulation and Control in India

This article is about the various types and methods used to control the communities operating in "markets" and for the benefits of the buyers. The limitation of this study is that it is restricted in scope with the material available in books and webs and may not be labeled as conclusive and complete.

Markets – Origin and Growth

Markets have always been consumer-based. In other words, they are mainly buyer-based or need-based or demand-based. Marketers or sellers will produce or offer what their consumers or customers need. This has been a basic rule of markets in general.

However, the creation of new needs in the market and production to meet those created needs and offers to sell them developed later through methods and techniques of the modern marketing. In a way, history tells us that these later day marketing techniques necessitated and made controls on such markets more stringent and enforced – for obvious reasons.

Initially markets – beyond the days of individual barters – were mobile, shifting from place to place and normally conducted on fixed dates in respect of places, or related to the days of festivals, temple festivities etc. "The large crowds on these feast days

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provided potential customers and opportunities for trade,"

Later on, these localized and mobile markets developed into more definable structures as "economic progress and urbanization transformed primitive, local, and fragmented marketing outlets, such as fairs, markets, and itinerant tradesmen, into large-scale, integrated, and modern facilities, such as fixed shops."

Interestingly, these so called "fixed shops" or "markets" (in more generic terms) started again to move to places, even afar to distant places during the growth of the maritime travel and trade. Further, the development of civilizations, cultures, fashions and life styles and their inter-transfers, through wide and interconnected communication and travel, began to bring and take markets from place to place, making them larger, wider, spread over and complex – too.

This situation further prompted the State to get concerned with incessant control systems over these complex and overlapping markets, through legal frameworks.

Market Regulation and Control in Indian Context

India too had its exposure to these changing market scenarios, especially during the various invasions and intrusions made on to its territories.

However, it does not mean that India had off-loaded or imported markets and their control systems from these invader countries.

In fact India did have some of the finest systems of markets and their controls that are well documented in works like that of Kautilya. Perhaps Kautilya's Artha Shastra is the best example of a well documented text of Indian methods for treating the various types of markets and the various systems to control them. His wisdom was in that he took into consideration the different interests of all the stakeholders in each of the markets and suggested suitable and different control measures so as to meet the common good of all the stakeholders of the markets. In this process, he maintained that the Nation's interests were the prime consideration.

It was Kautilya's suggestion that certain markets, like the industries engaged in producing gold, silver, diamond, iron and ores be state-owned and that all markets must be necessarily be regulated by the State. Indian market control systems, of those days, were very well versed by Kautilya in his Arthasastra, and only the gist of a few relevant aspects are mentioned and discussed here in this Paper.

Kautilya makes a general observation that "production, exchange and consumption were also to be regulated by the State with the object of promoting maximum efficiency and equitable distribution, and also "throws light on the idea of welfare state".

Kautilya even suggested labour market controls and certain "elements of labour economics is present in the Artha Shastra, specifically Kautilya's methods for the regulation of wages and for the settlement of disputes between employers and workers. Kautilya also laid down a code of discipline for labour in which he prescribed penalty for those who refused to work after receiving wages. Kautilya also favoured leave for labourers in certain cases."

Kautilya also suggested interest rate controls in the area of State's Public Finanace. In the area of interest rates, Kautilya proposed regulation of the rate of interest and recommended fifteen percent as a just rate of interest. He also recommended a higher interest rate on money lent to traders and sea merchants."

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Kautilya's suggestion of market control was not mere price control, but included produce control, State stipulations and restrictions with specific provisions with respect to defaults, transshipment controls etc., all with a view to protect the interests of consumers and of the public, at large.

He aimed at a welfare state through proper market controls many centuries before the common era.

The next notable and documented

market control system, in India during the pre-British era, was that of Allauddin Khilji, earlier known as Juna Khan Khalji. He was the second monarch of the Khilji Dynasty and ruled India from 1296 A.D to 1316 A.D. He was a great administrator and brought in many social and economic reforms.

He is remembered for his extensive price and market control systems. "The price control policy of Allauddin is remarked as one of the wonders of that time" In the post common era he was the first ruler who established a very well thought of set of economic policies which included direct taxation system without middlemen. Even in establishing the price and market control systems, he had done away with middlemen, and made all systems directly state-controlled.

Allauddin, though illiterate, had made many thoughtful policies for the common good. He created large Royal granaries and godowns in which all grains were stored and distributed to the traders directly for sale in the markets and thus avoided black-marketing. For this purpose all dealers and traders in the market had to register their names with the State. All transporters were also registered persons to carry goods from one place to another. He also instituted rationing systems in respect of certain goods.

Allauddin not only controlled prices of many commodities but also ensured the proper and even distribution of the commodities to the general public in the market at all levels.

To ensure this, Allauddin established a price control department called "Dian-e Riyasat", which was controlling all types of markets and prices. Strict and quick actions were used to be taken on complaints from the general public.

Allauddin Khilji was, perhaps, the first ruler who looked into the problem of price and market control in a systematic manner, and was able to maintain their stability for a considerable period during his long rule.

Under British Rule

Later history does not dwell much on any Indian ruler who could institute any noteworthy market control measures, until, perhaps the British Rule.

The first notable control by the British Government, in India, was on agricultural produce and in respect of the cotton market of South India. It was by an enactment of 1887.

"History of agriculture produce market regulation programme in India dates back to the British period as raw cotton was the first farm produce to attract the attention of the Government due to anxiety of British rulers to make available the supplies of pure cotton at reasonable prices to the textile mills of Manchestor (UK). Consequently, the first regulated market (Karanja) under Hyderabad Residency Order was established in1886 in the Country and the first legislation was the Berar Cotton and Grain Market Act of 1887, which empowered the British Resident to declare any place in the assigned district as a market for sale and purchase of agricultural produce and constitute a committee to supervise the regulated markets. This Act became the model for enactment in other parts of the country"

Thus, the first regulated market (cotton market) in the country was established, in 1886, under the Hyderabad Residency Order, in Karanjia (now in Odisha State).

The next notable action by the British Government in the matter of market control was in the year 1917 with the appointment of the Indian Cotton Committee. This Committee recommended the regulation of various cotton markets, across the country, on the same lines of the Berar Act. In accordance with the Committee's recommendations, "the then Government of Bombay Province was the first to enact the Bombay Cotton Market Act", in the year 1927, as a control measure on the cotton markets in the Bombay Province.

Further development was hastened with the formation of the Royal Commission on Agriculture.

"The Royal Commission on agriculture, in its report submitted in 1928, recommended the regulation of market practices and the establishment of regulated markets in India. On regional basis, several Acts have been enacted. These were the Hyderabad Agricultural Market Act, 1930, Central Provinces Cotton Market Act, 1933, Central Provinces Agricultural Produce Market Act, 1935, Bombay, Kerala, Punjab, Mysore States Agricultural Produce Market Acts, 1939, etc. A Model Bill was prepared in 1938 by Central Agricultural Marketing Department (now known as. Directorate of Marketing and Inspection) and before reorganization of the states, nine states had passed their market regulation."

Money Market Regulations

Generally, it is a regulatory policy for every country which enables its monetary authority to control the supply of money, availability of credit, and the cost of money (rate of interest).

Availability of credit in the past used to be traditionally through money lending in every country and India was no exception. In fact, India's systems of money supply and credit and their control was one of the earliest systems in the world.

"Money lending has been part of the Indian economy since the early Vedic period. The first Indian texts – the Vedas – talked about usury or 'kusidin' – translated to 'usurer'. At that time usury was the practice of making unethical or immoral monetary loans."

The Hindu Scriptures – the Sutras (The Sacred laws of Aryas) – were the first recorded evidences (apart from Vedas) to disdain lending money at higher rates (usury).

> "A Brahmana and a Kshatriya shall not lend (anything at interest acting like) usurers"
>
> "He who acquiring property cheap, gives it for high price, is called a usurer, and blamed among those who recite veda"
>
> "Vasishta, Book II, Chapter 2, Verses 40 and 41)

However, by the period of Manu and later, usury was not disdained and was one of the methods of 'earning.'

Chapter VIII of Manu Dharma Sastra, in its verse 152, states:

"Stipulated interest beyond the legal rate, being against (the law), cannot be recovered; they call that a usurious way (of lending); the lender is (in no case) entitled to (more than) five in the hundred".

We can see that the interest rates in those distant ages also were controlled as legal rate and with a cap of the maximum of usurious rate (5%).

It is interesting to note that Kautilya also refers to certain legal rates of interest in his Arthashastra, Chapter XI.

He also suggests penalty for charging higher rates of interests than the 'just' rates. There were different rates of interests for different nuances.

> "An interest of a pana and a quarter per month per cent is just. Five panas per month per cent is commercial interest (vyávaháriki). Ten panas per month per cent prevails among forests. Twenty panas per month per cent prevails among sea-traders (sámudránám). Persons exceeding, or causing to exceed the above rate of interest shall be punished with the first amercement; and hearers of such transactions shall each pay half of the above fine."

Banks and Their Control

When did banking as a market emerge?

Though there were references to certain credit systems prevalent in Vedic and later eras because of various related terminology, like Rina (Loan, Debt or Credit), Rina Patra (Loan Agreement), Rina Lekhya (Loan Documentator), Adesha (Payment Order to a third party like the present Bill of Exchange or Bank Order) etc, there seems to be no definite existence of an institutionalized credit or banking sector in those ancient times.

Only, during the Mughal rule of India, we come across such an institutionalized credit or banking system, through a class of money dealers called Sarrafs or Shroffs.

Monetary control was well set and in-built.

The money supply was in multi-metallic coins of gold, silver and copper. They were freely available to all citizens and old coins convertible into new coins at any of the imperial mints in the empire, by surrendering the old coins, after the lapse of a certain time of the issue of

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the (old) coins. For such a conversion, certain charges and seigniorage fees were also to be paid depending upon the date of issue of the coins as available on the face of the coins.

The central imperial administration at Delhi and Agra was in strict control over the various imperial mints across the empire issuing the coins (money supply).

The basic coin constituting the main unit of account was the silver rupee coin, called the sikka rupee, in the first year of its issue. The value of a coin corresponds to the value of the metal in it plus the minting charges and the seigniorage fees.

Interestingly, the value of the sikka rupee was always at a premium over the earlier years' coins, due to their wear and tear. "The rate of this premium was controlled for all practical purposes by a class of highly experienced and influential money dealers known as sarrafs"

It is this class of sarrafs who played a great role in the entire credit policy and system, and it was virtually a 'banking' system controlling the credit networking, through wide usage of financial instruments called the "hundis".

"Hundi was a written statement given by a saraf promising payment of a specified sum of demand at a particular place, within or after a stipulated time mentioned therein."

'This facilitated merchants to expand their business without actual movement of cash resulting in a way of cashless payments. A person, in order to avoid the risks of carrying cash, deposited it with a sarraf and obtained a hundi instead, which was honoured by the sarraf's agents (gumashtaha), who had their shops at various places in the empire. The hundi was carried to the destined place either by the person himself, in which case it paralleled the travellers' cheques of modern times, or by a messenger (qasid), in case the amount was simply to be remitted to his counterpart.

"Such a form of credit, emerging out of the negotiability of the bills, was a fundamental pre-requisite for the development of merchants' capital, where liquidity of capital is imperative.

"While credit was raised, the capital was never locked up and remained in circulation."

There was a control on the failure of the credit networking which used to be normally due to dishonor of the hundi.

"The sarrafs charged 5% compensation from the drawer when the bill was dis-honoured, besides the amount due. This probably accounted for the high rates of interest charged on the principal for the stipulated period, as well as the cost of travel of the sarrafs' messengers."

Further, "One would like to reinforce the suggestion that the 'administrative unity and law and order' established by the Mughals was responsible to a great extent in keeping the 'exchange' rates to a moderate level.", though there are no references of direct regulations or controls over the business of the sarrafs.

The Colonial Banks

The East India Company was (and the other settlers like the Dutch, French and Portuguese were also using) using the Sarrafs' credit network (banking facilities) extensively till the first colonial bank was established in Calcutta, on 2 June 1806, which was renamed as Bank of Bengal in 1809. The Bank of Bombay was the second of the three presidency banks of the Raj period. It was established, pursuant to a charter of the British East India Company, on 15 April 1840. The bank's headquarters were in Bombay. The third Provincial Bank to come up was the Bank of Madras on 1 July 1843. It was established through the amalgamation of a number of existing regional banks and headquartered in Madras.

However earlier to these banks, way back in 1773, Warren Hastings, the governor of Bengal, proposed the "General Bank of Bengal and Bihar", with a "principal house" (headquarter) in Calcutta and "inferior houses" (branches) in each of the collectorships. The main functions of the bank were to standardize the rupee, facilitate revenue collection for the government and render remittance services to private merchants. The Board of Revenue approved the plan and the bank was set up in April 1773, only to be closed in 1775, for reasons that were not necessarily economic.

Later the three provincial banks of Bengal, Bombay and Madras were to be amalgamated into a central bank. There were several attempts between 1867 and 1913, made to set up a central bank, including that of the Fowler Committee in 1898.

Finally, in 1913, the proposal of the great economist, John Meynard Keynes to merge the three Presidency banks to create the "Imperial Bank of India", which will be doing the commercial banking activities (accepting deposits, lending, remittance and payment services) as well as central banking activities (management of note issue, management of public debt, banker to the government, rediscounting of bills) was accepted.

But, again, the final report the Chamberlain Commission of which Keynes was a member, suggested the appointment of a small expert committee to further examine the issue. In 1914, the World War delayed action on the recommendations of the commission. Meanwhile, experiences of the War convinced the three Presidency banks themselves, in their own interest, to merge into a single Imperial Bank. In 1920, the Imperial Bank of India Bill was passed. The Imperial Bank of India bank was to act as a commercial bank, and also as a Central Bank: banker to the government and banker to the banks. Central banking functions like the regulation of note issue and foreign exchange management were kept outside its purview.

The Reserve Bank of India (RBI) was finally established in 1935, based on the recommendations of the Hilton Young Commission (1925). The commission proposed RBI to play the functions of a Central Bank with responsibilities of note issue and foreign exchange management, while the Imperial Bank (later renamed State Bank of India in 1955) functioned primarily as a commercial bank once the RBI was established.

Reserve Bank of India was established with the function of control over all the monetary parameters, economy of the country and as a regulator of all other types of banks and financial houses, in the country.

Bima (Insurance) Market

The advent of modern insurance in India was in the year 1818, with the establishment of the Oriental Life Insurance Company, in Calcutta, mainly to insure European lives.

But, 'bima', the indigenous concept and practice of 'insurance' was already in Indian markets in the 16th – 17th centuries in prevalent measures.

One of the types of the hundis, issued by the seventeenth century sarrafs of the Mughal period, called the Jokhami Hundi, used a carry feature of bima with it.

Syed Najaf Haider, in his paper the "Organisation of Commercial Credit in Mughal India", quotes from the Khulasat-ut-Twirlkh of Sujan Rai Bhandari:

"Any one could deposit his "goods and merchandise and other property and baggage" with the sarrafs; the latter, after taking their fee, conveyed them to the destined place safely (basalamat). This practice, he says, was designated bima." (In certain correspondence documents the words 'bemah' and 'ensurance' are also found.)

"These descriptions point to a system where insurance proper was joined to carriage. Here the sarrafs undertook actual conveyance of the merchants' consignment (and not simply bearing risks of loss of consignment in conveyance). The charges were indeed often shown together with the cost of carriage, suggesting that the insurers were also often the transporters."

There is also evidence to refer to the availability of a class of specialized transporters, called 'adowayes', to transport the insured goods.

There is sufficient amount of commercial correspondence of those days to show insurance to have been practised at major trading centres of Mughal India.

Interestingly, the Mughal India was practicing "respondentia" and "bottomry" services also to the merchant community of those days, though not in great amount. Indian version of respondentia was known as "avugge" or "awg". Bottomry loans were known as "awak".

In fact, the available English commercial correspondence narrating these practices were using the same indigenous word avugge, awg and awak to refer to both respondentia and bottomry loans.

The controls on these types of bima market were exercised through the imperial laws and the trade customs.

Since the history of modern insurance that was introduced by the colonial rule is widely known and fresh and recent, much is not discussed, in this Paper, about those developments.

As far as the controls part is concerned, the Government took the following measures mostly by enacting suitable legislations, or otherwise:

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There is also evidence to refer to the availability of a class of specialized transporters, called 'adowayes' , to transport the insured goods.

- In 1912 the Indian Life Assurance Companies Act was enacted as the first statutory measure to regulate life assurance business.
- In 1914 the returns of all insurance companies were made public.
- In 1928 the Indian Insurance Companies Act was enacted to collect statistical information about both life and nonlife business transacted in India by both Indian and Foreign insurers including provident insurance societies.
- In 1938 Insurance Act was enacted,

consolidating all the earlier legislation and with a view to protect the interests of the insuring public.

- Controller of Insurance was appointed under the 1938 Act.
- In 1950 the Insurance Amendment Act was passed mainly to abolish the Principal Agencies
- In 1956 an Ordinance was passed nationalizing the Life Insurance Sector and Life Insurance Corporation of India came into existence.
- In 1957 the General Insurance Council was formed, which framed a Code of Conduct for ensuring fair conduct and sound business practices.
- In 1968 the Insurance Act was amended regulating investments and also setting the minimum solvency margins.
- The Tariff Advisory Committee was also set up under the above amended Act in 1968.
- In 1972 the General Insurance Business (Nationalisation) Act was passed to amalgamate 107 insurers into four Companies, viz., The National Insurance Company Ltd, The New India Assurance Company Ltd, The Oriental Insurance Company Ltd and The United India Insurance Company Ltd. The General Insurance Corporation of India was also incorporated as a Company in 1971.
- In 1993 R. N. Malhotra Committee was appointed to recommend reforms in the insurance sector.
- In 1994 the Malhotra Committee submitted its Report recommending – inter alia – privatization of the insurance sector, allowing even foreign insurers floating Indian Companies with Indian partners.
- In 1999 the Insurance Regulatory and Development Authority (IRDA) was constituted as an autonomous body to regulate and develop the insurance industry.
- In 2000 (April) IRDA was incorporated as a statutory body.

Afterword

We complete this Paper with a small afterword based on what Paul L. Joskow (of MIT) and Roger C. Noll (of Stanford University) opined about the theory and practice of 'regulations'.

The policy of 'regulation' is not an antitrust policy. It is an ally to remedy market imperfections and an aide for service competence and quality of service. It should also aim at the achievement of most common good, and direct the markets on to the path of the welfare of the state, at large.

The regulator should take care all the stakeholders in his endeavour – the markets, the consumers, the general public and the state – equally and unequivocally.

And, irrefutably, the whole history of regulations seems to carry the same core thoughts, as above, and reiterate them throughout all the communities and through all the eras. IJ

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Capitalizing Block Chain Technology in Insurance

Introduction

Today the insurance sector is facing the threat of competition from unexpected quarters – entrepreneurs who are using technology to scout new ways of underwriting risk and servicing customers in unique ways. While innovations by insurtech are classified as incremental innovations, block chain technologies are labelled as disruptive innovations. The ability of block chain to send, receive and store information can disrupt the way businesses process digital transactions.

Advent of block chain can mean simpler processes, lower premiums, greater transparency, increased accountability and possibility of niche coverages. Peer-to-peer insurance models and parametric models can be used to underwrite micro insurance covers. Block chain's security has proved to be its greatest strength.

Peer-to-Peer insurance is a risk sharing network where a group of individuals pool their premiums together to insure against a risk. This insurance is also called as social insurance. These platforms can begin using smart contracts to set claims and solve issues related to transfer of digital assets. In parametric insurance, insurers agree to pay a certain sum upon the occurrence of triggers within preset smart contracts.

Block chain can be applied in insurance at a more fundamental level as it addresses trust. Block chain has applications across the insurance value chain – claims payout, fraud management, underwriting (property, health and motor insurance), new

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product development, sales and distribution (agent contracts, customer details, new policy details) and policy services (renewals and policy transactions).

With the passage of time, technology has become simpler. Customers now evaluate an app within 1 minute. There is no room for technologies that don't appeal to customers because of their complexity. Apps like Ola, Uber, Zomato and Swiggy are so user friendly that even senior citizens find it easy to use. From a single button interface to zero button interfaces – automation is becoming an integral part of customer journey.

This article discusses the implications of block chain technology for the insurance sector and also highlights the limitations therein.

What is Block Chain?

Block chain has become the buzzword today. It is similar to a digital ledger. For example – when we buy or sell land, a ledger is the means by which two parties express the trust and confidence in an official manner. Block chain is a digital alternative for these ledgers.

A block chain is a distributed, tamper-free, digital ledger. A smart contract is a set of conditions recorded on the block chain so that claims can be paid out when the triggering event occurs. It is a common database of validated and encrypted transactions that follow a certain protocol. There are a series of data and transactional validations by the parties across the chain.

Block chain is a global, online ledger that is accessible to everyone. Banks were needed for transfer of digital asset from one party to another party. Bitcoin has changed this. Now the transfer of digital assets does not need an intermediary. A decentralized network with thousands of computers (nodes) around the world controls the transfers. The transfer process can be automated leading to reduction in operating cost. This is how a smart contract operates.

Block chain is now also termed as the "Internet of Contracts". Block chain has no owner – it is decentralized. Everyone can use Block chain as a basis for building future applications. Data from the ledger is difficult to use for fraudulent purposes. Any change in the ledger gets immediately notified to others – irregularities run the risk of getting exposed due to the high degree of transparency involved in block chain.

All the participants in the network share the ledger – this is somewhat similar to everyone sharing a MS Excel document. Transactions are visible to all. Changes in the document get notified instantly. However, in block chain, a transaction once made can never be altered.

Block chain is now being used to explore automation of contracts. Smart contracts are lines of computer script that describe a particular scenario. Once this scenario is confirmed, contractual terms are implemented by Block chain. This is what forms the basis for insurance companies to tailor insurance contracts (micro insurance, motor insurance, travel insurance) to unique needs of customers.

In a block chain, any transaction between two individuals in the platform is registered across all ledgers automatically, updating balances all in real-time. Typically, in a bank to bank transaction or a credit card transaction, processes are involved that add to the operating costs. Credit card transactions take longer to process. Decentralization of the ledger eases the payment process, lowers costs and speeds up transaction times.

Insurance industry relies on contracts between numerous parties (reinsurers, brokers, agents, insurers and policyholders). Transaction of these contracts will need validation of data points – a process that is tedious due to the human effort involved. Block chain can ensure that these processes are more transparent and efficient.

Today there is a greater need for personalized insurance covers that can meet the unique needs of customers. Traditional insurance industry faces the threat from emerging start-ups that are offering flexible covers through the use of automation and smart contracts.

Thanks to the very nature of the insurance business where the value chain is splintered among different stakeholders – insurers, brokers, agents, third party administrators – no one seems to have a clear picture of the pain points of customers. As the focus keeps shifting to financial performance, reduction of overheads, product-based metrics and keeping the claims low – the insurance sector's focus towards customers ends up being a mere rhetoric. Service marketing is now skewed towards "customer experience management" and insurance services must come to terms with this reality.

Ricardian Contracts

The concept of smart contracts is based on contract law. The contract is built into the code. A Ricardian contract is a digital contract that defines the terms and conditions of an interaction between two or more peers. It is cryptographically signed and verified. It can be read both by machines and humans. In insurance, both the parties may want to use the contract from time to time.

In a Ricardian contract, the information from the legal document is in a format that can be executed by the software. A high level of security is assured due to the cryptographic identification. There can be a smart contract for a hurricane insurance policy that is encoded in the block chain. When there is a hurricane, the smart contract would automatically transfer the claim money to the beneficiary. The insurance company can build its own clauses like enabling the transfer only when the hurricane reaches certain intensity.

Data is extracted from the real world and then sent to the block chain. These services are called as “oracles”. An oracle can estimate the intensity of a hurricane and help the insurance company decide that a pay-out has to be made. This will also be mapped with any claims lodged on the block chain. This will result in an automatic payment.

The reason why insurance is more amenable to block chain technology is because insurance is essentially a contract between the insured and the insurance company. Smart contracts simplify processing; ensure greater transparency and make insurance transactional. Technology determines obligations between parties and administers the relationships.

Micro Insurance & Block Chain

Micro insurance is insurance coverage for poor people who subsist on low incomes. Micro insurance has suffered from challenges like high operational costs and ineffective distribution ecosystem. Let us consider that an insurance company has to underwrite a cover for protecting small farmers in developing countries from adverse conditions of weather that can affect yield of crops. Small farmers have land sizes that are small and so the cost of servicing such policies will be much more than the meagre premium earned through them.

Micro insurance is that insurance vertical that offers protection to low-income people against specific perils. The covers are offered at nominal premiums that are proportionate to the likelihood and cost of the risks involved.

Like other branches of insurance, micro insurance is sold and never bought. Western experts are scoffing at the narrow definition of micro insurance rather preferring a more inclusive definition of micro insurance – products that are sold in the new sharing economy and those that offer solutions for challenges encountered in the sale and distribution of insurance. But the problem is that once these products are offered to all the strata of population, the distinction enjoyed by micro insurance ceases to exist. For developing economies, it is better to have micro insurance as a vertical dedicated exclusively for the marginalized sections of society.

In India, micro insurance is plagued with challenges like poor distribution ecosystem, lack of trust by insured and inordinate delays in processing claims. The trust deficit is the main reason why block chain technologies are making inroads in micro insurance – though these are early days in India. Micro insurance is a low premium – high volume sales business – so a conventional mindset of making profits through premiums may not be possible. Rather the need is to cross subsidize micro insurance through revenues generated from other insurance business models. Despite the fact that India has a huge marginalized population, volumes of micro insurance policies sold are meagre – as said earlier, trust deficit is the main reason. Either people have no faith that they will be paid the claims or claims are delayed much beyond the period of loss.

Micro insurance has to be event driven and simple. It has to be viewed with a different kind of lens. In fact, it should be viewed more as a social responsibility.

Insurance contracts are complex and the poorest of the poor have no recourse or inclination to read through such documentation. The process of selling and distributing micro insurance needs to be simplified. Traditional insurance processes will need circumvention to cut short the cycle time so that the process of collecting premium and disbursing claims is as smooth and seamless as possible.

Penetration of mobile phones in the Indian market is wide and immense. Using technology to improve the customer journey is what is needed. This is how smart contracts, artificial intelligence, and block chain technologies can demonstrate their disruptive power and reduce the complexities associated with traditional insurance buying and selling.

Combinations of micro insurance and block chain are now being explored with an aim to make insurance as inclusive as possible. The challenge is to make such micro insurance covers profitable for the insurance companies – otherwise they run the risk of not being sustainable over the long term.

Though the awareness about micro insurance is growing in India, the Western world has managed to source technologies that can be integrated with service delivery processes so that costs can be optimized. Faster purchase of micro insurance policies and quicker resolution of claims becomes possible because the coverage is split into flexible and personalized products. Farm animals can be insured or even specific weather conditions can be insured. Claim values are smaller and automated processing reduces the cycle time to payout a claim. A chat bot that is enabled by artificial intelligence (AI) can help a customer choose the right products. Claims related information can be verified using AI and smart contracts can release the payments sans any sort of documentation.

In micro insurance, claims payments are triggered by a block chain enabled smart contract. The Indian government has subsidized crop insurance. Yet, the take-up rates for micro insurance in India are less than 5%. Farmers do not trust the process as they don't believe that they will be paid when there is a loss of yield or prior experience would have sensitized them about the delay in the claims processing.

Parametric insurance covers can include natural disasters like earthquake, tropical cyclone and flood in their scope. As claims can be verified through automation, obviation of human intervention expedites the process.

In India, delays in claims settlement have led to 95 million farmer households not being covered. Traditional insurance companies can take as long as one year to settle crop insurance claims. Insurer has to send someone to assess the claim, there is an audit, the insurance company may submit a claim to a reinsurer…the process is elaborate.

A maize farmer in Ghana may be covered by a block-chain enabled smart contract. The farmer may become eligible for a claim if less than 200 millimeters of rainfall is observed during the growing season. Once the amount of rainfall is measured, a claim payment would be sent to the farmer via a mobile money service like M-PESA.

Lengthy proposal forms may not appeal to the marginalized sections. A personal face to face interaction with farmers and poorer sections of society is needed to explain the product features to them. When the smart contract is triggered, a text message will be sent to the farmer informing him about the payment details. One of the main challenges in block chain is to identify a trusted source for the trigger – especially when the locations are far flung.

Traditional insurance suffers from a trust deficit due to the inherent conflict of interest – insurance company can deny or delay the payout and benefit from the same. Smart contracts will reduce the trust deficit.

Even in motor insurance, questions are being raised about the premium charged on a flat basis without considering the usage of the vehicle. Similarly, we need to understand that micro insurance needs to become more transactional to achieve a modicum of success. Provide cover when it is needed and ensure that claims are paid on time. The more transparent the claims process, greater is the propensity for reducing the intensity of trust deficit that the poor have about insurance claims. There is an urgent need to introduce parametric covers for micro insurance.

Caselet

Etherisc is an insurtech company. It has demonstrated how block chain can lead to better cost management and enhanced efficiencies. The company introduced weather damage cover for Puerto Rico that was battered by a hurricane. Etherisc has a technology-enabled platform. This locks the premiums in smart contracts on the public ethereum block chain. Pay outs are made when the triggering event occurs. For example – there could be a weather sensor that senses high-speed winds.

When such payouts are made, it spreads the word that insurance can be relied upon to mitigate the risks. This type of parametric insurance doesn't need the formal lodging of a claim. The insurer makes the payment on the occurrence of the triggering event. Use of a block chain reduces operating costs as the insurance company doesn't need too many employees for completing the transaction. Similar claims can be processed for covers to protect against flooding.

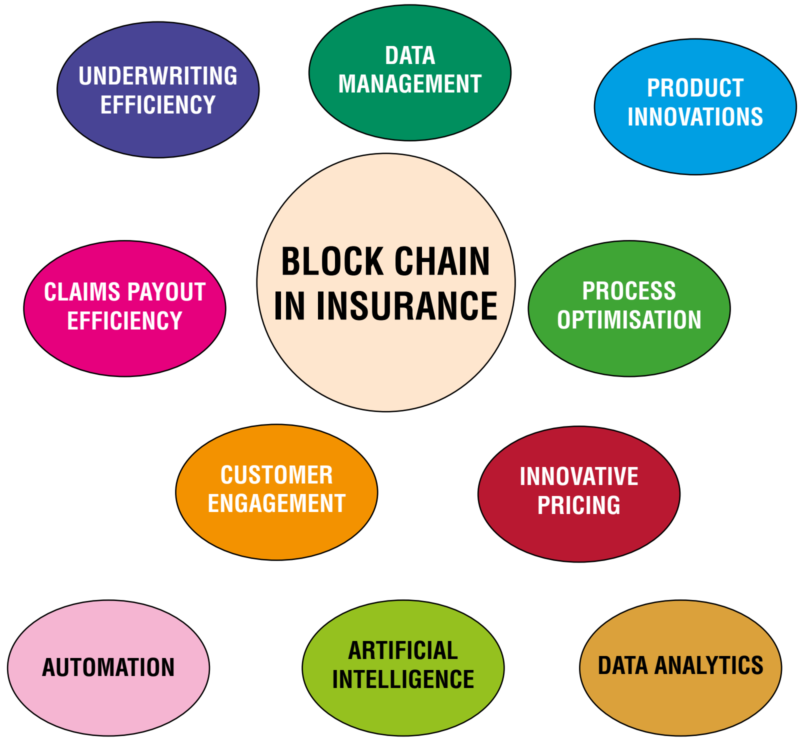
The success of these organisations in using block chain is a result of the external data source that would automatically inform the block chain whenever a triggering event occurs. AXA, an insurance giant, launched a block chain enabled parametric insurance contract for covering flight delays (example – if the plane is two hours late, the customer gets an automatic payout). AXA is now looking at extending such efforts for rural micro insurance. Traditional crop insurance schemes relied on measuring the yield as against the yield that was covered by insurance. Remote sensing technologies enable greater operational efficiency.

How Can Block Chain Benefit Insurance Industry

At the outset it needs to be remembered that block chain is not so much about technology as much as it is about collaboration and trust.

Customers get irritated when there is a delay in the transaction or there is a complexity that customer cannot relate to. Technology-enabled customer interfaces will arrest such service deficiencies leading to greater customer engagement and satisfaction. Block chains are expected to make customer transactions smooth and seamless. To manage the customer expectations, companies have to make efforts in investing in new user interfaces.

The conventional ways of the insurance industry – be it the purchasing process (through the agency model) or claims handling process – are proving to be irksome in an era where customer expectations have sky rocketed and customers are clamoring for greater value from insurers. The processes often assume a bureaucratic hue due to manual involvement at crucial stages. It is this lacuna that technologies like block chain are trying to address. The only solution appears to lie in use of artificial intelligence, smart contracts and automation.



Source: Author

There is increasing consensus about the disruptive power of block chain technology. The World Bank, UNICEF and USAID feel that block chain can help the poorest of the poor. Aon, Etherisc and Oxfam in Sri Lanka have collaborated to provide block chain enabled micro insurance to small holder farmers in Sri Lanka. The premiums are affordable for the paddy field rice farmers. The alliance has believed in empowering farmers.

Low income households need a claims process that is simple, quick and can be easily understood. Automation makes data security and integrity a reality. Ideally when the focus of the business is deflected to support the marginalized sections of the society, sustainability of business is the collateral benefit.

Impact of Block Chain on the Insurance Sector

Event triggered smart contracts that enable automated claims will reduce fraud and lead to improved customer experience. Lesser data duplication, fewer processing delays and reduced human error will increase the efficiency of back end support. Transaction costs will be lowered. Smart contracts will lead to de centralized and fully digital markets that are safe. Manual intervention will be reduced.

The key members of the value chain will be connected through consortium models where seamless sharing of data becomes a distinct possibility. Real time underwriting will result in better pricing and risk assessment. Data sharing for pricing and analytics will be automatic. Huge volumes of data can be captured through sensors, Internet of things and trackers.

Greater penetration of underdeveloped insurance and micro insurance markets will be possible though distributed databases. New types of insurance cover like sharing economy, travel insurance, spot insurance and hybrid policies will demand greater transparency and can be underwritten at significantly lower prices.

A community whose members can collaborate and learn from one another is a pre-requisite for block chain. For example, in November 2016, an informal consortium of private life insurers was set up to share experiences and discuss how customer experiences can be improved and how levers can be set up for healthy growth of the insurance industry.

Block chain can disrupt the way records are stored and secured. It will lead to increased collaboration among all the players. Block chain can lead to better process optimization for insurance industry.

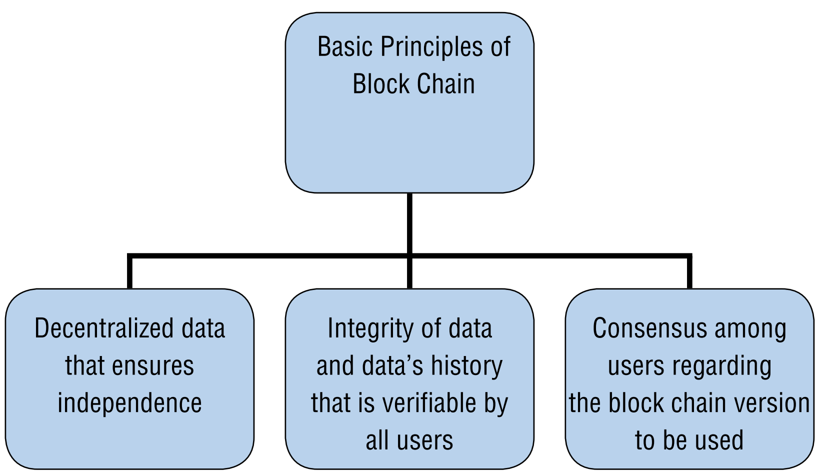
KYC data, health and policy records can be verified. Information management can be automated. Unclaimed life insurance ledger can be shared along with national policy and claims records. Even details of agents can be shared across the network. Fraud can be minimized. Paperwork becomes more streamlined. Checks for agent recruitment and improving customer outreach for unclaimed amounts are possible due to block chain.

Reinsurance	Introduction of block chain in reinsurance could remove 15-25% of expenses delivering savings of $5 billion - $ 10 billion.
Property and Casualty insurance	Gathering data on assets like a home or vehicle is a time consuming and costly process. Use of block chain can result in easier tracking of an asset. Paper contracts can be replaced by digital contracts and claims can be processed based on coded criteria. Records can be updated in real time.
Healthcare	Denials of health insurance covers add to the administrative costs. Fraud can be detected and claims can be paid out much faster than pay-outs through traditional means.

The use of cryptography leads to a decentralized block chain database. This is a digital ledger of transactions that everyone on the network can see. This network is a chain of computers that approve an exchange before it is recorded.

The benefits of block chain in insurance are

1. Improved customer engagement – this can result due to greater trust between the policyholder and insurance company.
2. Better data security – Personal and sensitive data does not need to be stored on the block chain – only the verification of the data is registered in the network.
3. Reduced cost – Key processes are automated like identification of policyholder's identity and verification of validity of the contract, underwriting, registration of claims, payouts for claims via block chain enabled smart contracts. Administrative costs are reduced.
4. Increased efficiency – KYC data on block chain can reduce the time to update data of new customers. Duplication of tedious processes can be avoided.
5. Detection of fraud – Fraudulent claims bleed an insurer's balance sheet. Block chain can be used to detect and identify fraud and false claims.



Data is updated after a consensus is reached on the transactions recorded in the block chain.

Challenges in Implementing Block Chain Technology

1. Operating costs can be high considering issues related to security
2. A decentralized system is more complex and needs users to be trained in using it.
3. Data storage can become a complex affair.
4. Protection of sensitive data (medical records) in a decentralized system will continue to be a cause of concern
5. Decentralized and collaborative management poses a governance issue.

All insurers have to be part of a private consortium. The scope and implementation of block chain technologies in insurance has to be well-defined. It is essential to view block chain as a specific solution for addressing the challenges facing insurance sector and not as a panacea for solving all the problems plaguing insurance sector. Data quality has to be robust and accurate for block chain to be effective in insurance applications.

The scalability of block chain technology depends on data replication and validation. New threats for data security must also be factored into while implementing the technology.

Block chain is viable when multiple parties are willing to share data. Block chain consortiums bring together interested parties to create a shared benefit for all of them. Can block chain handle large volumes of transactions? What about the legality of block chain contracts? There is an exigent need to understand regulatory issues around the use of block chain technology.

Conclusion

The block chain market size is expected to reach $ 7684 million by 2022 with industries such as health care, legal services, utilities, public sector, advertising, real estate and manufacturing joining the block chain bandwagon. Insurance can use block chain to detect fraud and launch innovative products and services. Administrative costs can be lowered as well.

Block chain presents an exciting proposition because it enables smaller firms to cover risks that were usually covered by large insurance firms. Though it might be too early to predict if block chain technology will end up disrupting the traditional insurance market, the prospect of new players entering the market and using automation cannot be ruled out.

Considering insurance is a business that has always thrived on intermediaries, the advent of block chain will streamline insurance processes through automation changing the very nature of the business model in the insurance industry. It is expected that block chain will enable greater penetration of the micro insurance business. As claims processing begins after triggering of an event, there is no need for the policyholder to stake a claim. Companies are exploring ways in which weather index-based insurance products can be introduced in the market.

The available risk assessment tools and platforms are unable to offer custom solutions or innovative risk-sharing models. By using block chain solutions like smart contracts and decentralized payment networks, start-ups and insurtech firms seek to disrupt the insurance industry through the implementation of peer-to-peer and on-demand insurance solutions.

Block chain makes it easier for people to share risk within a smaller community and seek insurance for specific covers. Targeted insurance covered suited to specific consumer needs is what block chain is all about. Personalized insurance covers that are affordable and effective are possible due to block chain technology. Industry experts opine that the insurance industry landscape will remain the same but the players will change in the next decade or so. Revamping of existing business model will be mandated by demands from the market. Insurers who take actions to implement innovative solutions will have greater staying power. Block chain can enable fraud prevention, track assets, reduce operational costs and enhance operational efficiencies.

The picture that is now emerging is that block chain is going to upend insurance. Implementation of block chain must focus on standardization and consistency in approach. The future of insurance is all about intelligent adoption of Block chain. Smart contracts, digital currencies and fraud solutions will cease to be mere buzz words. Insurers have to revamp their business models, underwriting processes as well as structure of the policy. Block chain technologies bring the customer into sharper focus. Strategic alliances between block chain start-ups, brokers, reinsurers, insurers may be a distinct possibility in the future.

Pay-as-you-go insurance is becoming popular in the West. Artificial intelligence can help in simulating real time weather data to make accurate predictions. Claims can be paid out when there is a triggering event even without claim intimation from the insured. Block chain technologies have the potential to revolutionize the insurance sector in the medium to long term provided insurers invest efforts in sufficient due diligence to understand the intricacies involved in such technologies.

Insurance companies have to eschew their fragmented legacy systems to stay relevant to the marginalized sections of the society. Block chain can engender greater trust among the insured. Considering the fact that experimentation has been an anathema for the insurance sector so far, the implementation of a disruptive technology like block chain has to be carried out in an incremental fashion.

Besides micro insurance, pilot testing/ field trial of block chain can be done in health insurance and life insurance. When it comes to implementation of technology, it has to be emphasized that the implementation has to be in a consistent and compatible manner. Scaling up can be done gradually.

As of now, insurance companies lack the wherewithal to derive greater value from block chain. This necessitates a greater need for collaboration of insurers with other stakeholders – startups, insurtech firms, technology solution providers. India also needs a regulatory check on the long term impact of such technologies on the industry.

The insurance industry in West has been experimenting with strategic alliances. Aon, Etherisc and Oxfam in Sri Lanka have collaborated to provide block chain enabled micro insurance to small holder farmers in Sri Lanka. The premiums are affordable for the paddy field rice farmers. The alliance has believed in empowering farmers.

The success of block chain technologies will eventually pave the path for innovative covers in micro insurance and other branches of insurance. A block chain start up called Strataumn has entered into a strategic alliance with Deloitte. They have used block chain to allow users to submit insurance claims through Facebook messenger.

Block chain as a technology is useful when there is a need for multiple parties to complete transactions that involve use of confidential data and where a high degree of transparency is essential. Block chain can lead to underwriters using the power of peer to peer networks and underwrite using AI and data analytics. Shared economy can lead to uncovering opportunities for new forms of insurance covers that can open up new opportunities for revenue generation.

Sharing of data among multiple third parties can pre-empt fraud especially in situations like occurrence of a catastrophe Reinsurers are the earliest adopters of block chain.

India may take a longer to adapt to block chain technologies. Absence of industry standards and industry specific platforms are the main concerns. Block chain startups lack knowledge about the insurance industry and its regulations.

As block chain technology keeps evolving, the insurance sector's learning curve will bloom. Absorption and adoption of advanced technologies will become part of strategies of insurance industry. These are exciting times for the insurance industry. IJ

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Fighting the COVID-19 Virus: Clinical Trials Have Opened the Second Front!

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Whatever led to Covid 2019 - there are conspiracy theories galore, evolution, mutation, climate change and more. As health workers worldwide battle with the seriously affected, another theatre has opened up. Along with the ICUs, laboratories carrying out Clinical Trials have joined in. According to the Clinical Trials platform of the US based National Institutes of Health NIH) there are currently 87 trials underway involving either a drug or a vaccine. Over 35 drug makers are fighting with millions of dollars at stake.

Most of the vaccine research under way globally targets a protein called 'spike' that studs the surface of the new coronavirus and lets it invade human cells. So, this is a race to develop a vaccine that succeeds in blocking spike - which will prevent people from getting infected.

Interestingly, researchers at the NIH have copied the virus' genetic code that contains the instructions for cells to create the spike protein. This vaccine code-named mRNA-1273, was developed by the NIH and Massachusetts-based biotechnology company. Moderna Inc. encased that "messenger RNA" into a vaccine. The Seattle research institute is part of a government network that tests all kinds of vaccines and was chosen for the coronavirus vaccine study before

COVID-19 began spreading widely in Washington state.

The idea is to make a recipient's body a mini factory, producing some harmless spike protein. When the immune system spots the foreign protein, it will make antibodies to attack - and be primed to react quickly if the person later encounters the real virus.

While there is no chance that the participants could get infected because the shots do not contain the coronavirus itself - this milestone marks the beginning of a series of studies in people needed to prove whether the shots are safe and could work. However, Dr. Anthony Fauci of the NIH has toned down any early expectations. According to him - even if the research goes well, a vaccine would not be available for widespread use for 12 to 18 months.

Starting what scientists call a first-in-humans study is a momentous occasion for scientists. Some of the study's carefully chosen 45 healthy volunteers, ages 18 to 55, will get higher dosages than others to test how strong the inoculations should be. Scientists will check for any side effects and draw blood samples to test if the vaccine is revving up the immune system. Kaiser Permanente, a Health Maintenance Organisation (HMO), screened dozens of people, looking for those who have no chronic health problems and are not currently sick. Researchers are not checking whether would-be volunteers already had a mild case of COVID-19 before deciding if they are eligible.

But because vaccines are given to millions of healthy people, it takes time to test them in large enough numbers to spot an uncommon side effect, cautioned Dr. Nelson Michael of the Walter Reed Army Institute of Research, which is developing a different vaccine candidate.

There is hope also in the form of Artificial Intelligence. For instance, a supercomputer can test effectiveness of drugs very quickly by using machine learning and Artificial Intelligence. The traditional drug discovery process can be notoriously lengthy. It can take 10 years for a new medicine to reach the market from the time it is discovered. Therefore, researchers are also examining the efficacy of existing drugs in treating COVID-19. "The logic is if any of these compound works, it would be much quicker than the typical drug development process to get approval and widespread use", according to Jeremy Smith, Molecular biologist.

Roche's arthritis drug Actemra reportedly has the backing from Chinese authorities and has launched clinical trial. AbbVie's HIV drug Kaletra, Japanese flu drug and China's own homegrown drug trial is under way. In the meantime, the efficacy of Hydroxychloroquine (HCQ) - the malarial drug under spotlight - received a nod from Indian Council of Medical Research (ICMR) based on the recommendation of the National Taskforce for Covid-19. Dr Fauci of NIH had earlier said there was 'no evidence' that the drug could be used as a prophylactic or as a treatment. He also observed that 'It was not done in a controlled clinical trial. So you can't make any definitive statement about it.'

The global efficacy of Clinical Trials findings depends upon a well-represented genetic diversity. Serious concerns have been raised about Africa's virtual absence from the COVID-19 clinical trials map. There are apprehensions that trial findings from other geographies cannot be generalised given that different people respond differently to the drugs and vaccines.

German newspaper Welt am Sonntag reported that the governments of Germany and USA are wrestling over the German-based company CureVac. It claimed that none other than the US President was offering large sums of money to German scientists working on a vaccine!

In this race to the finish, there is even an element of greed. The Intercept reports mounting pressure in the recent weeks from investment bankers on health care companies fighting the novel corona virus 'to consider ways that they can profit from the crisis'. Gilead Sciences, the company producing remdesivir, the most promising drug to treat Covid-19, is one such firm facing investor pressure. As I conclude this, there is news about a breakthrough by Pluristem Therapeutics Inc, an Israel based biotech company, with early success in treating infected patients with Pluristem's allogeneic placental expanded (PLX) cells. A good reason to remain optimistic.

"In the past, we humans have learned to control the world outside us, but we had very little control over the world inside us", observes Yuval Noah Harari in his seminal work 21 Lessons for the 21st Century. Will the hunt for a COVID-19 remedy lead us there? Well, as of now the focus has shifted from cyber hacking to the virus that has hacked humans! IJ

Opportunities, Challenges, Customer Satisfaction and Dimensions of Service Quality of Health Insurance in India

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Abstract

Health insurance is the emerging service sector in India. India is a growing economy, people in urban and rural areas are now days more educated, health conscious, rise in their living standard and need of quality healthcare leads to need of health Insurance. Health insurance in India are provided by government sector as well as private sector players. After deregulation many private sector Insurance companies entered in the insurance market and offer a wide range of innovative products to the consumers. Liberalization also opened the doors for foreign player to enter in health insurance sector. As a result the scope of Health insurance sector is getting wider. Government of India is also focusing on the improvement of health care and health insurance services. Recent government envisioned health insurance for each citizen. It has planned to cover the medical treatments of the entire population like free drugs, insurance for serious ailments under Universal Health Insurance called National Health Assurance Mission. Growing middle class, educated youth, awareness of need for protection against lifestyle disease, tax benefits are the factors

which are giving growth opportunities to health insurance sector to become fastest growing non-life insurance segment. These opportunities are facilitating market players to expand their business and competitiveness in the market. Companies are becoming more customer centric, drive down cost, using new technology etc which are helping them to grow. But there are some structural problems faced by the companies like high claim ratios, less understanding of product, changing need of customers etc. which emphasize companies to innovate products on all fronts. This paper is an attempt to study the present health Insurance scenario, opportunities and challenges of Health Insurance Companies in India.

The health insurance business in India has witnessed increased focus and attention from all stakeholders; not only from insurers and IRDA, but also from healthcare providers and other entities associated with the ecosystem. This increasing attention and awareness was due to rising healthcare costs. Recent restructuring of the general insurance business forced the insurance companies to focus on health insurance and other personal lines of business. Rationalization of premium rates in respect of individual mediclaim policies in 2007 which were unrevised for many years and upward revision of rates in all group health policies have also contributed to growth in premiums. Availability of products for senior citizens and children helped in popularizing health insurance. The Indian Health insurance market has emerged as a new and lucrative growth avenue for both the existing firms and new entrants. Health Insurance premium collections were US$ 1750 million in 2009-10 as compared to US$ 893.76 million in 2008-09, IRDA said in its annual report 2009-10. It should, however, be noted that figures for 2009-10 include policies served by third party administrators (TPAs) as well as those directly served by insurers whereas figures of2008-09 include policies by TPAs only. Health insurance industry has grown nearly 10 to 12 folds in just 10 years, not only in relation to premium generation but also from product variance angle; there was a. time when all the general insurance companies were offering only mediclaim policies.

Mediclaim rule the health insurance market for more than 10 years but now there are more than 300 diverse products offered by over 30 Indian insurance companies. As per the data of consulting firms like KPMG and others, the health insurance market would continue to grow at 25-30% per annum and reach a level of Rs 250000 to Rs 30,000 crores by 2015; the sector is growing just below 40% over the last several years. Wide range of innovative products are now available which offer a range of health covers, depending upon the need of customer. India now has products ranging from micro health insurance policies to niche, globally valid comprehensive policies. Fixed benefit products like hospital cash, critical illness and surgical cash, as also newer models like high-deductible hospital indemnity covers, are being introduced by most players in the industry.

Formal sector schemes like the employee state insurance scheme (ESIS), Central government health scheme (CGHS) and other such employer schemes, today cover only 16-18% of all people in the country, which includes a substantial recent contribution from large scale government funded health insurance programmes for the poor.

These government schemes include the

Mediclaim rule the health insurance market for more than 10 years but now there are more than 300 diverse products offered by over 30 Indian insurance companies. As per the data of consulting firms like KPMG and others, the health insurance market would continue to grow at 25-30% per annum and reach a level of Rs 250000 to Rs 30,000 crores by 2015; the sector is growing just below 40% over the last several years. Wide range of innovative products are now available which offer a range of health covers, depending upon the need of customer.

Arogyasri scheme in the state of Andhra Pradesh covering 68 million persons, Kalaignar scheme in Tamilnadu covering 10 million people and the centrally sponsored Rashtriya swasthya Bima yojana (RSBY) covering 6.5 million household corresponding to 30 million persons. RSBY will cover 300 million of the poorest citizens of the country, making it one of the largest schemes of its kind of the world, and with substantial investments in technology. RSBY can be one of the achievements and example of the pro-active steps of the government towards health insurance for poor people. The involvement of the government in the health insurance sector is thus truly multifaceted as it is the largest insurer, the largest health care provider in terms of facilities owned and one of the largest buyers of health insurance for poor families, besides its role in regulation and providing tax benefits for encouraging people to buy health insurance. Overall 7000 Crore health insurance market in India constitutes less than one-tenth of all hospitalization payments in the country. However this share is larger in tier-I and tier-II cities where health insurance is more widespread in reach as well as in its share in hospital payments. Hospitals are now more willing to collaborate with the insurers, as 40% share which insurance financing commands in larger hospital in tier-1 and tier-II cities is important enough for the top line and bottom line of the health care provider.

Many of the larger hospital groups entering into health insurance ventures made the sector more promising than before, as a consequence of the above developments, over the last few years, the Indian health insurance industry is witnessing unique and unparalleled co-operation by the various stakeholders in the industry who undertook joint efforts to address the challenges of ensuring accessibility, affordability and efficiency in health insurance system.

The effort of the Federation of Indian Chamber of Commerce and Industry (FICCI), is notable who in its report on health insurance released in July 2009 released standard treatment guidelines (STGs) for 21 common causes of hospitalization developed by the eminent clinical experts and other professionals of the FICCI working group on health insurance in association with the insurance regulator, IRDA. This document is a important landmark, being the first ever joint insurance provider effort in India for the purpose, and demonstrating the willingness of insurers and health providers in sharing a common platform to find solutions for challenges facing the industry.

Similarly, the standard definitions of critical illness which have been worked upon in another FICCI-led working group will not only enhance the customer's understanding of these terms but also ensure easier comparison of the product offerings in the market. The group has also suggested an approach to make the critical illness policies even being descriptively named so that they do not provide any incorrect impression to a prospective insured. FICCI has also submitted a report on standardizing the list of non medical expenses which will help to smooth the interaction between the patients, hospitals, TPAs and insurers by reducing the ambiguities.

Confederation of Indian Industry (CII) along with IRDA worked on standardization of import documents in the health insurance system, like the pre authorization form and the claim form, and the introduction of IT enabled formats will boost certainly operational efficiency and yield valuable data for the industry's development. The regulator on its own part, in consultation with the industry, came up with landmark circulars on renewability of health insurance policies and on health insurance for senior citizens, which have many provisions which lay emphasis on adequate disclosures, and promoting transparency and fair treatment for policyholders.

The recent IRDA committee on evaluation of performance of TP As, in its report hosted on the IRDA website, has in fact, a whole section devoted to best practices and customer service standards for the health insurance industry with many far reaching recommendations to address the many operational challenges facing the health insurance industry. With all the major stakeholders keenly involved and supporting development initiatives, there is no doubt that health insurance industry is on the right track and it will continue for years. Health insurance is going to be an important mode of payment for hospital services and will witness new and innovative products best suiting the needs of different type of consumers.

Currently, less than 10 per cent of the Indian population has some kind of health insurance cover. The robust growth of Indian economy at more than 6 per cent every year, together with a rapid rise in personal incomes, has led to this gap in healthcare spending being increasingly met by private health expenditure.

Current perspective of health insurance: The need for a proper mechanism for health insurance has been immensely felt by all since long, the growth potential rising with growing potential has always remained vastly untapped mainly due to protection of insurance service and need based product development. Most of the insurers have been following the age old principle of underwriting and rating with arbitrary decisions on discounts without any statistical analysis and loss forecasting for rating health risks. The regulations only permit general insurance companies to offer standalone health insurance products, while life insurance companies are allowed to offer riders such as critical illness cover attached to basic life policies.

Reforms and prospect of Indian health insurance: Health insurance is the most ideal mechanism for transfer of individual health risks to the large community. It is used as the most effective tool for obtaining cost effective health care in almost all developed and developing economies. Presently the health portfolio is showing very high claim ratio, but if underwriters and regulator adopt the following strategic actions, health insurance can be equally viable and vibrant as other portfolios and help to achieve the objective of national health policy.

1. To apply the law of large numbers
2. To emphasize on marketing strategy
3. To apply cost-based pricing
4. To apply risk management technologies
5. To cover senior citizens with proper underwriting
6. To apply risk based capital norms
7. To intensify PR and Publicity to popularize health insurance
8. To standardize coverage, exclusions, terms, conditions etc.
9. To devise separate regulation or Government notifications
10. To address the issue of regulations for service providers

Customer satisfaction

According to Richard L. Oliver "everyone knows what satisfaction is, until asked to give a definition. Then, it seems nobody knows." Taking the cues from researcher and from his own research he finally offers his own formal definition "Satisfaction is the consumer's fulfillment, response. It is a judgment that a product or service feature, or the product or service itself, provides a pleasurable level of consumption related fulfillment".

In a simple sense one can say that satisfaction is customer's evaluation of a product or service in terms of whether that product or service has meet the customer's needs and expectations. Failure to meet needs and expectations leads to dissatisfaction with the product or service.

In addition to fulfillment satisfaction can also be related to other type of feelings like contentment, pleasure, happiness or delight. In some situations, where the removal of a negative leads to satisfaction, the consumer may associate a sense of relief with satisfaction. Finally satisfaction may be associated with a feeling of ambivalence when there is a mix of positive and negative experiences associated with the product or service.

Satisfaction versus Service Quality: Practitioner earlier uses the terms satisfaction and quality interchangeably, but researchers have attempted to be more precise about the meanings and measurement of two concepts. Satisfaction is generally viewed as a broader concept, whereas service quality focuses specifically on dimensions of service. Therefore perceived service quality is a component of customer satisfaction.

Customer satisfaction is influenced by a number of factors like

- Product or Service Features
- Customer's Mood or Emotional State
- Attribution for Service Success or Failure
- Perceptions of Equity or Fairness
- Other Consumers, Family Members, and Coworkers Positive view Service quality is a term which describes a comparison of expectations with performance.

A business with high service quality will meet customer needs whilst remaining economically competitive improved service quality may increase economic competitiveness. This aim may be achieved by understanding and improving, operational processes; identifying problems quickly and systematically; establishing valid and reliable service performance measures and measuring customer satisfaction and other performance outcomes.

Dimensions of service quality

A customer's expectation of a particular service is determined by factors such as recommendations, personal needs and past experiences. The expected service and the perceived service sometimes may not be equal, thus leaving a gap. Ten determinants which may influence are the following:

Competence: The possession of the required skills and knowledge to perform

the service. For example, there may be competence in the knowledge and skill of contact personnel, knowledge and skill of operational support personnel and research capabilities of the organization.

Courtesy: It refers to factors such as politeness, respect, consideration and friendliness of the contact personnel; consideration for the customer's property and a clean and neat appearance of contact personnel.

Credibility: It refers to factors such as trustworthiness, belief and honesty. It involves having the customer's best interests at prime position. It may be influenced by company name, company reputation and the personal characteristics of the contact personnel.

Security: It represents the customer being free from danger, risk or doubt including physical safety, financial security and confidentiality.

Access: It refers to approachability and ease of contact. For Example, convenient office operation hours and locations.

Communication: It means both informing customers in a language they are able to understand and also listening to customers. A company may need to adjust its language for the varying needs of its customers. Information might include for example, explanation of the service and its cost, the relationship between services and costs and assurances as to the way any problems are effectively managed.

Knowing the customer: It means making an effort to understand the customer's individual needs, providing individualized attention, recognizing the customer when they arrive and so on. This in turn helps in delighting the customers i.e. rising above the expectations of the customer.

Tangibles: These are the physical evidence of the service, for instance, the appearance of the physical facilities, tools and equipment used to provide the service; the appearance of personnel and communication materials and the presence of other customers in the service facility.

Reliability: It is the ability to perform the promised service in a dependable and accurate manner. The service is performed correctly on the first occasion, the accounting is correct, records are up to date and schedules are kept.

Responsiveness: It refers to the readiness and willingness of employees to help customers in providing prompt timely services, for example, mailing a transaction slip immediately or setting up appointments quickly. Later, the determinants were reduced to only five determinants like tangibles; reliability; responsiveness; service assurance and empathy.

At Last we can say that Health insurance sector has immense opportunities as this sector maintained double digit growth last fiscal year. Health Insurance has been witnessing a rapid expansion and has significant growth potential for future as well. While multiple factors drive this growth, innovation in health insurance products would be a significant factor (IRDAI annual report).New Products, new services, new distribution channels leads to the innovation in this sector. Companies are working on all these perspectives. The total public health care expenditure is composed of state level allocations and allocations from central government. The central sponsored programmes have been one key policy initiative of the Government of India to support the health sector programmes directly. The centre provides direct and partial (matching grant) support to the states in meeting both recurring and non-recurring expenditure of programmes under this policy initiative. The states' share in the total revenue expenditure has been declining. This is also reflection of the fact that state governments are going through serious fiscal problems and the role of central support in state budgetary allocations is also increasing. IJ

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Enterprise Risk Management Through Risk Assessment Techniques

Abstract

The purpose of this article is to know about the different types of Risk Assessment techniques and how these techniques can be implemented in effective ERM (Enterprise Risk Management) of any organisation. with specific reference to the Insurance Industry. The first phase of the paper involves a screening on the types of Risk Assessment Techniques. The Second Phase highlights a few examples on how organisations are using Risk Assessment techniques.

What is ERM (Enterprise Risk Management)

- It is the process used by an organization to manage risk and seize opportunities related to achievement of the objectives.
- A business strategy to identify, assess and prepare for any danger or hazard that may interfere with the organization's operation and objectives.

ISO 31010

A standard concerning risk management that has been codified by the International organization for standardization and International Electrotechnical Commission (IEC).

The standard provides information for selection and application of risk Assessment Techniques.

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Risk Assessment

Risk Assessment is the overall process of risk identification, risk analysis and risk evaluation. The steps of Risk Assessment are as under:

- Identifying the risk and reason for its occurrence.
- Identifying the consequences of the risk occurred.
- Identifying probability of their occurring once again
- Identifying the factors that reduce consequence.

As per ISO 31000 (Risk Management Standard), Risk assessment is a part of the core element of risk management which are:

- Communication and consultation
- Establishing the context
- Risk Assessment (Risk Identification, Risk Analysis and Risk Evaluation)
- Risk Treatment
- Monitoring and reviewing

Risk Assessment Techniques

1. **Brainstorming:** It refers to an activity of drawing conclusions or generating ideas by a group of people. Hence, we can say that this risk assessment process is solely for generating ideas and it does not involve analysis.

There are two types of brainstorming techniques.

- **Structured:** It is a form where group members are asked one by one, to give their views on the situation. The advantage of this is that every member of the group has a say regardless of rank and personality. However, this lacks spontaneity.
- **Un-structured:** Here the ideas are provided by random members of the group, as and when it comes to their mind. Its biggest disadvantage is that every member does not takes active part in the brainstorming process while its advantage could be that the organization saves a lot of time by choosing only the relevant ideas for the situation.

Hence, we can conclude that brain-storming, though being a very effective technique for risk assessment, does not take into consideration the analysis of the ideas generated, which is an entirely separate process. On the other hand, the organization can gather an ample amount of distinctive ideas from the group members.

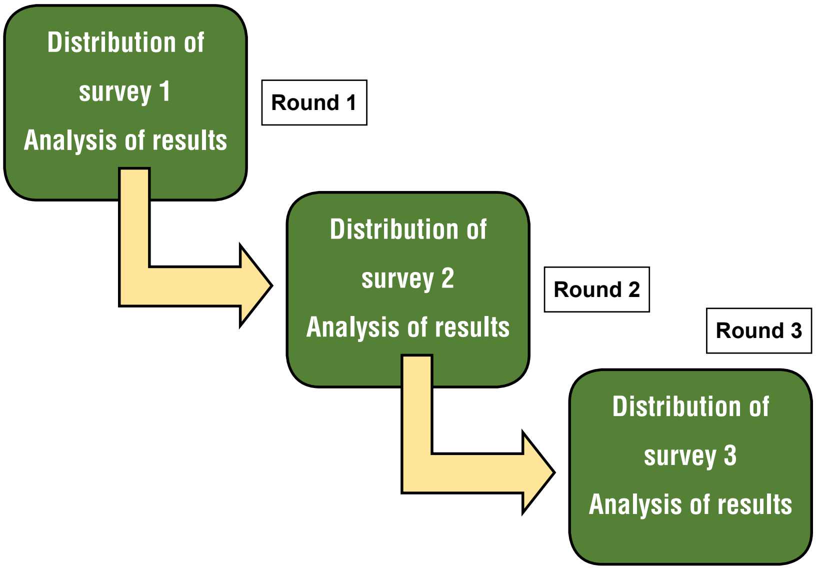
2. **Structured and semi-structured interviews:** Interview is one of the most commonly used forms of risk management techniques. It consists of two subsets i.e.

- **Structured form:** A form of interview where the questions are standardised into a format which is created in advance by the guide. It often also includes some open-ended questions. The interview resembles questionnaires and surveys.
- **Semi-structured form:** It may prescribe more general topics to be covered. In this form the questions are more open-ended so that the interviewer can follow the issues, if they diverge from the guidelines.

One of the disadvantages of the interview technique of risk assessment is that it is very time consuming: after interviewing it needs to be transcribed, analysed, and this may lead to unnecessarily indulging in consumption of cost and time by the organization.

3. **Delphi Method:** The Delphi method of risk assessment uses a forecasting framework. In this method the results are garnered after multiple rounds of answers collected through questionnaires that are sent to a group of experts, and discussing it at each round.

The method seeks to aggregate opinions from different experts but it is not as effective as live interactions where the ideas can be questioned, broken down and reassessed.



4. Checklist: It is a type of risk assessment where a list is prepared which consists of hazards and control failures. The list in general is prepared from past experiences or past failures.

Checklist is a tool to identify various risks that the organization is exposed to, that is grounded on experience. It is a tool to assess the effectiveness of internal and external control systems by applying it at any stage of the process and system.

An example of one such form of checklist is as under:

Risk Assessment Checklist:	Yes	No	In-process
• Does your organization have an effective form of security-policy which is not only approved by the management but also known to all the employees of the organization?			
• is the security system reviewed periodically and efforts made for maintenance?			

5. **Preliminary hazard analysis (PHA):** PHA is one of the simplest forms of risk assessment tool which is performed to identify different areas of the organization's system which may influence the safety and security of the organization by evaluating the major hazards which are associated with the system. The tool is most effective and generally carried out early in the project when there is not enough knowledge or very little information is available regarding the procedures. However, it can act as a precursor for further study of the system.

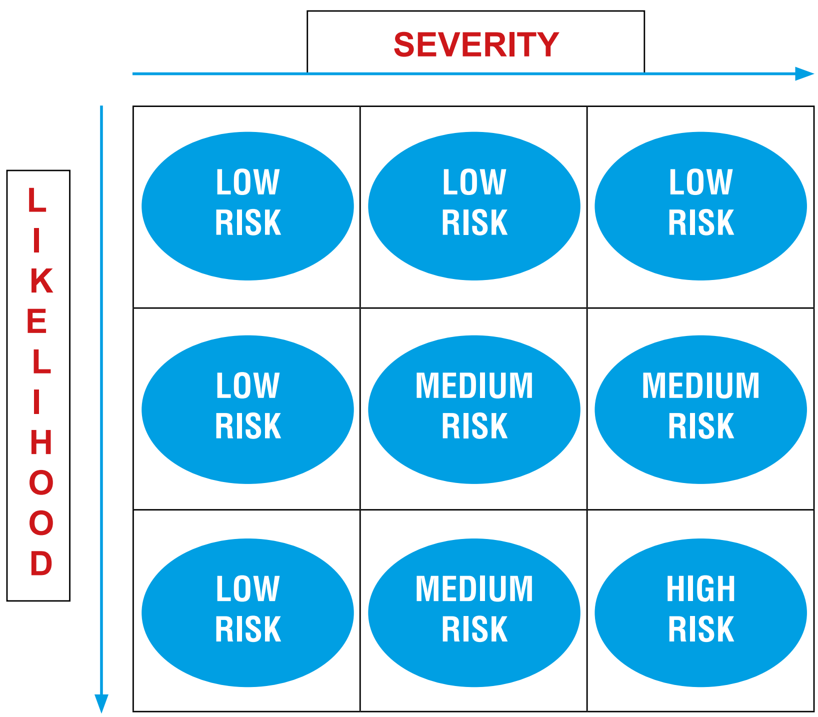
PHA involves the following:

- Determining the hazards that might exist in the system and its possible effects.
- Determining the clear set of regulations/guidelines and objectives that needs to be used during the design of the system.

The steps used in the technique are as follows:

- Identify the assets that needs to be protected.
- Identify the threats in this Threat discovery phase. Catalogue of all possible threats is prepared that has the capability to harm the previously listed assets.
- Identify the likelihood i.e. frequency and severity level which is hazardous for each mentioned threat.

The severity and likelihood level table is shown below:



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6. **Hazard and operability study (HAZOP):** HAZOP is a kind of risk assessment technique which is used to carefully review a processor operation in a systematic manner to find out whether deviations from the original intent would lead to any undesirable consequences.

The team uses the technique to find and list out the potential cause and consequence of the deviation and discovers the new safeguard technique required against the deviation.

HAZOP study is one which provides only the qualitative estimates to understand the level of risk exposure of the organization. The other form of limitation in the current technique is that the recommendations are generally safety measures and operations study. HAZOP study is basically used in the manufacturing and chemical industry for the purpose of assessing risk.

HAZOP study follows the following process:

1	Form a HAZOP team
2	Identify the elements of the system.
3	Consider variations in operating parameters.
4	Identify any hazards or failure points.

7. **Hazard Analysis and critical control points:** Hazard Analysis and critical control point (HACCP) is a systematic approach for identifying, assessing and controlling the risk or hazards.

HACCP was designed to focus primarily on the food safety hazards but has been successfully applied to various industries. The basic intention of the HACCP risk assessment tool is to help prevent the known hazards that may occur at any point in the organization.

The reduction in the level of risk can be achieved by execution of the following actions:

- Conduct a Hazard Analysis.
- Determination of critical control points and establishing the target levels and critical control points.
- Monitor critical control points.
- Establishing procedures to verify effective working of the HACCP system and documenting all the procedures and keeping record of the same.

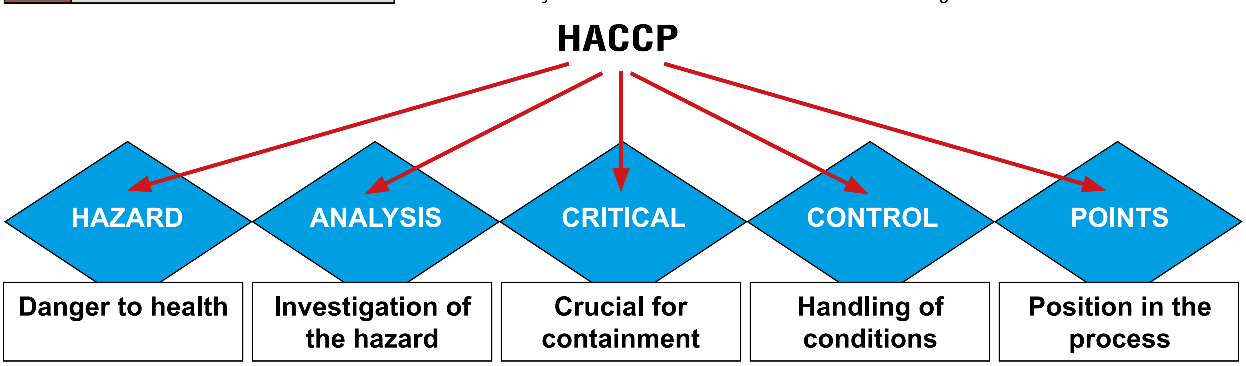
The HACCP tool is one which emphasises on control and not on the detection or identification. However, the output received is easy to understand. HACCP is unable to quantify the impact of additional controls which might be quite hazardous for the organization. HACCP is a tool to identify the risk in the food industry.

8. **Structured what if technique (SWIFT):** A Structured what if technique is one of the members of the set of tools of assessing the risk or hazards that uses the brainstorming method (structured form) to identify the risk at hand. It can be said that it is a technique that uses the structured form of brainstorming to determine what could go wrong in the event of the occurrence of a specific scenario and its resulting consequences.

It is a technique of risk assessment where the organization can question the result of the occurrence of a certain event i.e. it can determine what can be the most wrong thing that would occur and to find out the likelihood and consequences of all the things that would go wrong.

Structured what if analysis is one such tool of risk management which is very easy to use, and specialised tool is needed. It is very helpful as it provides deeper insight about the hazard especially to the people conducting the analysis as it engages the people who have little experience regarding the hazard.

However useful the tool is, it can generate the required useful information only if right question is asked as most of the responses of the people depends on their intuition and it becomes more difficult to translate results into convincing statements.

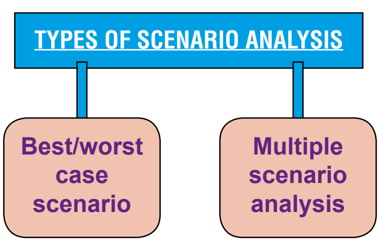


9. **Scenario Analysis:** It may be referred to as the process of projecting or in other words analysing the future events that might occur by considering the probable alternative possible outcomes.

Hence, it is the most powerful tool of risk assessment which not only has a forecast of one exact picture of the future but also all the respective alternatives. It also lays down the development path which leads to the outcome. It is a form of risk analysing tool which does not take into consideration the historical data as it does not consider it to be valid in the future. Hence, it tries to highlight all the possible scenarios to show possible future outcomes.

This assessment technique can be used by financial institutions to examine the amount of risk that can be present in a given form of investment as related to a variety of potential events which may range from highly probable to highly improbable. Depending on this, an investor can determine if the level of risk that can occur is within his tolerable region or not.

There are two types of scenario analysis:



Best/worst case: In this case we decide about the cases of the situation i.e. best and worst case. We assume the best possible outcome from an investment along with the worst-case option too and finally decide the type of investment that needs to be done in the given situation.

For example: if we want to invest in the stock market we assume the best possible outcomes for the investment period on the basis of which we decide whether to invest or not, if we receive the information that the rate that is calculated turns out to be 12% in case of best situations and 8% in case of worst situation, our investment would depend on this scenario.

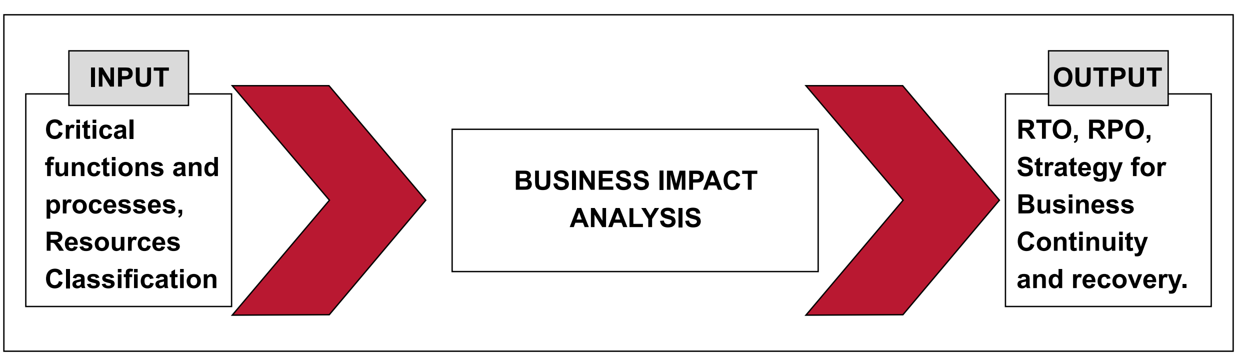
Multiple case: Multiple case scenario is just the opposite of best and worst case. Here all the expected situations or possible scenarios are considered irrespective of the best and worst case. Hence, this is more effective than the first one.

Having looked at the success stories of the scenario analysis if we look at the other part, we find that the success of scenario analysis is unpredictable as it is based on various assumptions. The tool requires continuous improvement as the scenario considered today may not hold true tomorrow.

10. **Business impact Analysis:** BIA is a tool of risk assessment which helps in determining the effect of a hazardous situation on the business operations which leads to the interruption of business operations. Hence, it is an important part of the business continuance plan. It focuses on the effects of the various business interruptions in vital functions of the business whereby it tries to quantify the financial costs that are associated with these business interruptions. This risk assessment tool is used to determine the amount that the organization might lose due to the interruptions of some critical operations under defined circumstances.

- This tool also helps in recognising the magnitude of financial and operational impacts that derive from disruptions.
- The corresponding tool helps the organization to understand how the business world would cope-up during down-time of the business and it also helps in calculating the Recovery Time Objective (RTO's).

The business impact analysis helps in finding the critical business processes which are hidden behind the curtains which otherwise would have been unrecognised. It also helps to identify the potential threats to these processes and quantify the cost that these threats would incur to the organization.



11. **Failure mode and effect Analysis (FMEA):** The FMEA tool of risk assessment is one which helps in finding the cause and effect relationship between the outcome of the occurrence of an event and the reasons for its occurrence. FMEA is a quantitative tool of assessing the risk which starts and continues with brainstorming sessions, where the participants need to identify all the possible components that could lead to failure of the system. While assessing the risk with the help of FMEA we need to keep looking for the following three attributes which are:

- The severity
- The priority
- The likelihood

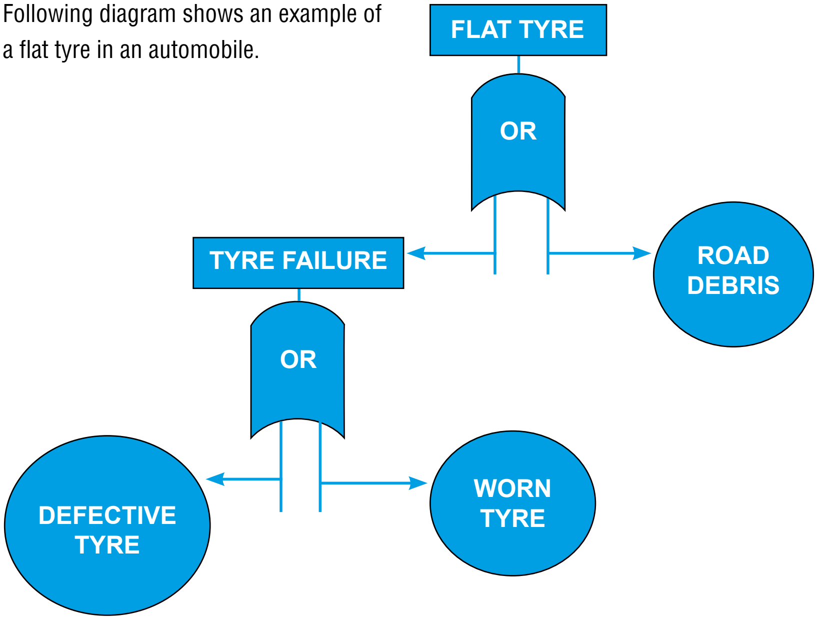
Of the failure of the system.

However, the FMEA technique of risk management requires a lot of time and experience as it takes into consideration the brainstorming process where all the participants of the team need to take an active part in the process of developing ideas. Moreover, the scale of implementation and success of the tool totally depends on the types or scale of ideas generated.

12. **Fault tree Analysis:** Fault tree analysis is also one of the management tools of risk assessment which helps in analysing the failure which leads to an undesirable state of a system.

The fault tree technique of risk assessment is generally used in the engineering industry for the purpose of safety and reliability to determine the best way of reducing the risk. It is one of the deductive approaches which helps the organization in determining the cause leading to the failure of the system.

Following diagram shows an example of a flat tyre in an automobile.



13. **Event tree Analysis:** Event tree analysis is a technique of determining the success as well as the failure of the system. It is a logical approach which helps to consider the effects of a safety system on the originating event.

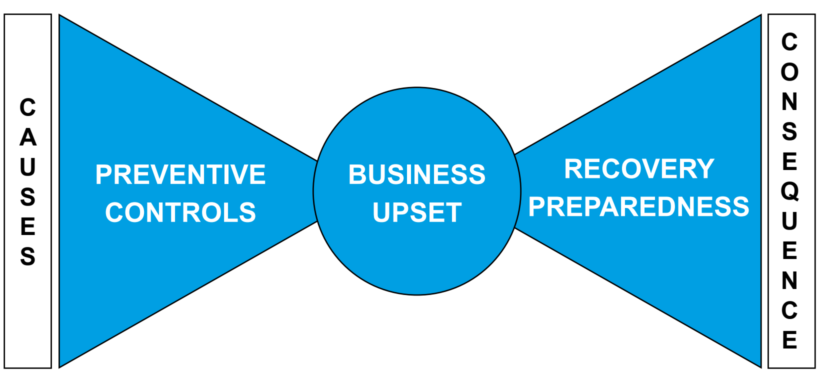
The technique can be used in the system well in advance for the purpose of identifying the potential issues that may arise in the system.

The analysis helps in the process of identifying or assessing multiple failures and can also be worked out simultaneously for both success and failure giving the result as the visual cause and effect relationship.

However, the tool takes into consideration only one initiating event at a time overlooking the subtle differences in the system.

14. **Cause and consequence Analysis:** Cause and consequence analysis is one such tool of risk assessment which helps us in establishing a real-time working risk management system which can be used in the daily operations. An analysis system which finds out the cause of an event or hazard that takes place and the effective consequences of the event.

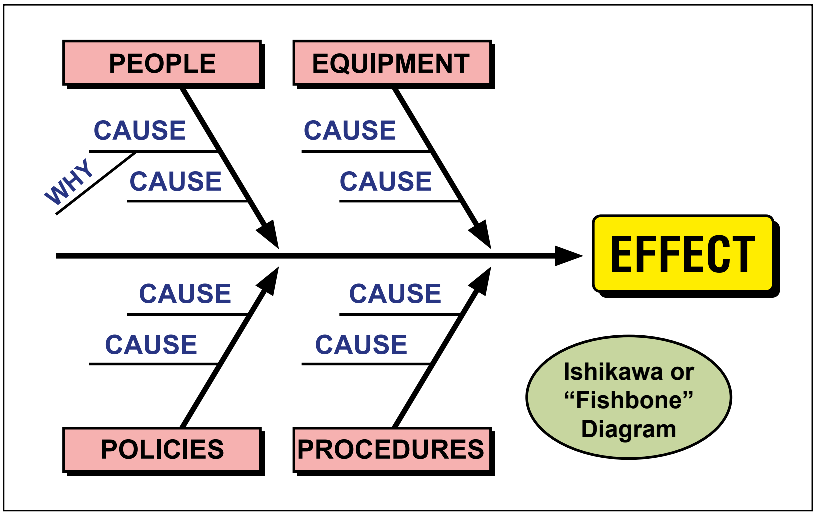
Hereunder is the diagrammatic representation of the cause and consequence analysis.



15. **Cause and Effect Analysis:** An analysis used for noting all the possible outcomes and the reasons for the same. Cause and effect analysis is used mainly by a group to identify the root cause of the problems and their respective effects.

One of the basic way of displaying the cause and effect method of risk assessment is the fish bone diagram also known as the Ishikawa diagram.

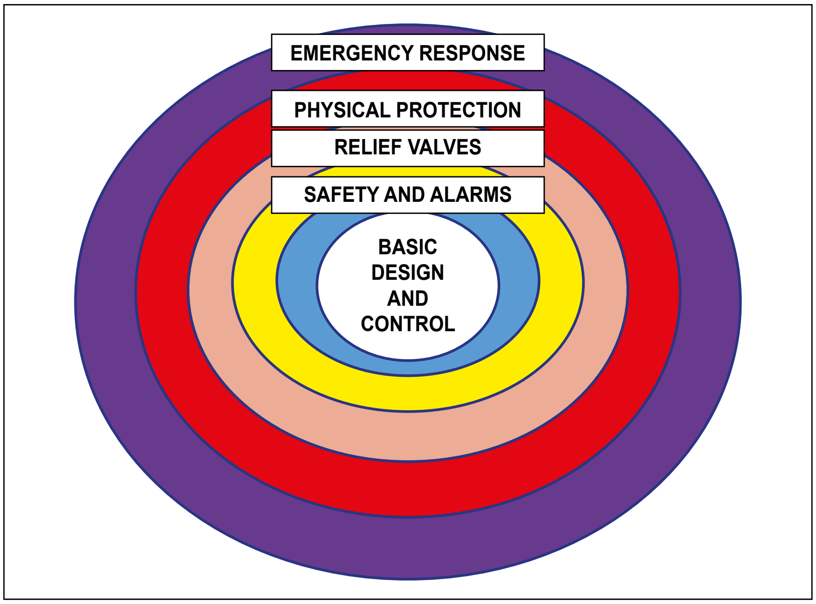
One such example is given beside.



16. **Layer protection Analysis (LOPA):** Layer of protection analysis- a tool of analysing the risk which was first used in the chemical industry. It is a simplified risk assessment tool wherein we have one cause and one consequence pair.

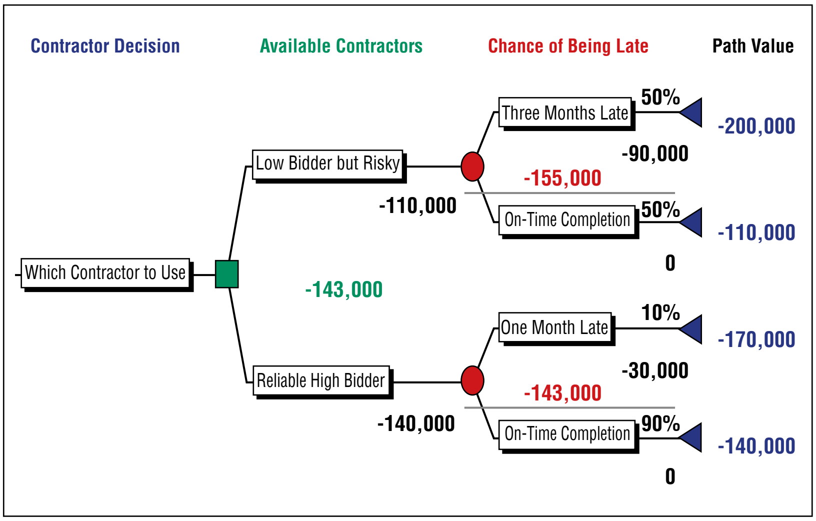
LOPA tells us how the deviations from the normal process can lead to the most hazardous consequence or situation if any corrective measures are not taken at the correct time. The safeguard that is used in the process to prevent the hazardous situation is called the independent protection layer. LOPA is a tool which provides us the middle-ground between the qualitative and quantitative risk analysis.

Let us take an example of a generic layer of protection:



17. **Decision tree:** Decision tree analysis can be used in various situations of uncertainties. It is a quantitative technique with all the nodes and branches which gives us the different possible chances or events for decision making. This gives the organization an opportunity for calculating the value of all possible alternatives available so that it can choose the best alternative.

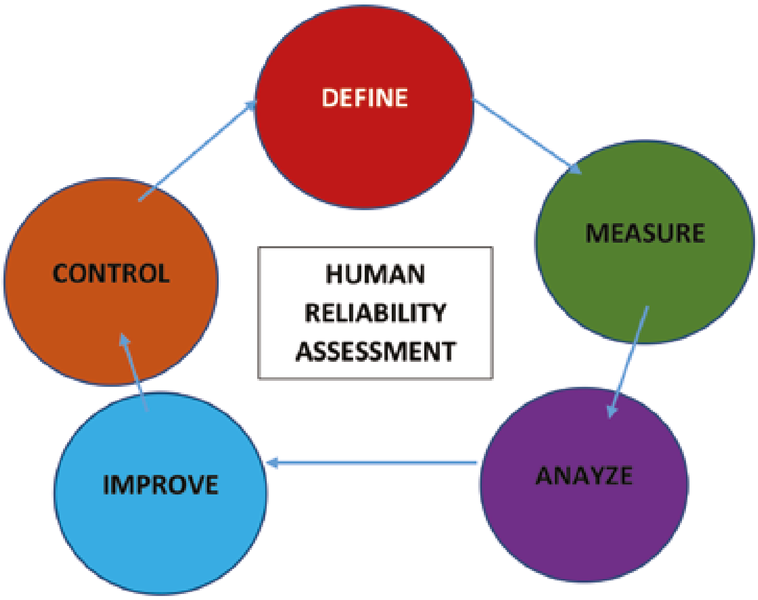
Now let us take an example of an organization that wants to give a contract based on the bidder options available and on minimum value at risk.



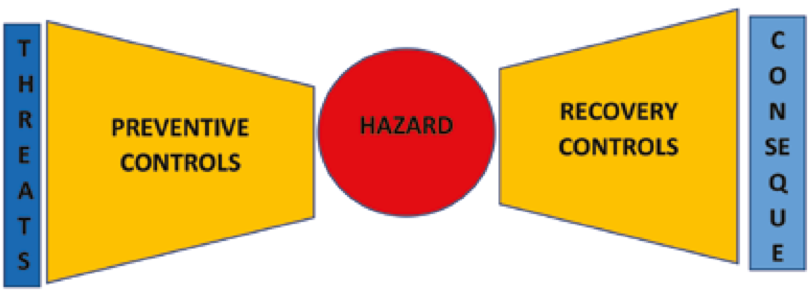
18. **Human reliability Assessment (HRA):** Human reliability assessment is the name given to the models or methods that is generally used by an organization for the purpose of identifying/predicting the human errors (omission and commission) which is capable of affecting the system significantly. HRA is a tool which quantifies the probability of occurrence of the hazard and can also be useful to reduce the vulnerability of the system.

Thus, HRA a risk assessment technique that helps in quantifying the probability of human errors and taking correct proactive measures.

The diagram shows the process of reducing human error.



19. **Bow Tie Analysis:** One of the techniques of risk assessment method which is used to analyse the causal relationship. This tool is helpful in two ways. First, it gives a summary of all the possible accidents that can occur and second, it helps the organisation in identifying all the possible control measures that can be taken to control the hazard scenario. It is termed as bow-tie because the diagram itself looks like a bow-tie wherein there is clear differentiation between the proactive and reactive risks to be managed.

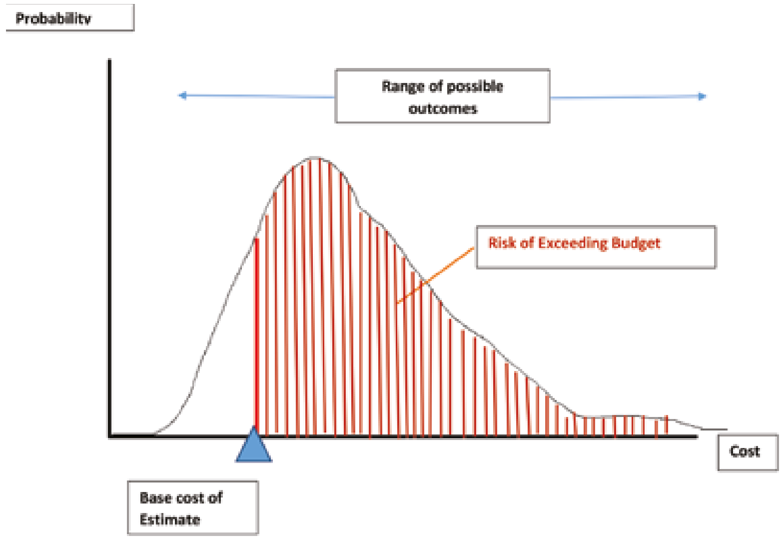


20. **Monte Carlo Simulation:** Monte Carlo Simulation of risk assessment is a method which helps in determining the impact/ severity of the incidence and considers the frequency of its occurrence in addition to the impact it has on its cost by running simulations for all the probable outcomes of the listed number of scenarios.

Monte Carlo simulation can be used in finding the most likely outcome from an event by running simulations after finding the worst case and the best-case scenario for the project simultaneously.

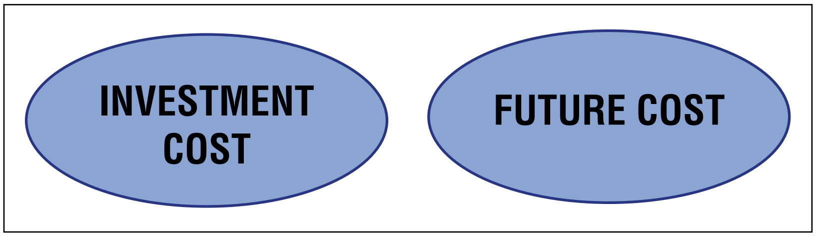
While looking at the advantages of the technique we can say that it is an easy method for arriving at the outcome of an uncertain event. This tool is used for calculating the cost associated with the uncertain event and its outcome.

Let us take an example of the monte Carlo simulation with the below diagram where the tool helps us in identifying the risk involved in exceeding the budget.



21. **Bayesian statistics and Bayes nets:** Bayesian method of risk assessment is named after the founder Reverend Thomas Bayes in which it describes the networks of cause and effect and uses the graphical method to quantify the risk factors and clearly communicate the results. Bayesian method is also known as the "Belief networks". In this method a parameter is not considered unknown but instead each parameter has a probability which follows the parameters uncertainty.

It is a tool which reflects the cause and effect relationship with the use of probabilities in a graphical method.



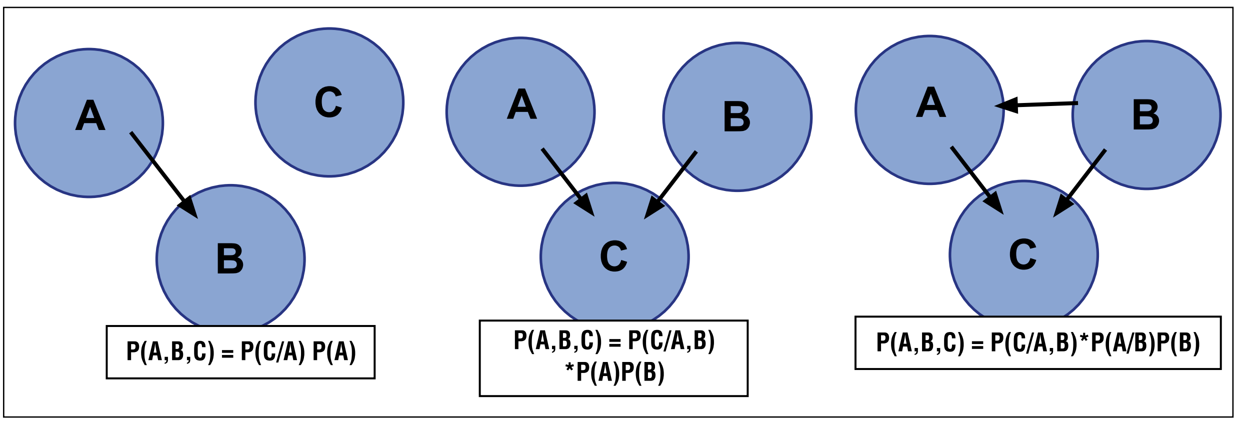
The next category of costs under the head is of setup and integration, testing of equipments and the initial training.

Future cost: This category of cost may include operational and maintenance cost.

It also categorises the end of life cost like shutdown cost, recycling and safe disposal.

case losses for the calculation of Value at Risk (Probable maximum loss) to indemnify all the liabilities.

They also estimate the model risk which is a type of risk that occurs when a model fails or is inefficient to perform adequately which was supposed to measure quantitative information such



22. **Cost/Benefit Analysis:** Cost benefit analysis is a significant tool which is used for selection of the best loss prevention and control measures. Cost/ benefit analysis is a technique for evaluation of the expected cost and the expected benefit and giving the option to choose the best alternative.

Basically, the technique considers two types of cost while assessing the risk.

Investment cost: It refers to all types of initial cost associated with planning, project management and the market research.

It also includes the initial procurement cost which may include various licenses and permits.

Example of companies using different risk assessment tools to quantify the risk:

1) United States Federal crop insurance corporation

The United States Federal crop insurance corporation is a government owned corporation but is managed by the Risk management agency of agriculture of U.S, it assesses the risk of its liabilities with the help of risk assessment tools.

The federal crop insurance programme uses the "**Scenario Analysis tool**" to calculate the amount of reserves which is required to be maintained to pay out its claims. The committee takes into consideration the probability of worst-

as organizations market risk and leads to adverse outcomes.

The crop insurance programme after ascertaining various worst-case scenarios uses the "**simulation**" to aggregate the value of risk at different scenarios.

Hence, with this example we come to know that the federal crop insurance programme uses the "**Scenario Analysis**" in addition to the "**Monte Carlo Simulation**" tool to assess and quantify the risk.

2 NASA (National Aeronautics and space Administration)

NASA also uses various risk assessment tools for the purpose of identifying, analysing, evaluating and monitoring. The programme or project manager applies tools for making decisions which helps in technical and programmatic success.

NASA has been traditionally using **"Fault tree Analysis", "Failure modes and Effects Analysis"** for the purpose of risk assessment and risk management.

NASA defines Fault tree Analysis as a deductive analytical tool of reliability and safety which is generally used for complex and dynamic systems. It is a tool which provides an objective for analysis and gives a proper justification for changes and additions.

Fault tree Analysis uses a tree to show the cause-effect relationship between single, undesired events and various contributing causes. The tree shows the logical branches from a single failure at the top of the tree to the root cause at the bottom. NASA uses the standard logic symbols to connect the branches of the tree for example: "gates" inhibit the passage of fault logic up the tree through the events.

Failure mode and effect Analysis is used as an engineering technique to identify and eliminate the potential failures in the system. For each identified failure an estimate is made for effects, occurrence, severity and detection. FMEA identifies the corrections required to prevent failures and corresponding actions are taken by the programme manager to control the risk.

3) **The Tavistock and Portman NHS foundation trust** is a specialist mental health trust based in London which uses the risk assessment tools to analyse the different risks for the purpose of creating and maintaining a culture of risk awareness. The tool used by the company is **"SWIFT- Structured What If Technique".**

The SWIFT sheet mentions each hazard for discussion which includes the following:

Causes: The respective cause for each hazard.

Consequences: The types of harm that may result if certain specific event occurs.

Safeguards: The measures that should be taken to prevent the hazard.

Recommendations: The further safeguards if any of the present one is inadequate.

Future Risks: The risks that may arise in the future.

The following method is used by the company to analyse the risk and the SWIFT technique is used in the process mentioned above to mitigate the risks identified by the company.

The SWIFT tool of risk assessment is helpful for NHS foundation and has been used by it throughout the levels of organization where they not only find the cause and consequence but also the future risks associated and provide recommendations for the proper implication of the safeguard.

4) The **"Bow-Tie Analysis"** method can be used in the case of business continuity planning as the tool helps in determining the probable disruptions by the method of analysing the business processes.

The method first determines the likelihood of the probable cause of damage and on the other hand analyses the severity of damage and would further help to reduce the impact of damage.

5) **"Checklist"** is a tool of risk management that can also be used to measure the probability of a risk occurrence. It is a tool which can be a proactive measure for mitigating risk. It is a tool to monitor the effectiveness of the measures carried out for reducing the risk. Checklist can be used as a tool to monitor the risk on a regular basis by asking questions to the members of the organization, which can be helpful in finding out the triggers of various risks.

If we take an example of a disaster there is a widespread shortage of food, water, medical care etc. Hence, to include a regular check we can include the

Financial institutions have started relating the **"scenario and stress test"** to the business continuity management where stress test is used as a phrase to describe a simulation exercise where the exercise is loaded with the volume of critical element until an acceptable or failure volume is reached.

following questions while monitoring the risk:

Ensuring life safety

- How would you protect the customers in the organization who have arrived in the office for service in case the office catches fire?
- How do you handle customers who are sick or injured?

Mitigating risk by understanding risk profile, achieved with the help of risk assessment

- What is risk Tolerance?
- What is risk appetite?
- What is risk Capacity?

Anticipating disaster support needs in case of physical disruption

- Determining the needs that are essential for the organization.
- What safety plan is ready for execution in case of sudden disruption on the office?

6) **Financial institutions** have started relating the **"scenario and stress test"** to the business continuity management where stress test is used as a phrase to describe a simulation exercise where the exercise is loaded with the volume of critical element until an acceptable or failure volume is reached.

Let us take an example of a remote work strategy (work from home) which requires access to enterprise system. When the institution exercises this strategy with large number of people the traffic would stress test the potential weak points of the system and the institution can determine whether the system would crash on the usage by large number of people at the same time.

Similarly, the phone system, local Wi-fi system can also be stress tested.

Hence, the scenario and stress test can be a very helpful tool in determining the strength of an institution for the purpose of business continuity management.

7) **International organization of pension supervisors (IOPA)** which is an independent international body involved in the supervision of private pension arrangements, uses the following techniques for quantitative assessment of risk. The key purpose of using these tools is to identify the interdependencies of the other risks. The techniques have been discussed below:

- **Comparison of valuation assumptions:** This method talks about the assumptions regarding the future experience related to defined benefits plan while valuing them. The valuation assumptions made for an entity is compared to the current valuations in addition to the previous valuations of the same entity. This comparison helps in identifying inappropriate assumptions helping to identify the increased risk of future financial liability.
- **Sensitivity Testing:** This method of quantification helps in calculating the valuation of alternative assumptions. For example, valuations can be done using discount rates for a higher and a lower percentage than assumed helping to find alternative valuation.
- **Stress Test:** An approach used to find how effective/robust is the funding of pension plan. The method is useful in analysing how useful the funding is in the face of adverse condition and would the firm require any additions in the fund.
- **Value at risk calculation:** The tool of quantification measures the market risk. It helps us in knowing the expected loss from adverse market movement.

These are the above-mentioned techniques used by IOPS to assess and quantify different risks while calculating the pension benefits.

Conclusion

With the proper implementation of Risk Assessment Techniques any organisation can face the Risk when it comes and can change adversity into opportunity – A Goal of ERM. IJ

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5) Website of The Tavistock and Portman NHS foundation trust
6) Website of International organization of pension supervisors (IOPA)

"ISRO" Sets the Tone for Satellite Insurance with Stress on Budget

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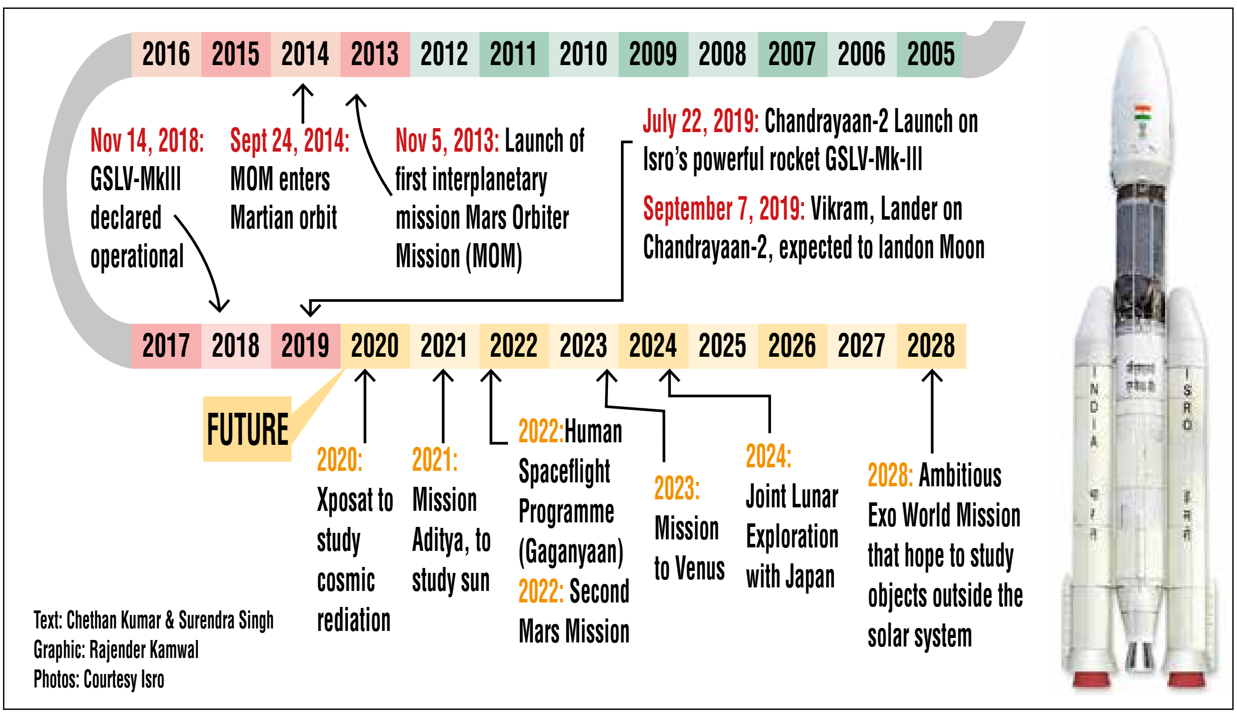
Satellite insurance is a specialized branch of aviation insurance in which, as of 2000, about 20 insurers worldwide participate directly. Satellite insurance blasted into the spotlight when a European Vega rocket failed about two minutes after lift-off from a base in French Guiana, destroying a United Arab Emirates military observation satellite in the process. According to a Reuters report, the combined insurance policy for the rocket and satellite totaled 369 million euros (US$415.57 million), making the incident possibly the largest ever space insurance loss to be incurred by the industry. The first satellite insurance policy was placed with Lloyd's of London in 1965. It was designed to cover physical damages on pre-launch of Intelsat 1 – known as the Early Bird – which was the first commercial communications satellite to be placed in geosynchronous orbit. This satellite enabled direct and nearly instantaneous contact between North America and Europe via television, telephone and fax transmissions. Since then, the number of insurers engaging in aerospace activity has increased alongside the fast commercialization of space. Stating the obvious – satellites are expensive! It can cost billions of rupees to complete a satellite project, through the planning, manufacturing, testing, and eventual launch stages. In correlation with this, it really is only the major global insurance firms with the deepest coffers who are able to entertain the notion of providing satellite insurance.

The year 2019 was probably one of the best years for the Indian Space Research Organization (ISRO). Not only did ISRO make a mark in the field of space science and technology with Chandrayaan 2, but the organization also formed interesting collaborations with industry and academia within the country as well. ISRO successfully accomplished 13 missions including 6 launch vehicle missions and 7 satellite missions during the year 2019. 50 foreign satellites from 7 countries were launched on a commercial basis during this period. ISRO, in the year 2019, aroused the interest and curiosity amongst school children as well in the field of space science and research. The year 2019 witnessed the ISRO touching the mark of 319-foreign satellite launches; deciding to go for another moon landing mission called Chandrayaan-3; setting up Human Space Flight Centre; starting the young scientist programme; signing agreement with Indian Air Force (IAF) to select and train Indian astronauts for the country's manned mission. The space agency also laid the foundation stone for a centre to monitor and protect high value space assets from space debris. During 2019, ISRO launched several earth observation satellites like the Emisat, an electronic intelligence satellite for DRDO, Cartosat-3, radar imaging satellites RISAT-2B, and RISAT-2BR1. In the communication satellite space, the ISRO launched the country's 40th communication satellite GSAT-31 by an Ariane 5 rocket belonging to Arianespace. On the rocket side, while ISRO flew its 50th PSLV and also launched two new variants of the rocket-PSLV-DL (with two strap-on motors) and PSLV-QL (with four strap-on motors). The year also saw ISRO putting into orbit 50 foreign satellites for a fee and also flying the 50th PSLV rocket. PSLV has lifted a total of 52.7 ton till date and out of that 17 per cent consists of customer satellites. The space agency has several more missions lined up in 2020 including the inaugural flight of the new rocket SSLV.

Launches by ISRO in 2019 and in Future

Let us now take a look at some memorable and impactful events that ISRO managed to create in the country in the year 2019

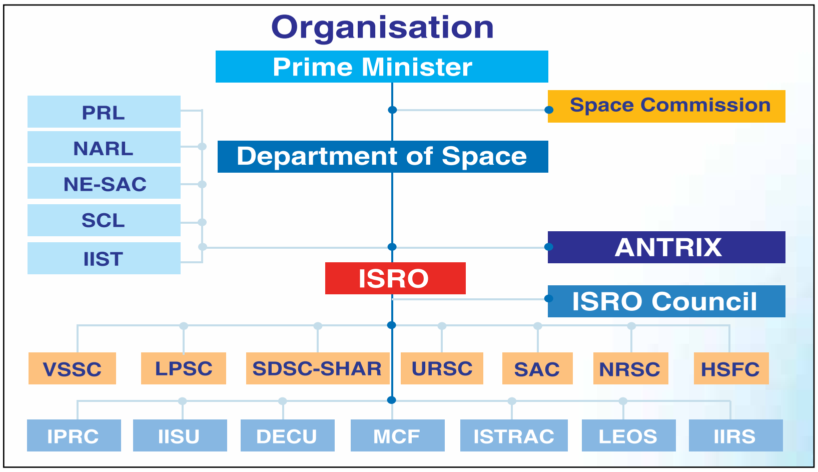
1. The year began with ISRO successfully launching Microsat-R and Kalamsat-V2 onboard the PSLV-C44 vehicle.
2. GSAT 31 communication satellite was launched from Kourou, French Guiana onboard Arianespace rocket on 6 February 2019.
3. Launch view gallery along with a Rocket space garden was launched in Sriharikota to enable nearly 5000 people to watch ISRO launches live.
4. EMISAT was successfully launched onboard PSLV-C45 on 1 April 2019.
5. RISAT-2B radar imaging earth observation satellite was launched onboard PSLV-C46 on 22 May 2019.
6. The launch of GSLV-MK III M1,



India's most powerful launch vehicle, was accomplished on 22 July 2019. The mission carried Chandrayaan-2 Orbiter spacecraft to its intended orbit. The instruments are continuously providing very useful science data.

7. Cartosat-3, a third-generation agile advanced satellite having high-resolution imaging capability, was launched by PSLV-C47 on 27 November 2019.

8. PSLV-C48 launched RISAT-2BR1 radar imaging earth observation satellite on 11 December 2019



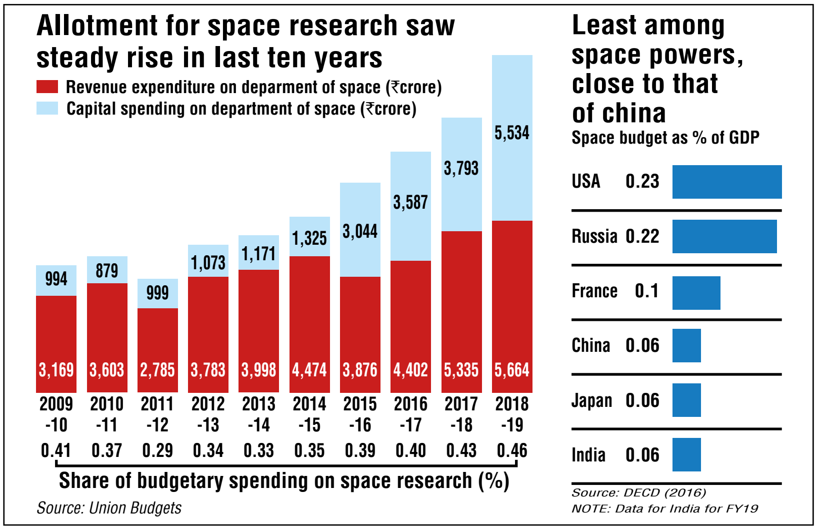
Chandrayaan-3 Might be Insured; a First in Four Decades

While indigenous launch missions were not insured so far, ISRO has since 1982 been insuring all its overseas launches which have been through partnerships with Russia, US etc. The insurers typically have been New India Assurance and the other three other public-sector companies backed by reinsurers. With the rapid growth of Science and Technology, the Government of India has laid special emphasis on the development of Space Technology in the country. Obviously, this type of high technology business could not be commercially developed without insurance protection. In the last 44 years, since the launch of its maiden satellite Aryabhatta in 1975, ISRO has never insured its indigenous space ventures. Two factors are now influencing the space research organization to revise its stance. The first is the unintended setback in Project Chandrayaan-2, which cost nearly Rs 1,000 crore and second, the success of ISRO's Mars mission, which has brought down reinsurance rates for India's space exploration. These developments are prompting ISRO to talk with insurers for coverage of its future domestic launches (including Chandrayaan-3).

One of the early claims was in the April 1982 launch of the Indian-US venture INSAT-1A which was launched by a Delta rocket. By September, INSAT-1A's altitude control propellant was exhausted, and the communications satellite abandoned, resulting in a claim payout of $12 million to ISRO. Later when INSAT-1C and INSAT-2D also died in orbit, insurance was available as a safety net. Of nearly 75 satellites launched by ISRO, less than a quarter have been insured - as the organization till date has not seen any point in insuring domestic launches. When it comes to foreign joint ventures - it's the foreign joint ventures - it's the foreign space agency which usually has insurance as a clause. And that is why ISRO compiled and bought insurance. But Chandrayaan-2 now has set the agency rethinking on how to curtail losses in its pursuit of scientific exploration," said another source. Previously New India, the sole underwriter of satellite policies in India for ISRO, had insured GSAT-21, GSAT-10, INSAT-3D and GSAT-7. It has also covered GSAT-16 launched in December 2014 and the prelaunch expenses of GSAT-15 schedules for 2015 launch. For India's eleventh communication satellite GSAT 16 December 2014. New India has covered it up to six months of launch for Rs 341.50 crore. The insurance of INSAT-1A required the then department of space secretary and New India to travel to London to conclude reinsurance. The team needed the support of underwriters in both London and the US market to cover the programme. For later programmes, New India reinsured with underwriters in London and Munich. Now, specialist underwriters fly down to India to underwrite ISRO's satellite programmes.

India Lost Rs 256 Crores in One Minute

Indian Space Research Organization confirmed that neither the launch vehicle, nor the satellite -- on which ISRO spent Rs 160 crore (Rs 1.6 billion) and Rs 96 crore (Rs 960 million) respectively -- was insured against any mid-air or space disaster. They did not insure satellites that are launched from India. But they have insured every satellite that ISRO has launched from foreign stations like Kourou in French Guyana. Indian satellites launched from foreign soil have been insured with New India Assurance, a public sector Indian

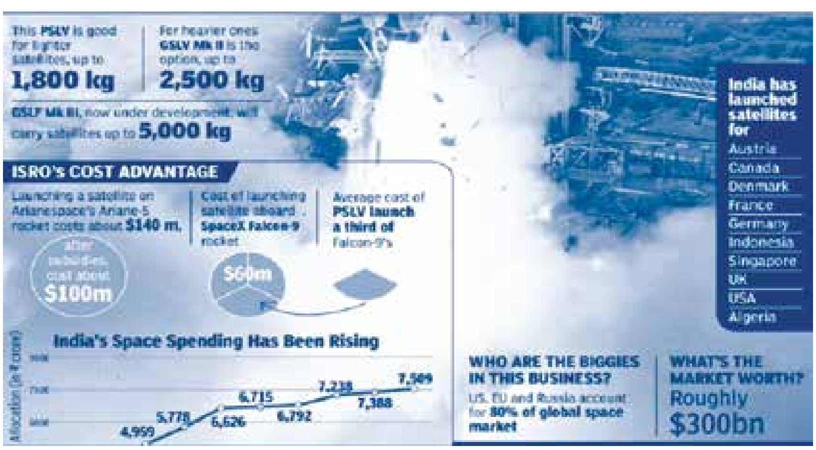


company that has been the traditional insurer for ISRO's programmes. For instance, ISRO had insured the Rs 250 crore (Rs.2.5 billion) INSAT-4A -- launched from Kourou by Arianespace -- for a premium amount of Rs 92 crore (Rs 920 million). Though New India Assurance issues the insurance policies to ISRO for foreign launches, the risk factor was taken care of by international re-insurer Spaceco of the Allianz group, which is the world's largest space insurer. But why are satellite launches from Indian space stations not insured? The simple reason is that New India Assurance is a government company and ISRO is a government agency. The loss in a space disaster, in any way then, is the government's. But in space insurance schemes, the launch vehicles (the GSLV-F02) are not insured as they are designed to break up in various stages before the satellite is put into orbit. That means the insurance covers only the satellite and the mission cost. The launch cost of the INSAT-4C mission was around Rs 220 crore (Rs 2.2 billion), which included the satellite cost of Rs 96 crore (Rs 960 million). The remainder was the mission development cost.

ISRO Has Not Been Insuring the Indigenously Launched Satellites

ISRO has not been insuring the indigenously launched satellites because of its association with New India Assurance, and also because the premium is huge. In Western countries, the insurance premium for satellites is over 25 per cent. In this case, ISRO could have had to pay a yearly premium of Rs 55 crore (Rs 550 million) on the INSAT-4C mission. That is indeed a huge sum. Space insurance was a relatively new area in India. And because the risk involved is huge and complex, not many private insurance companies have taken keen interest on it. ISRO is looking at international insurance companies -- most of whom have set up shop in India -- to insure satellites. To tackle the problem of space disasters, ISRO is also planning alternative approaches to insurance. One such idea is to build up in-orbit spare satellites so that even if one satellite fails, the spare one is put in place. ISRO can develop extra satellites with the hefty insurance premiums that we have to pay insurance companies each year. Large space-fleet operators like Intelsat, PanAmSat or SES Americom always put up extra satellites to take care of any contingencies. But it is not an easy solution, as the preparation and launch of each satellite takes years of research and development. The failed INSAT-4C mission have been insured for Rs 220 crore (Rs 2.2 billion).

Incidentally, ISRO has received insurance compensation from satellites launched from foreign soil when the INSAT 1A and 1C failed, and the INSAT 2D died in orbit. The apex Indian space agency got about Rs 240 crore (Rs 2.4 billion) as insurance compensation for the failure of INSAT-2D. ISRO May Be Paid $65m Insurance For Defunct Satellite. The ISRO is likely to be paid about $65 million as insurance by the consortium of Indian insurance companies for the abandoned Insat-2D satellite. ISRO



making the final assessment on the damage and loss of the satellite and it will be over any time now, New India Insurance Company, which leads the consortium. International experts had been requisitioned to assess the damage caused to the satellite. The final decision on the repayment structure would be made based on their report. However, preliminary assessment was that ISRO would have to be paid to the tune of $65 million for the defunct satellite. An exact figure will be arrived at only after receiving the expert committee report. Repayment from the company's pocket would be less as the satellite had been re-insured with a consortium of insurance companies led by Lloyds in the United Kingdom. Since 95 per cent of the risk had been borne by this international consortium, Indian insurance companies would have to pay only five per cent of the repaym. Insat-2C, 2D and 2E had been insured for $100 million each by paying a premium of $10 million each. ISRO had also staked a claim for $65 million for the partial loss of Insat-2C, taking the total claim made for the two satellites to $165 million. However, it was unlikely to be paid the entire amount as the package of insurance for the three satellites had a clause to deduct $100 million. Insat-2C, 2D and 2E cost ISRO $40 million each for design and $62 million each for the launch, and hence the cost of a launched satellite was $100 million. Earlier, the consortium led by the New India Insurance had paid ISRO $64 million for the loss of Insat-1A in 1982 and $72 million for the failure of Insat-1C in 1988.The 2070 kg Insat-2D, launched in June by a French rocket, failed in October following an on-board short circuit rendering the transponders useless. Insat-2D was the first to fail among the second generation satellites.

Space Insurance Costs to Rocket After Satellite Crash

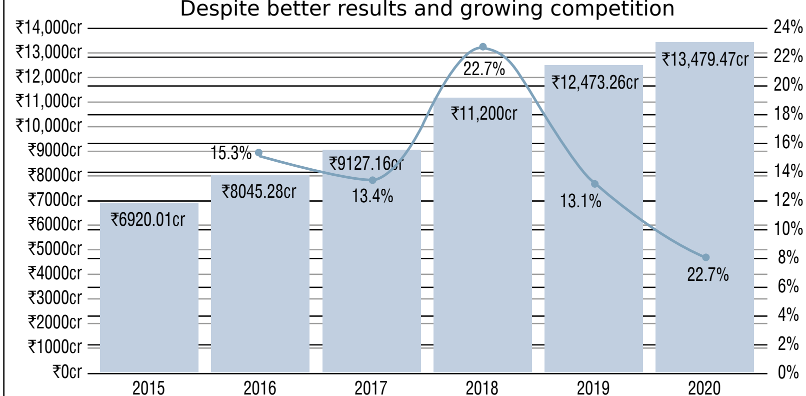
Space rockets and satellites are likely to cost more to insure after the European Vega rocket crash which hit insurers with a record space market loss of 369 million euros ($411.21 million). The Vega rocket carrying a military observation satellite for the United Arab Emirates veered off course shortly after take-off and crashed. Prior to the accident, Italian aerospace company Avio Aero, which built the Vega, said it had a 100% success rate. The insurance loss for the rocket and satellite represents the largest recorded loss in the space market. Until now, insurance premiums for commercial satellite and rocket accidents have been falling due to strong competition among insurers and improved rocket reliability. But that could change in the aftermath of the Vega crash, leading to higher costs for space rocket launches. Space insurers have suffered two major claims within the past year and the cost of these losses far exceeds the premiums earned in this sector, which is backed by major reinsurers Munich Re and Berkshire Hathaway. Insurance rates for both launch and in-orbit have been at historically low levels and need to increase significantly. The Vega loss follows the failure of Maxar Technologies' WorldView-4 imaging satellite resulting in a $183 million insurance claim. Space rates could double as a result of this (Vega) failure combined with poor results. The Vega loss alone was expected to cancel out the whole of 2019 global space premium, with further launch and in-orbit risks still remaining for the year. The government has increased the allocation for the Department of Space to hit ₹13,479 crore this year. The ISRO has ambitious plans in the near future with Chandrayaan 3, Gaganyaan, and a new port in southern state Tamilnadu for small satellite launch vehicles (SSLVs). This is an 8% increase over last year. And a bulk of the allocation is towards space technology.

Types of Satellite Insurance coverage

There were 114 space launches globally in 2018, according to Avio Aero, builder of the European Vega launcher. Unlike with most car insurance, cover for satellites or rockets is not compulsory. Only 60% of satellites launched in 2017 were insured. For those who do buy insurance, an all-risk policy covers damage of any kind and there is also

Growth of Department of Space's budget allocation remains volatile

Despite better results and growing competition



liability cover available, in case a rocket hits something belonging to someone else. Space insurance providers include the specialist Lloyd's of London market and insurance heavyweights AIG, AXA and Allianz, as well as reinsurers like Munich Re. Munich Re said it was one of the insurers of the Vega policy. Aon was the broker. Space risk management has evolved in recent years. Now that space is becoming increasingly commercialized, insurance providers and risk managers have to think about more than just the launch of a vessel and satellite. Today's lines of coverage include things like:

- Satellite launch
- Satellite in-orbit
- Spacecraft pre-transit, transit and pre-launch
- Satellite contingency
- Satellite launch vehicle flight only
- Satellite in-orbit third-party liability
- Loss of revenue and business interruption
- In-orbit incentives (failure to meet contractual obligations)
- Production facility / launch pad property
- Simply put, space and satellite insurance products tend to revolve around pre-launch, launch and in-orbit risks.

Global Aerospace Said it Did Not Insure the Vega Launcher

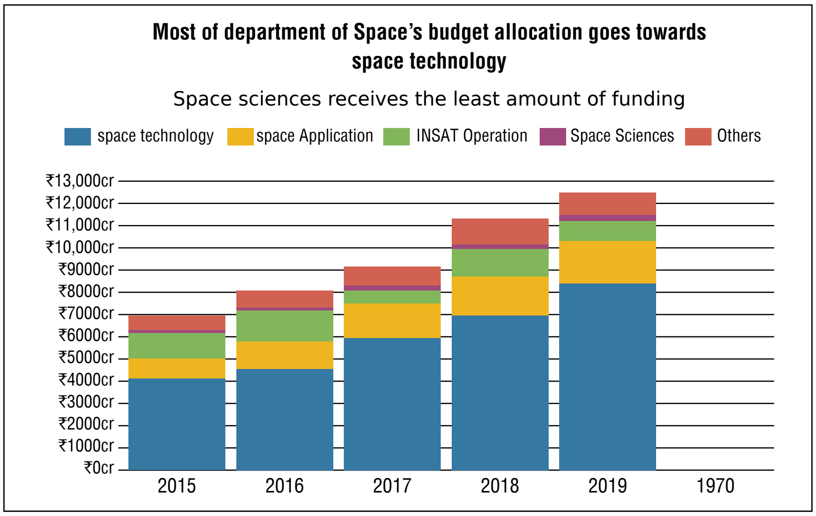
Prices to insure satellites against damage have fallen by 50% in the past two to three years. Space insurance premiums have dropped 75% in the past 15 years and 60% in the past 10. Rates are expected to bounce after the recent losses. But due to the intense competition in the insurance industry, a rise in premiums is not guaranteed. It hinged on whether significant insurance underwriting capacity started to leave the market. The company would be reducing its exposure to the space industry, as part of an overhaul of the loss-making division. Space tourism will add a new dimension as space passengers may also want insurance. U.S. space agency NASA plans to allow private citizens to stay at the International Space Station for month-long getaways at a cost of about $35,000 per night, with the first mission as early as 2020. British billionaire Richard Branson's Virgin Galactic is also competing with Jeff Bezos' Blue Origin in the race for spacSpace travel could straddle both the space and aviation insurance sectors. The advent of space tourism represents a completely new area of risk for insurers.

India Looking to Buy First Insurance Policy for Satellite

The Indian Space Research Organization (ISRO) is looking to buy its first insurance policy for a domestically launched space satellite, the first since it began launching satellites in 1975. Two factors are influencing India's space agency to begin purchasing satellite insurance. First is an unexpected setback in Project Chandrayaan-2, which cost nearly INR10 billion (US$139.4 million), and second is the success of ISRO's Mars mission, which brought down reinsurance rates for Indian space exploration activities. These have prompted ISRO to talk with insurers about the possibility of insuring future

COMPARATIVE ANALYSIS OF BUDGETARY ALLOCATION FOR ISRO (IN CRORES)

Category	2018-19	2019-20
Space technology	6.993	7.483
Space applications	1.595	1.885
INSAT satellite systems	1.330	884
Total	**9,918**	**10,252**



space projects, such as Chandrayaan-3. While ISRO has not insured launches conducted on Indian soil, it has typically insured launches done in partnership with other countries, such as Russia and the US. New India Assurance and other state-owned insurers were typically those tapped to provide cover for these projects, with reinsurance from the international market. One such example is the 1982 launch of INSAT-1A, an Indian-US joint venture. Launched in 1982 via a Delta rocket, its altitude control propellant was exhausted by September of that year, leading to the abandonment of the communications satellite. ISRO lodged an insurance claim and received a payout of US$12 million.

New India Earns Rs 42 Crore Premium from Satellite Launches Cover

Country's largest general insurer New India Assurance has earned around Rs 42 crore in premium so far this fiscal by providing cover to satellite launches by the Indian Space Research Organisation from the Kourou French Guiana space centre. ISRO, which kicked off the Mars orbiter mission from Sriharikota without any cover, had conducted two launches namely GSAT-7 and INSAT-3D by Arianne-5 from the French space centre in July and August this year. The company has earned a premium of around Rs 42 crore by covering these two launches. They, however, said the domestic space agency has not taken any cover for the Mars mission. ISRO has not taken any cover for the Mars orbiter mission. The space agency has taken the decision not to insure the Mars mission due to high cost involved securing the cover. ISRO doesn't take satellite cover for its domestic launches. But it takes for launches from foreign shores, getting attractive premium for a satellite launch depends on the track record of the space agency. While a space agency with highly successful track record will pay low premium, low success rate will force the agency to pay more. When considering a rating structure for satellite insurance coverage, during the early days many insurers based their rating according to the launch vehicle. For example, if the launch vehicle being used had a one in ten failure rate, the insurance premium would be ten per cent of the gross cost. Today, insurers use statistics and computer modeling to arrive at premium rates, although data for calculations is limited. Another aspect of satellite insurance is the procedure attached to salvage. Though it is impossible to obtain monetary value from the wreckage in the event of an actual total loss or constructive total loss, many insurers rely on sharing any revenue which may be obtainable from the failed satellite with the insured.

Satellite insurance is a specialized branch of aviation insurance in which, as of 2000, about 20 insurers worldwide participate directly. Others participate through reinsurance contracts with direct providers. It covers three risks:

relaunching the satellite if the launch operation fails; replacing the satellite if it is destroyed, positioned in an improper orbit, or fails in orbit; and liability for damage to third parties caused by the satellite or the launch vehicle. In 1965 the first satellite insurance was placed with Lloyd's of London to cover physical damages on pre-launch for the "Early Bird" satellite Intelsat I. In 1968 coverage was arranged for pre-launch and launch perils for the Intelsat III satellite. Satellites are very complex machines which are manufactured and used by governments and a few larger companies. The budget for a typical satellite project can be in excess of billions of dollars and can run 5–10 years including the planning, manufacturing, testing, and launch. When considering a rating structure for satellite insurance coverage, during the early days many insurers based their rating according to the launch vehicle. For example, if the launch vehicle being used had a one in ten failure rate, the insurance premium would be ten per cent of the gross cost. Today, insurers use statistics and computer modeling to arrive at premium rates, although data for calculations is limited. Another aspect of satellite insurance is the procedure attached to salvage. Though it is impossible to obtain monetary value from the wreckage in the event of an actual total loss or constructive total loss, many insurers rely on sharing any revenue which may be obtainable from the failed satellite with the insured. Space technology also provides an additional source of revenue for the government. However, India lags behind oter space agencies around the world in commercializing its technology. ISRPs commercial arm, New Space India Limited (NSIL), plans o sell spin-off technology to create additional resources for the department of space. But that is a long way off.

The military satellite named GSAT- 7R is worth Rs 1,589 crore and includes both launch cost and procurement of necessary infrastructure on the ground. It is expected to launch within a year. The GSAT 7R, which will be designed to be compatible with a variety of platforms including future submarines of the Indian Navy, will eventually replace the first dedicated Indian military satellite, the GSAT 7, which was launched in 2013. The current satellite the GSAT 7 is being used for communication between all strategic platforms of the air force, including fighter jets, drones, and early warning aircraft. The GSAT 6 is used for communication by ground forces. India has been increasingly expanding its presence in space with the usage of a series of dual use satellite from the CARTOSAT and RISAT family that are used for surveillance. In April 2019, ISRO launched the strategic EMISAT designed to pick up electromagnetic signals and is likely to be used for communication interception and detection of enemy assets. India's greatest achievement in this field was when an Anti-Satellite Test was carried out on March 27, in which a ground-based interceptor successfully destroyed a low earth orbit satellite. India will put into orbit another of its sharp-eyed surveillance satellite RISAT-2BR1 with synthetic aperture radar on December 11. The next space mission is to orbit RISAT-2BR1, a radar imaging satellite. Piggy backing on the 615 kg RISAT-2BR1 in the Polar Satellite Launch Vehicle (PSLV) would be four foreign satellites that India will be carrying for a fee. Another radar imaging satellite 2BR2 with synthetic aperture radar will soon follow after December 11 mission. A clutch of such sharp-eyed satellites are necessary to look down at the earth on a continuous basis. In May this 2019, ISRO launched 615 kg RISAT-2B. The next radar imaging satellite - RISAT-2BR2 - expected to be launched soon will also have two small foreign satellites are piggyback. ISRO has earmarked $1,600 million for launch vehicles, of which $870 million will be for PSLV and the remaining for Geosynchronous Satellite Launch Vehicle, he revealed. ISRO has planned some 50 RPT 50 Polar Satellite Launch Vehicle launches in the next five years. Budget has always been a constraint in satellite insurance. Space is an engine of growth. Liberalization of space is needed in the national interests, the private sector should be allowed in all the sectors of the space industry. This is high time to encourage the private sector to play a potent role in the country's space sector and to enact the legislation for the same. IJ

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Insurance as a Financial Tool for Well-Being of a Nation

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Abstract

The insurance sector delivers services to policyholders to protect them from unforeseen risks. India is the 15th largest insurance market in the world in terms of premium volume. However, the insurance penetration is only about 3.5% as compared to a global average of 6.5%. Though insurance is primarily a tool for protection, earlier insurance was perceived more as a tax-saving instrument. A lot has changed in the last few years. IRDA as a regulatory body has been actively working towards protecting the interests of the insured community. The sector was opened up for foreign participation and the Foreign Direct Investment (FDI) limit was increased from 26% to 49%.

The insurance industry is experiencing a massive transformation due to the rapid advances in technology. Promotion of insurance via digital tools is gaining traction. Insurance policies are now being sold online. Yet, despite all these changes, the penetration levels of insurance in India remain low in comparison to the global average. Considering the fact that the Indian market is a huge one, there is an urgent need to increase awareness levels of insurance among the Indian population and promote insurance as a financial tool for well-being of the nation. The awareness drive has to begin from the Government. The Government has launched several schemes like Swaccha Bharat Yojana, Make in India,

Fit India movement, Jal Shakti Abhiyan and Pradhan Mantri Ujjwala Yojana. There are also insurance schemes like the Rashtriya Swasthya Bima Yojana scheme, Pradhan Mantri Fasal Bima Yojana and Pradhan Mantri Suraksha Bima Yojana schemes. But still a lot needs to be done to drive penetration of insurance both in urban and rural India. This paper proposes that insurance be promoted as a financial tool for well-being of the nation and that the Government declares a Rashtriya Bima Diwas to underscore the importance of insurance today.

Keywords

Insurance, Well-Being, Fit India, Digital Marketing, Investment.

Introduction

The insurance industry in India is expected to reach $ US 280 billion by 2020. It is expected that greater awareness levels among the population, launch of innovative products and increase in the number of distribution channels will fuel the growth of insurance industry in India. The Indian insurance market continues to be underserved. The insurance bill has empowered the regulator to frame regulations that can support the industry and protect the interests of the policyholders.

The insurance industry in India consists of 57 insurance companies of which 24 are in life insurance business and 33 are non-life insurers. The industry structure is quite complicated due to the different verticals (Life, Motor, Crop, Liability, Health, Engineering, Marine etc.) and the involvement of various stakeholders.

In FY18, the gross premiums written in India reached Rs 5.53 trillion (US$ 94.48 billion) with Rs 4.58 trillion (US$ 71.1 billion) from life insurance and Rs 1.51 trillion (US$ 23.38 billion) from non-life insurance. Thus there is a greater need to increase the premiums from non-life insurance. In FY19 (up to October 2018), premium from new life insurance business increased 3.66 per cent year-on-year to Rs 1.09 trillion (US$ 15.46 billion). In FY19 (up to October 2018), gross direct premiums of non-life insurers reached Rs 962.05 billion (US$ 13.71 billion), showing a year-on-year growth rate of 12.40 per cent.

The Government of India launched the National Health Protection Scheme under Ayushman Bharat to provide coverage of up to Rs 500,000 (US$ 7,723) to more than 100 million vulnerable families. The scheme is expected to increase penetration of health insurance in India from 34 per cent to 50 per cent. Over 47.9 million famers were benefitted under Pradhan Mantri Fasal Bima Yojana (PMFBY) in 2017-18.

Changes in the regulatory framework are promising for the future prospects of insurance sector. The industry has been taking actions to promote greater customer engagement using digital technologies. A growing middle class, India's demographic dividend and increasing awareness about the need for protection of life and other functional assets will support the growth of Indian life insurance.

Yet a lot needs to be done to promote insurance as a financial tool for overall wellbeing of the nation. In this research effort, we analyse how insurance can contribute to the well-being of the population and how digital media provides an opportunity to steer the awareness about the benefits of insurance in the right direction.

What is Well-Being?

Well-being is a complex combination of a person's physical, emotional, mental and social health factors. It is strongly linked to a person's happiness. Well-being is about how a person feels about himself and his life as a whole. It tells us if people's perceptions about the progress that they are making are positive or not. Good living conditions (e.g. housing, employment) are fundamental to well-being. Tracking the well-being of the population is essential for public policy.

Well-being can be understood from three perspectives – absence of negative conditions (clinical perspective), existence of positive attributes (psychological perspective) and pursuit of satisfaction. Well-being is subjective. So, it is best measured using a combination of objective measures (e.g. household income, unemployment levels, extent of crime etc) and self-reported measures.

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http://alicemooreuk.blogspot.com/2016/05/wellbeing-and-welfare-are-still-being.html

Well-being is associated with

- Self-perceived health.
- Longevity.
- Healthy behaviors.
- Mental and physical illness.
- Social connectedness.
- Productivity.
- Factors in the physical and social environment.

Well-being integrates physical and mental health leading to a holistic approach for promoting health and preventing diseases. Researchers from different disciplines have examined different aspects of well-being that include the following

- Physical well-being.
- Economic well-being.
- Social well-being.
- Development and activity.
- Emotional well-being.
- Psychological well-being.
- Life satisfaction.
- Domain specific satisfaction.
- Engaging activities and work.

Financial health can also contribute to an individual's well-being. A study conducted by Cigna revealed that 75% of people interviewed expressed concern about rising health care costs. 44% of people felt that health care costs will deplete the funds earmarked for the expenses of their children's higher education.

A Brief Look into the History of Insurance

Greek and Roman societies believed that proper burial was important for the dead to move onto the next world. Citizens had to pay a monthly fee to a club that ensured that funerals were conducted on time. The club also ensured that surviving members of the family of the deceased were taken care of.

The Lloyds of London was a coffee shop. It opened on Tower Street in the year 1686. It was a meeting place for sailors, merchants and ship owners. Lloyds provided them reliable shipping news. Eventually the shipping community began discussing maritime insurance, foreign trade and ship broking. Thus, the concept of insurance was born out of a humanitarian need to take care of the needs of the members of communities.

Insurance and social responsibility is intrinsically linked to one another. Insurance provides a means for assurance to the policyholders and their families. It is time that the industry uses the founding principles of insurance to the market to create a positive image about the industry.

Source:https://www.haikudeck.com/ap-european-commercial-revolution-education-presentation-3jmvJQuQg6

Insurance & Well-Being

Unfortunately, insurance companies across the globe seemed to have gained some degree of notoriety as corporations that were primarily interested in receiving premiums without any sense of responsibility to deliver service. But the truth is that insurance companies promote the overall well-being of the nation. In today's digital era, the insurance sector can stay relevant only by understanding the needs of the customers and delivering services of the highest quality.

Organisations need to understand that healthier employees are more productive. The very fact that the employer cares for them can be reason enough for employees to be motivated and be engaged in their work place. When insurance benefits are offered to employees they get the feeling that the employer is contributing to their well-being.

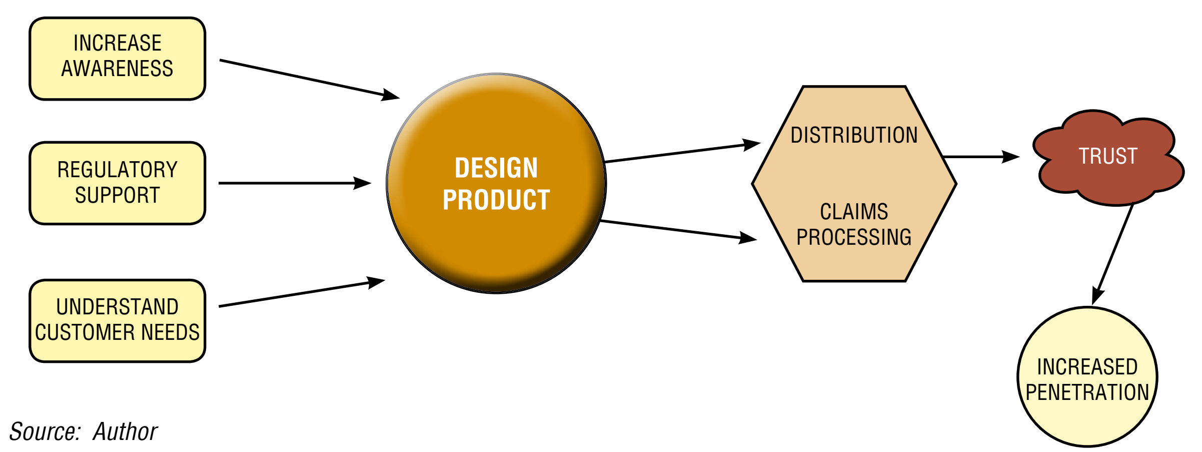
Insurance *per se* has an inherent element of social responsibility. To promote well-being of mankind, it is time insurers go beyond their marketing efforts to promote insurance as a risk mitigating tool. Thus, when an insurer is selling a health insurance cover – efforts can also be made to create awareness about lifestyle diseases and the need for every individual to focus on having a healthy mind in a healthy body. Simple aerobic exercises like walking, yoga, meditation sessions and an active lifestyle can keep lifestyle diseases at bay. Health insurance providers need to look beyond "no-claims" discount to those policyholders who take proper care of their health. They can be rewarded with incentives like free annual health checkup or given opportunities to take part in a yoga session or a meditation session. Life insurance provides peace of mind to an individual that their loving ones will be protected if the worst happened. This has to be effectively communicated to the Indian population.

Fit India Movement and Rashtriya Bhima Diwas

On 28th August 2019, our honorable Prime Minister Narendra Modi launched the "Fit India Movement" and encouraged Indians to make fitness a part of the daily routine. He also categorically stated that "There is no elevator to success – you have to take the stairs". He also said that "If the body is fit, the mind is a hit".

With a dignitary like the Prime Minister speaking about fitness and keeping lifestyle diseases at bay, it is high time that the insurance industry presses the need for a "Rashtriya Bima Diwas" (National Insurance Day) to drive home the message that insurance is a key financial management tool that can protect an individual's assets and help him to mitigate risks. A fit mind in a fit body is a great boon. Having an insurance cover will add further value to the wellbeing of an individual in terms of the mental peace that he will derive from the knowledge that he has an insurance cover to protect himself/ his assets against future risks.

The most tragic aspect is people not realizing the adverse impact of not having an insurance cover. Today every insurance company tries to market its products (health insurance) – but a customer has a tough choice understanding the clauses and the fine print. Can't we think of rating insurers based on several parameters – so that a customer's decision making process gets simplified? At best, we can start rating the various health insurance schemes to begin with! If certificates of deposits and commercial papers need a credit rating why can't health insurance schemes have a similar rating mechanism? This is something that the regulator needs to introspect! The global financial system suffers from a trust deficit – frequent bouts of economic recession, one scam after another getting wide coverage in print and social media and huge non-performing assets of all banks – these are causing consternation in the minds of investors.



Source: Author

Caselet

Aviva provides life insurance, general insurance, health insurance and asset management to 33 million customers. The company is a leading insurer in UK and serves one in every four households. They have a strong presence in Europe, Asia and Canada.

In 2017, Aviva launched a new app to help employees of corporate customers track their overall health and well-being and prioritize their overall fitness. The app is available to Aviva's customers at no extra cost. This app extends the insurer's health propositions beyond health insurance. Customers can access free and personalized health information and data to make informed decisions about their health and well-being. As part of this initiative, customers will be able to identify and target their health and well-being priorities – lowering stress levels, losing weight or simply leading an active lifestyle. The app can be accessed via phone, tablet or PC. This app was developed by Aviva in partnership with Tictrac – a leading digital health company based in London. With this app being available to the work force, employers can have a better grip on the information pertaining to the health and well-being of their work force.

The above example shows that insurers can use digital media like apps to facilitate the measurement of well-being by policyholders. This will spread the message that policyholders have to focus on holistic health aspects.

To Sum Up

The insurance industry is on the cusp of rapid growth backed by massive advances in technology. Besides the use of digital media to drive greater customer engagement, artificial intelligence, automation of processes and block chain technologies are being explored to improve the effectiveness of the business model. While these advances augur well for the insurance sector, there is a pressing need to popularize insurance as a tool for well-being of the population. Efforts to increase awareness, regulatory support and a proper understanding of customer needs will support the design of an effective product. As distribution channels increase and become effective, the sector must show interest to improve its claims processing abilities. This will lead to greater trust among the insured and drive penetration of insurance.

Ancillary activities to support the notion of insurance as a medium for well-being are needed. Events like National Yoga Day, celebrations as part of Fit India Movement, awareness drive for banning single use plastic are significant milestones in the Government's policy initiatives to support socio-economic development. Insurance too needs to be included as part of this agenda. IJ

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Key Pillars of Life Insurance Industry – Four "Ps" Penetration, Protection focus, Persistency and Pricing

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Introduction

For the past two decades the Global economy has seen a series of changes as well as new highs and downs which has impacted Insurance Industry to a great extent. Then the penetration of Life Insurance Industry from 2000 to 2009 grew from 2.5 % to 4%. The Global financial crisis during 2007 witnessed a deep drop and customer's confidence got lost. Various macroeconomic filters and changes in the financial sector, compelled the Indian life insurance industry to witness a phase of stagnation. IRDAI stepped in at the right time and overhauled the regulatory framework of the Indian Insurance Industry. This timely intervention of IRDAI was welcomed by all stakeholders including the Insurance Companies and the policyholders.

Impact of Insurance Industry in Indian Economy

Insurance Industry lubricates the role of Life Insurance Industry in Indian Economy is as given -

The Key sectors which should align to economic growth is banking sector and Insurance Sector as detailed in the below diagrams. Due to the volatility in Banking Sector in India, Life Insurance's role is vital for the economy to grow is an undisputable factor. The compound annual GDP and Life Insurance premium growth is shown in Fig. 1 beside:-

Asian countries comprise five of the top 10 life insurance markets worldwide. The above figure shows, life insurance sales in most of the developing and emerging economies have been outpacing their GDP growth since 2010. In constant 2010 USD terms, GDP growth for these countries has been between 3 percent and 8 percent. Life insurance sales, meanwhile, have been growing at a rate of between 5 percent and 16 percent—much faster than in many developed countries worldwide. Life Insurance penetration is considered as a key attribute for economic growth of an economy. This is given in Fig. 2

Present scenario of Life Insurance Industry

The life insurance sector has witnessed immense growth in the past few years. Today, Life Insurance is a key industry in financial sector and mobilizing savings. Further as the big private players have been listed in the stock exchange, the insurance companies responsibility has increased manifold to do justice

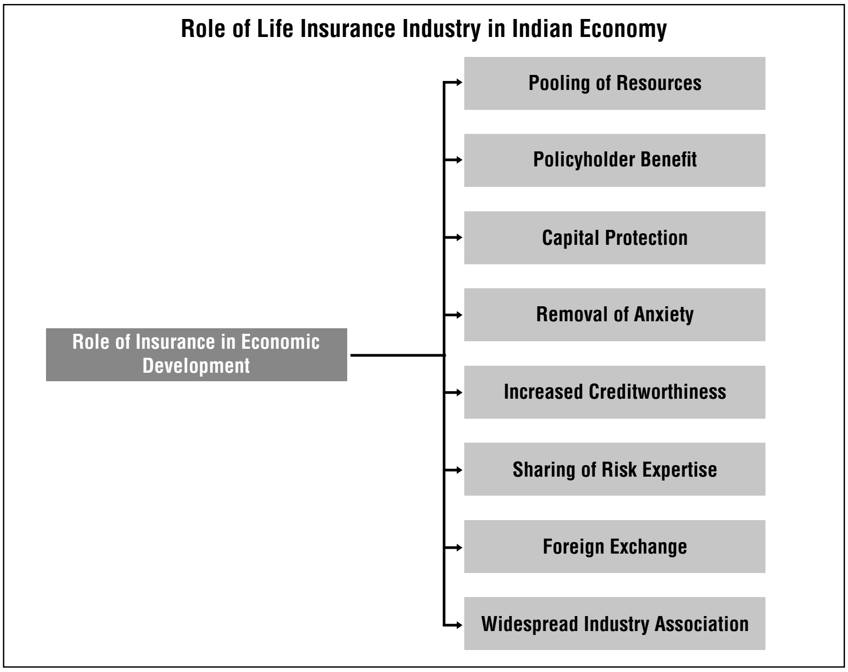
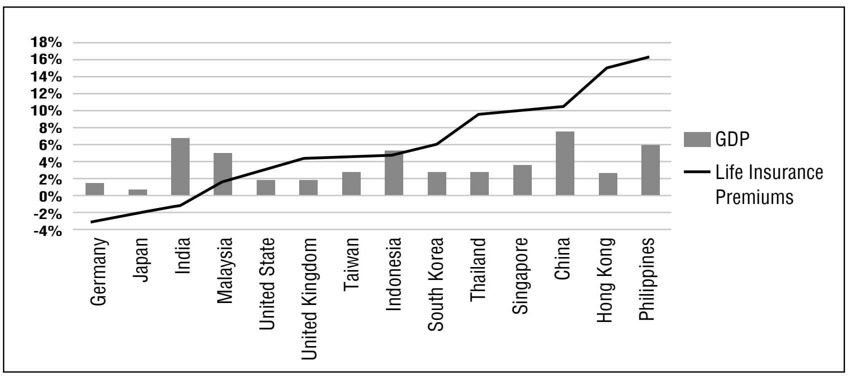
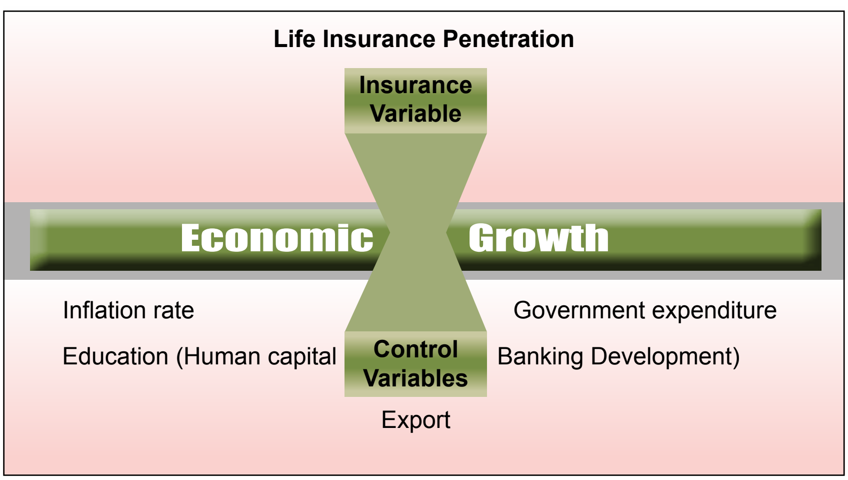


Figure 1: Compound annual GDP and life Insurance premium growth rates 2010-2016



Source: Acko Insurance Information Services, The world Bank

Figure 2: Key factors for Economic Growth of an economy



and has to take care of the interests of policyholders, intermediaries, internal and external stakeholders, peripheral support systems and above all the shareholders.

The life insurance sector controls:

- More than Rs. 37,116 crore of deployed capital
- Over Rs. 36,65,743 crore of managed assets
- Investments in infrastructure exceeding Rs 3,84,262 crore

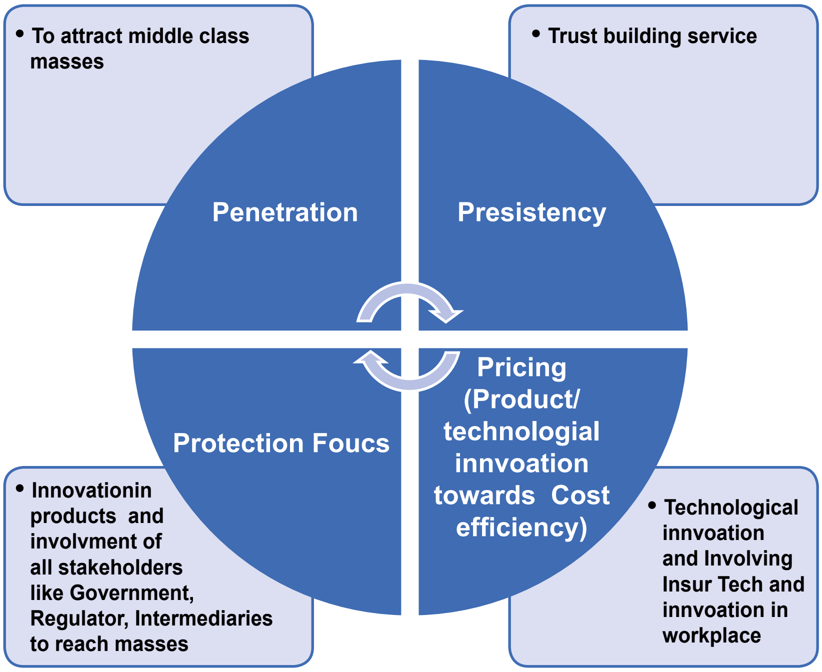
Another indication of the sector's growth is its infrastructural strength.

Today the life insurance sector comprises of:

* Over 11,280 branches
* More than 21.95 lakh agents
* 2.85 lakh direct employees and growing significantly
* 33.17 crore In-force policies.

The objective behind opening of the Insurance sector for private participation were to improve penetration and grow the premium income. The Indian Insurance industry is expected to grow to Rs. 19,56,920 crore (US$ 280 billion) by FY 2020. Gross premiums in India reached $ 94.48 billion in FY 18, out of which Life insurance contributes to $ 71.1 bn. Though dynamics of life insurance in India has changed tremendously, the growth and the penetration is still in a sluggish mode. To come out of this sluggish phase and to ensure a long sustainable growth the Indian Life Insurance Industry should focus on four Ps viz. Penetration, Protection focus, Persistency and Pricing. In order to sustain and revolve in the economy and to play a partnering role for the social cause of covering the

Figure 3: Pillars to Life Insurance Industry



large of uninsured and underinsured population the above 4 Ps are vital.

Key significance of the Four 'Ps" detailed in the Above diagram Fig.3.

Penetration is required to be taken up on priority to masses. In developing country like India masses are in middle income group and Life insurance industry need to attract these masses in large scale. The immediate primary obligation before the Life Insurance Industry is to bridge the gap in Protection of the masses. The industry has to play a pivotal role to ensure social well-being by covering the risks of the bread-winner's deprived family who are now spread across the nation as bereave community in the society. The purpose of penetration and protection of the large population gets defeated if the risk cover is not continued. Persistency of Life Insurance policies is equally important for sustained growth of the economy. Discontinuation of a life insurance policy is a loss and a great burden to the Life Insurance Company and a loss to the policyholder and also to all the intermediaries/stakeholders involved in the journey of the policy life cycle. One of the reasons for masses distancing with Life insurance is cost of the product and lack of awareness of the benefit of the product in toto and its Price. Pricing plays a vital role in reaching the masses. Jio is one example to show how in a short span it dominated the entire country with its cheap pricing. Though, we cannot compare life insurance with a telecom product as life insurance pricing is having various intrinsic factors in pricing, this is just to give a thought to think how a cost effective product can influence and penetrate into deeper market in a short span. Life Insurers can also bring out cost effective products with the help of InsurTech and enhancing direct selling and hassle-free service deliveries and from better investment returns and by minimising underwriting losses by using better analytical tools.

These 4 Ps are vital to shift the industry from this indolent phase to a high level pulsating phase as detailed below:-

Penetration

At least 75% of Indians--are not covered by any form of life insurance, and an Indian is assured of only 8% of what may be required to protect a family from financial shock following the death of an earning member, according to the latest analysis of government. Uninsured or under-insurance population is seen as a potential market in India. But, tapping the untapped or under-tapped potential is an uphill task for the Indian Insurance. Even after two decades of opening up of the Indian Life Insurance Industry the penetration has not taken up in the expected phase.

Unexpected shocks such as the death of a family member lead to financial loss. The lack of adequate cover in these situations makes people prone to high financial instability. This is more severe in the case of the unorganised sector: Informal workers in the unorganised sector are exposed to additional risks in the form of income volatility, hazardous workplace conditions and lack of old-age benefits. These risks can be reduced through insurance.

With 82% of India's workforce engaged in informal employment in the unorganised sector, 392.31 million workers and their families live under constant threat of financial setbacks due to insufficient or without any risk coverage.

India had about 328 million life insurance policies in 2017, according to data from the Handbook on Indian Insurance Statistics, 2016-17, of the Insurance Regulatory and Development Authority of India (IRDAI). Assuming each policy corresponds to a unique citizen, this accounts for 25% of the population having life insurance cover, leaving 75%--or 988 million Indians--without cover.

Considering a person may hold more than one such policy, the number of Indians not covered by life insurance may be higher. Currently, there are no data on the number of unique Indians with life insurance cover.

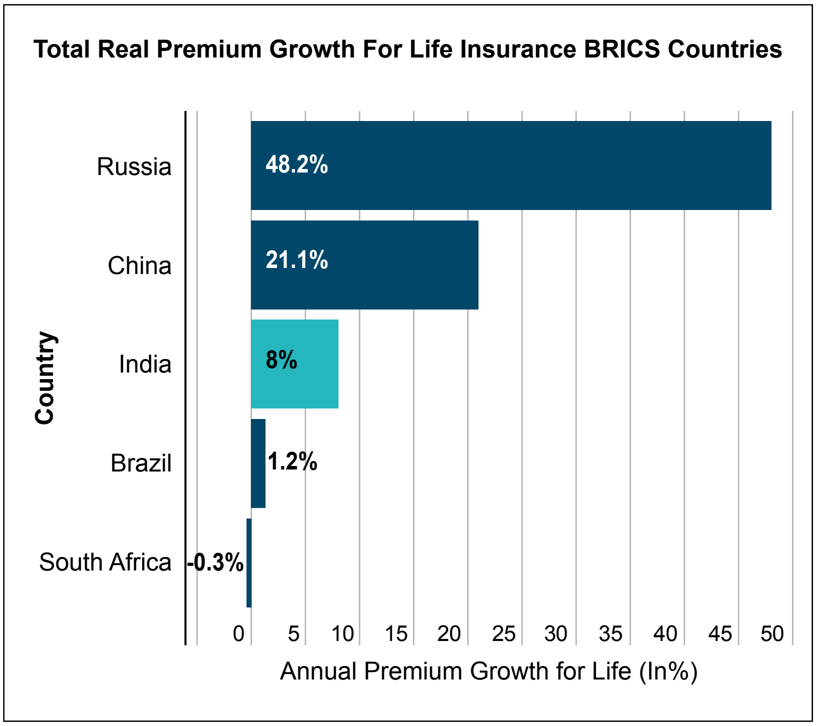
Further, an average working person is assured of only 8% of what may be required to protect a family after the death of an earning member, according to analysis of data by leading global reinsurer Swiss Re. This is much lower than the insurance coverage adequacy of 44% in Japan, 84% in Taiwan and 67% in Australia.

"There are low levels of insurance penetration (life and non-life) despite numerous sources of risk such as rainfall (leading to income shocks in largely agrarian segments of the population), health shocks, and catastrophes such as floods or cyclones," the July 2017 Household Finance Committee report of the Reserve Bank of India (RBI) pointed out.

1. Annual premium growth: India's total real premium growth rate for life insurance--the annual rate of increase in premium collected by the life insurance industry in real terms i.e. adjusted for inflation--is 8%, according to the IRDAI's 2017 annual report.

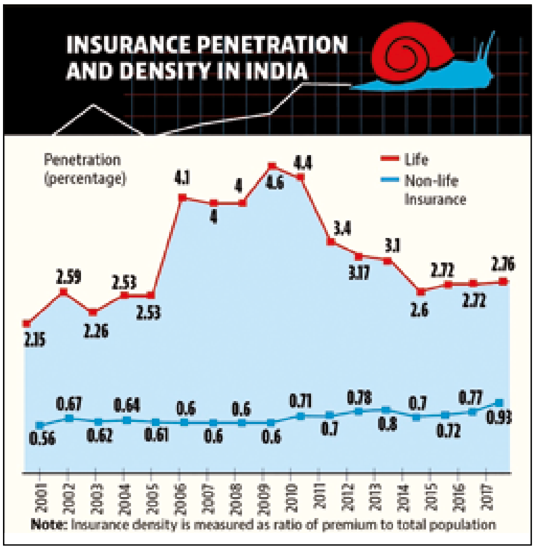
While this is better than Brazil's 1.2%, it is lower than Russia's 48.2% and China's 21.1%, data show. Fig 4 shows the total real premium growth of BRICS countries.

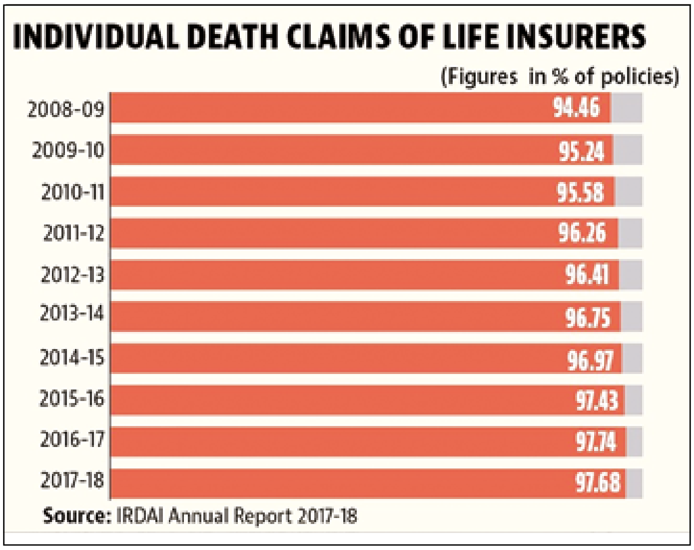
Figure 4: Total Real Premium Growth of BRICS Countries



Penetration is the key factor and let us look forward how Indian Life Insurance Industry is skewbald vis a vis its counterparts across the globe. Insurance Penetration and Insurance Density is shown in Fig. 5.

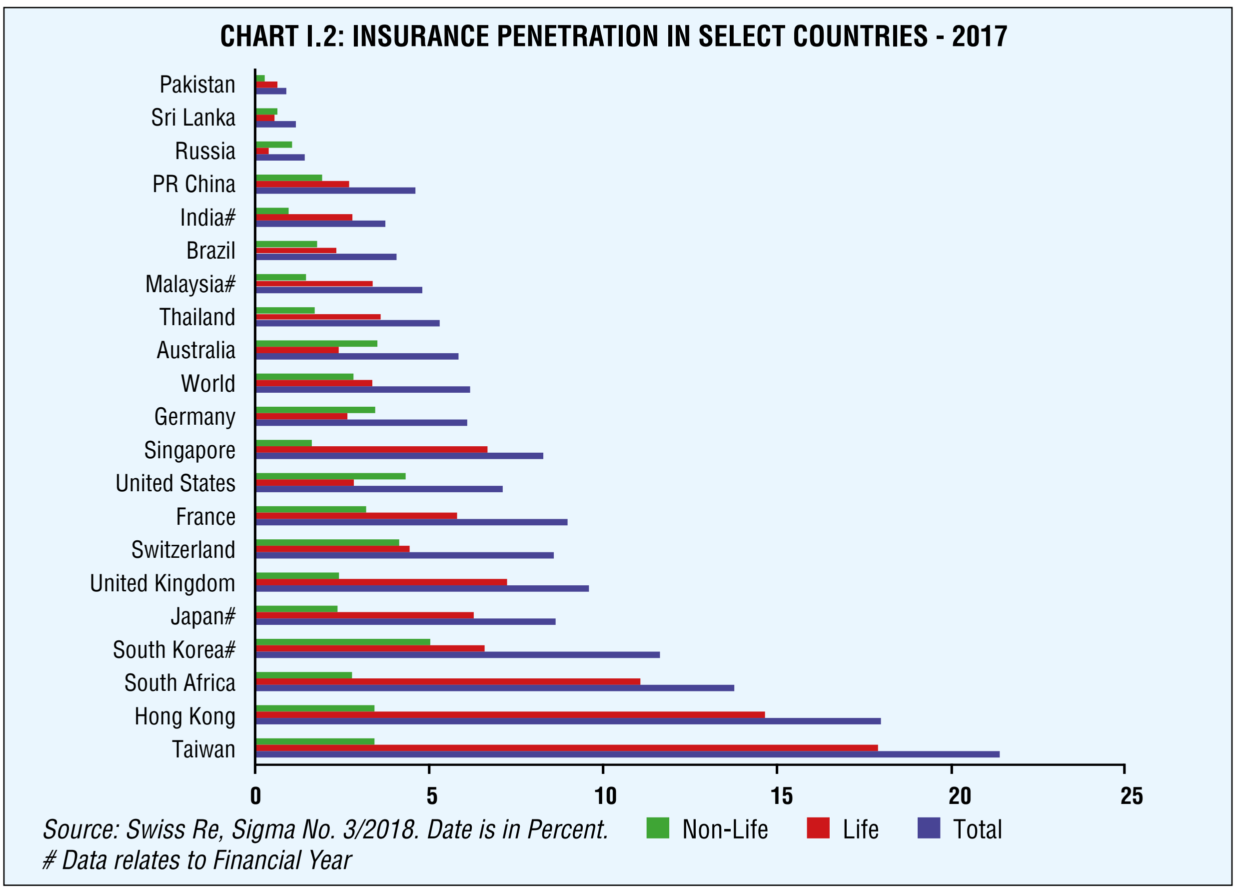
Figure 5: Insurance Penetration and density in India





The Penetration of Insurance Industry in India is poor when compared to the Global standards as detailed in the below chart Figure 6.

Figure 6: Insurance Penetration in select countries



It can be seen in developed countries like Australia, Germany and Canada and Singapore the Penetration to the Insurance Industry is more than the total disposable income. Total insurance penetration GDP 2017 is shown in Fig.7 below.

Figure 7: Penetration & GDP trend in developing and developed market

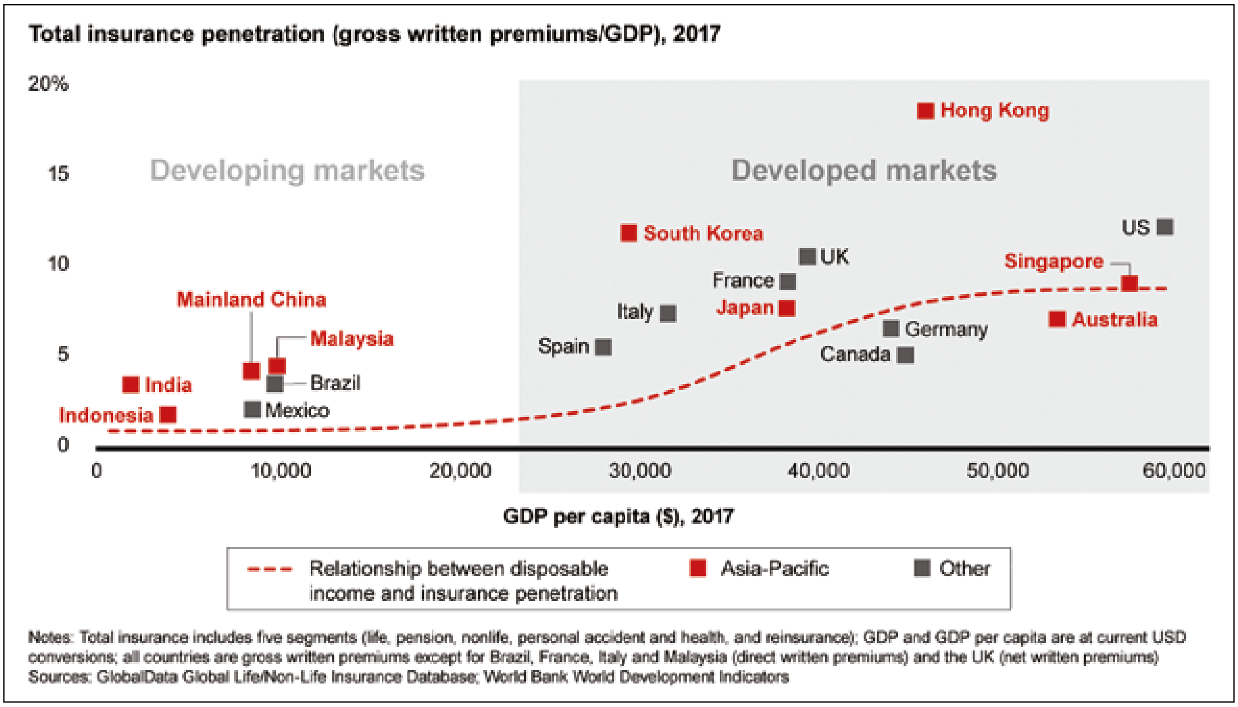
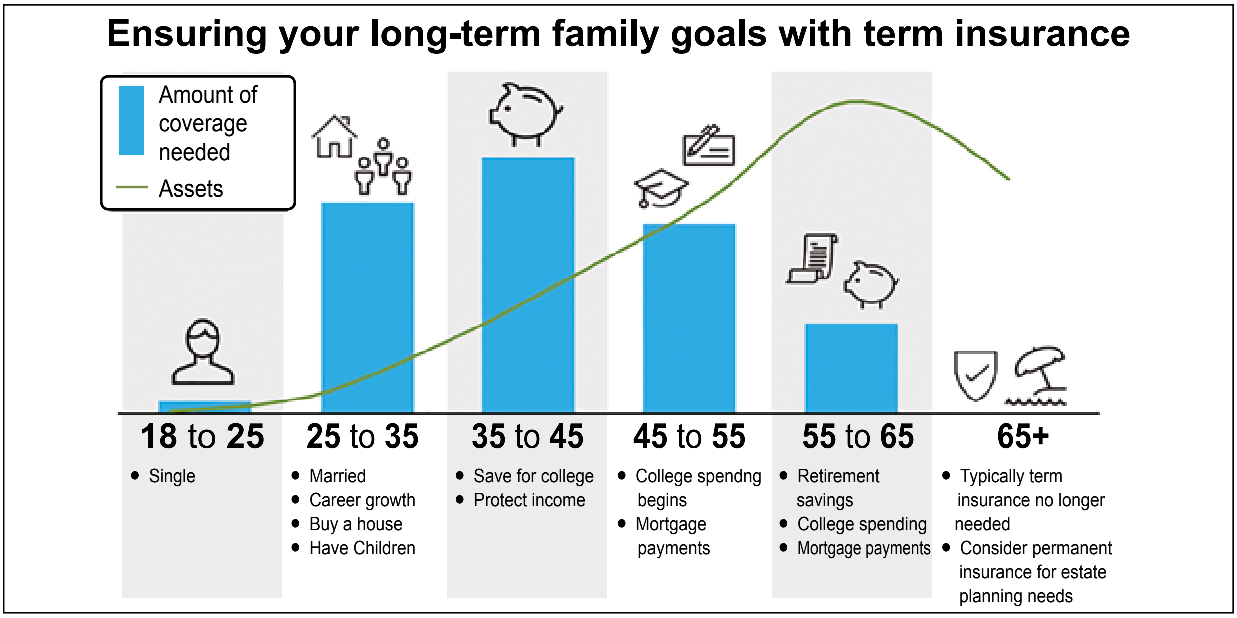


Figure 8 : Correlation of Economic Development and Insurance penetration

Need based selling

Need based Life Insurance at various stages of life cycle of an individual. Insurance Companies need to align their products according to the changing needs of the individuals to meet their long term family-goals as stated in the below diagram Fig. 8.

Figure 8: Term Insurance need during the span of life of a policyholder



Personal accident insurance usually covers death or disability caused due to an accident. As of 2017, 65% Indians are covered by personal accident insurance, according to data from the IRDAI's 2017 annual report.

This includes policies issued under Indian Railways Catering and Tourism Corporation, Pradhan Mantri Jan Dhan Yojana and Pradhan Mantri Suraksha Bima Yojana. Fig. 9 shows how the coverage of major personal accident insurance schemes in India.

When personal accident cover has grown upto 65 %. On the same lines there is scope for growth of Life Insurance also should be driven.

Though Government syphoned PMJJBY Scheme and similar flagship schemes to cover the masses the expected reach is not stretched and the number of enrolments is only around 6 crores as detailed in the below diagram.

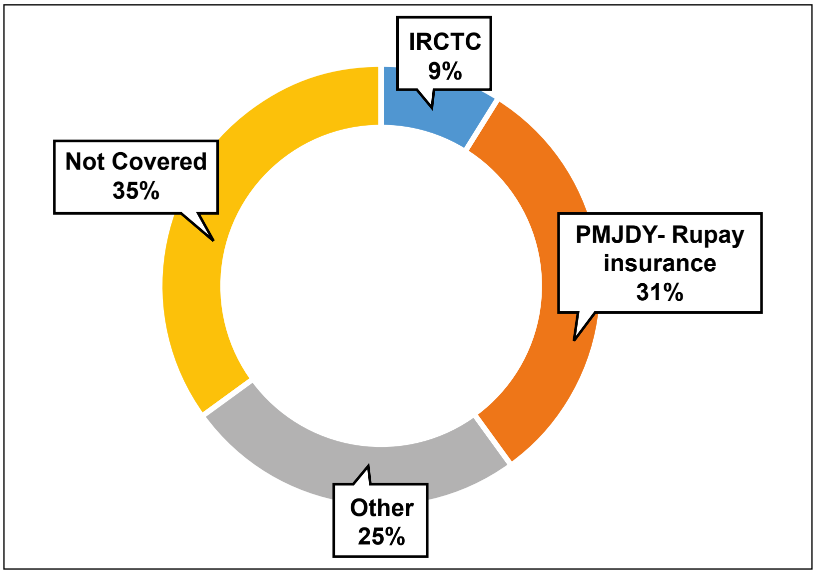
Government has to seriously think of inclusion of the uninsured and should take steps to enhance their socio-economic status. The socio economic characteristics of the uninsured is given in Fig. 10.

New thought

Regulator and Government should immediately bring an Unique Life Insurance Number (like PRAN or PF id number) for each citizen and the same has to be linked to Aadhar Card and even with the Family card.

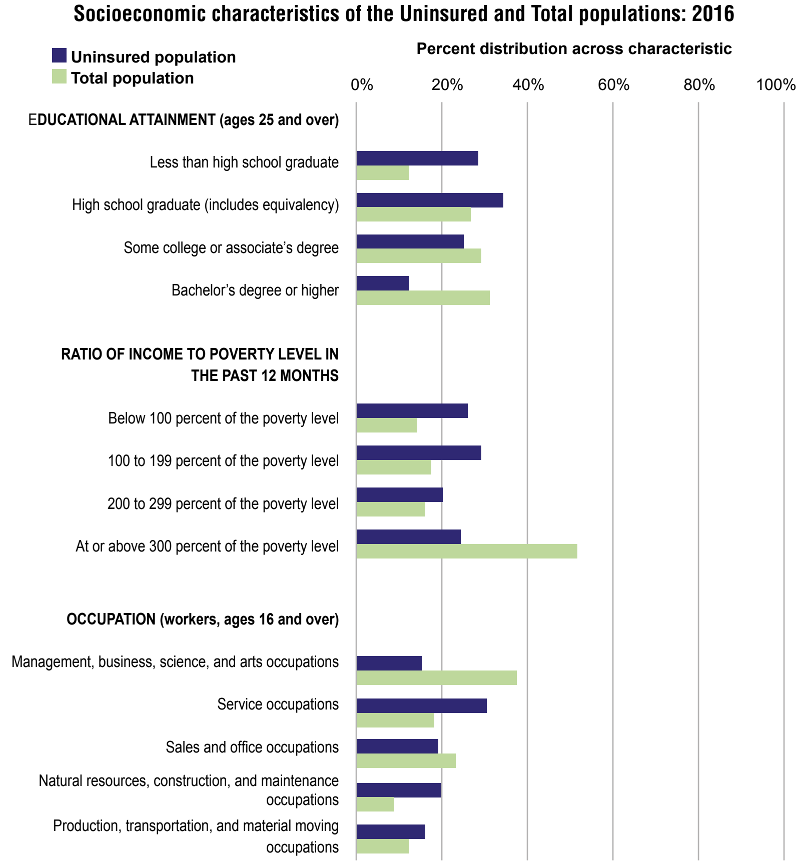
When Central or State Government is bringing social security scheme contributions for Life Insurance it should get tagged with the Unique Life Insurance Number. Any citizen taking insurance whether from their own funds or from the subsidy of government he/ she should be tagged with the Unique

Figure 9 : Coverage Of Major Personal Accident Insurance Schemes In India



Source: Source: IRDAI Annual Report, 2017

Figure 10: Socio economic characteristics of Uninsured population



Note: Estimates are for the civilian noninstitutionalize population
For more information on the American Community Survey, see<www.census.gov/programs-surveys/acs/>.

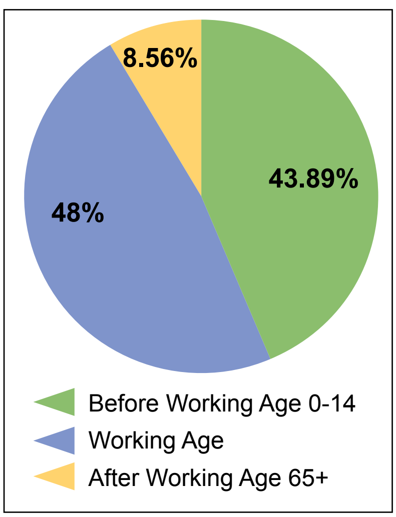
Life Insurance Number. This will enable the analysts and government to track the penetration of insurance and uninsured population in the country.

Changing economy has aggravated cashless purchases. Life Insurance can be linked with such cashless transactions and this will ease the penetration of Life Insurance.

Government has mandated 2 % of average net profits of the Companies to be spent for CSR activity. In similar manner all employers has to contribute a certain percentage of their income towards Life Insurance cover for its employees.

Basic premiums depending upon the financial condition of the family can be paid by State Government and the Family can pay top up premium through the ration/fair price shops or CSCs. Even if top up is not paid, basic cover as per State Governments contribution should be paid on death of any member in the family. Even Governments can think of assisting disbursement of the death claim can be assisted by these local centres. India's population dependency ratio given below in Fig. 11.

Figure 11: India's population dependency ratio



India is having the advantage of nearly 50 % of working population and another 44 % are in pipeline which evince confidence for sustainable and stable growth of Indian Economy in a long run. Life insurance industry should use this opportunity and should bring in the masses in middle class earning members into insurance brace.

The above approaches viz. Government's support to bring poor masses into Life Insurance Segment, middle class population should be shepherded by the Employers, Life Insurance Industry stakeholders. The affluent class who is 20 % will anyhow will be taken care of by themselves and also by Life Insurance companies and intermediaries to keep their top line glow always. The above approaches will ensure a holistic and a sustainable growth of Life Insurance Industry in a long run.

Intermediaries Role in Life Insurance in India

Intermediary dependency of Indian Life Insurance market in individual policies given below in Fig 12 & Fig 13.

Figure 12: Intermediary dependency in terms of number of policies

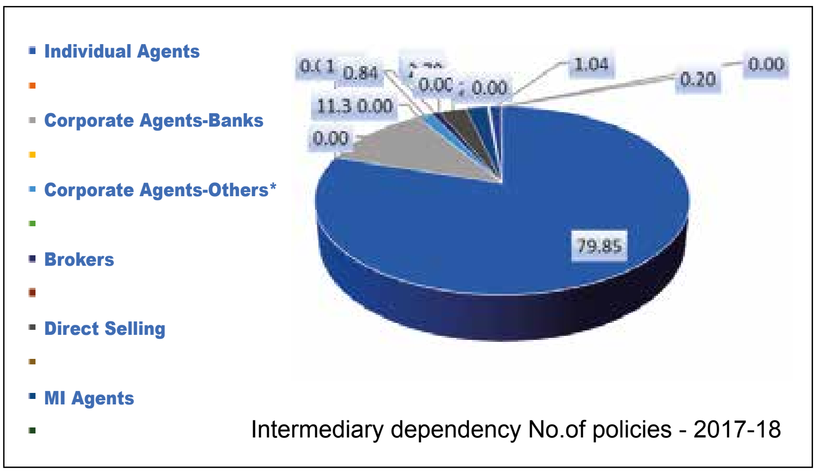
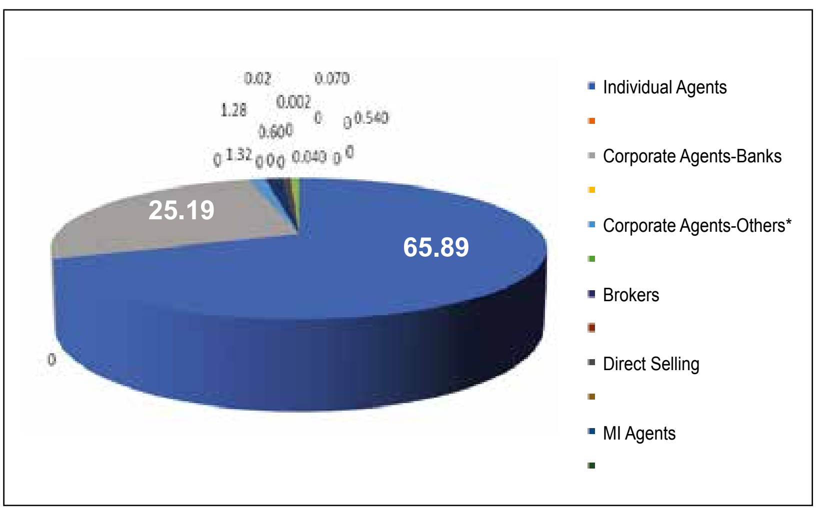


Figure 13: Intermediary dependency - Premium for Individual products- 2017-18



Data Source: IRDAI handbook on Indian Insurance Statistics 2017-18

In India still dependency of Agents is very high. Nearly 66 % of premiums under individual policies from 80 % of count of policies sourced from Individual agents. Though, this is a good from economic perspective and the society should be grateful to Life Insurance Industry for having employed such a large force for distributing Life Insurance and being a bread winner for nearly 21 lacs individual agents spread across the country. On the other hand, there is a feeling that the cost of commission paid to the agents is loaded into the pricing of the product. Due to the complexity of the insurance product and having a long-life cycle and selection of need based products guidance of experience advisor is vital for customers who are not well versed with the insurance concepts. Hence, the concept of individual agent and life insurance is inseparable. The following changes can be brought out to make intermediary more effective and delink the commission from the pricing load.

1) Insurance advisor should be well qualified and should gain professionalism in selling life insurance

2) Intermediaries should see long term interests of the customers, instead of short lived commission

3) Intermediaries should develop a habit to sell right product to right customer in a well-informed manner

4) Regulator should develop expert Life Insurance Advisors and give a certificate to sell Life Insurance as a "Professional Life Insurance Advisor. For such advisors Regulator can arrange for adequate training and tools to sell. Such advisors need not work for Insurance Companies, but they can be advisors of the customers and can get fixed charges from customers for their expertise and guidance to the customers. Such charges has to be .pre-fixed charges by regulator. The benefit of premium loading due for advisor can be given to the policyholder and should be treated as direct business for the insurance companies. Development of such paid expert insurance advisor who can focus only on the customer's interest and see the long-term interest of the customer and will help the customers across the life cycle of the policy. This will also overcome the high level of attrition of insurance advisor which is a major set back for the Life Insurance Industry.

5) While persistency of policy is a concern, persistency of Life Insurance advisors is also a major concern for the Life Insurance Industry. Health of the Life Insurance Company has to be measured the continuity of its advisors. Once the Life Insurance advisor exhaust is handy family circle client-base, they are not able to spread their wings beyond this circle. Except for a minuscule number of advisors, the span of life insurance advisor in the industry is less than one year. This has resulted in a mayhem in the life insurance industry like low level of persistency of policies, service deficiency, lack of understanding of products and benefits, loss of contacts of the policyholder also resulting in huge accumulation of unclaimed amount due to non traceability of the policyholders/claimants to get the benefits due to them from the insurance contract.

While persistency of policy is a concern, persistency of Life Insurance advisors is also a major concern for the Life Insurance Industry. Health of the Life Insurance Company has to be measured the continuity of its advisors. Once the Life Insurance advisor exhaust is handy family circle client-base, they are not able to spread their wings beyond this circle.

6) Enabling agent to use the latest technology and facilitate the customers from onboarding of the policy till the claims stage with special app and with the data base of his/her own client base with alerts and notifications at each stage of the life cycle of the policy.

7) Life Insurance Industry though should encourage online and direct selling, considering the segments of Indian market and their dependability of insurance advisors should have a target to double the Life Insurance advisor's strength every year and at the same time should also find ways and means to retain the advisors for a long term. If 21 lacs of advisors garner can bring nearly 61 thousand crore premium income per year, 42 lacs advisor can bring 122 thousand crore premium income per year is a simple maths and we need to drive it.

Let us see how other three factors viz. protection focus, persistency and pricing can help to improve penetration.

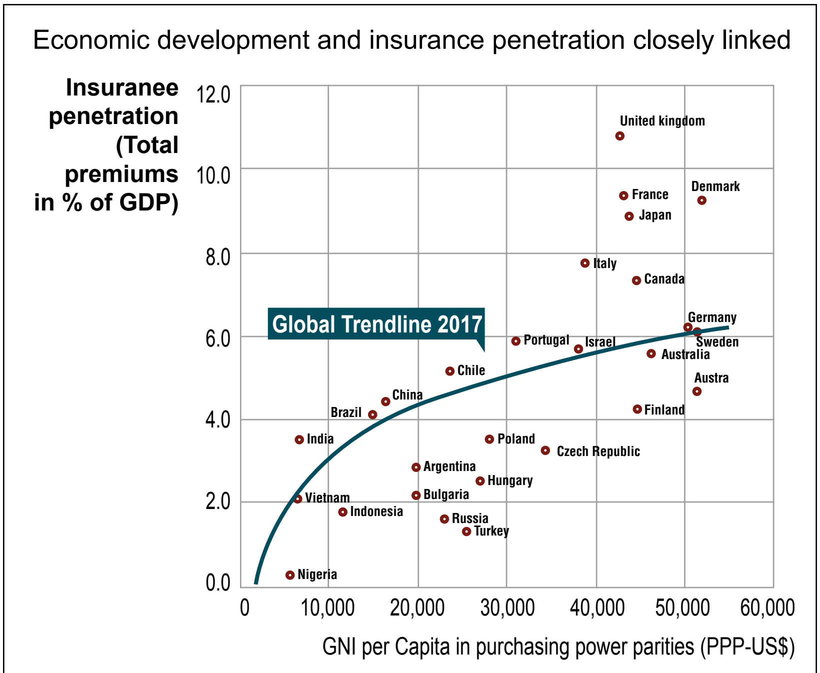
Protection Focus

The global reinsurer Swiss Re uses mortality protection gap and protection margin as metrics to assess the adequacy of insurance coverage.

Mortality protection gap is the difference between the resources needed and the resources already available for the family to maintain their living standards, in the event of death of a working family member. Protection margin is the ratio of protection gap and protection needs. In the below Figure 15 Protection Margin of some countries given below which reveals the huge Protection gap in India.

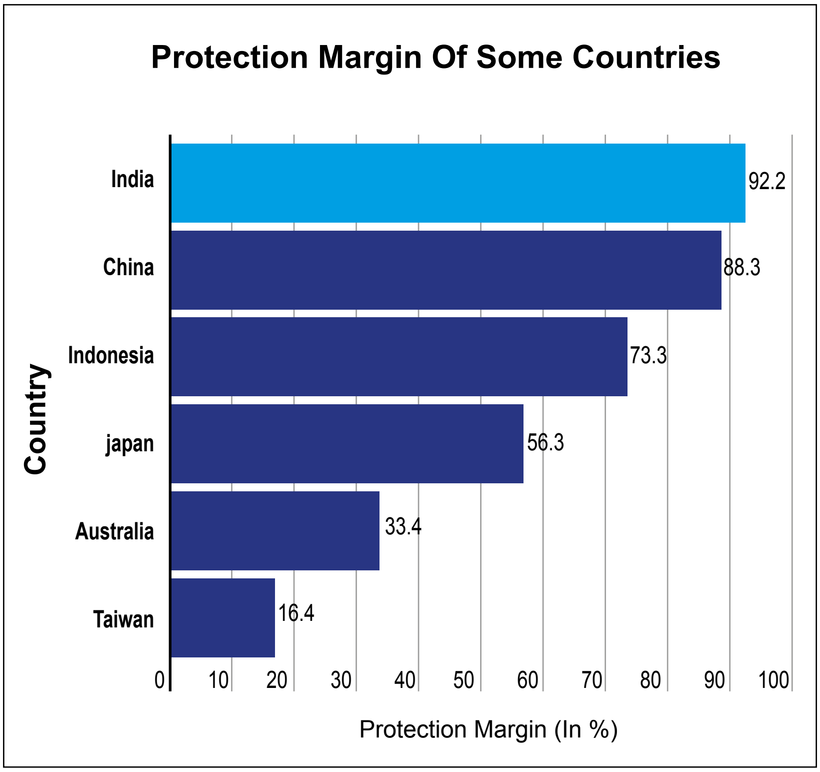
Further, India's mortality protection gap rose 11% every year, on average, over the past decade, data shows. Let us assume that after the death of the mother, the family has some savings in the bank and the amount claimed from life insurance. The protection gap would be the difference between this amount and the resources they need to fund necessities such as food, healthcare and education. The protection margin would be the ratio between this protection gap and the actual protection needed to nullify the effect of the mother's death on their financial lives. India has the highest protection margin in the Asia Pacific region at 92.2%. This means having savings and insurance of just Rs 7.8 for every Rs 100 needed for protection, leaving a protection gap of Rs 92.2. Protection portfolio is also a profitable portfolio to the life insurance companies and its VoB (Value of new business) is high when compared to other products.

Figure 14: Economic development and insurance penetration



Source: Munich Re Economic Research

Figure 15: Protection Margin of some countries



Source: Mortality Protection Gap Report- Asia-Pacific, 2015, Swiss Re

Persistency the key to sustainability

The third "P" viz Persistency for Life Insurance Policy is again a challenge. In Fig. 16 comparision of global persistency trend is given.

In figure 17 Presistency ratio of Indian Life Insurance industry from 13th month to 61st month shown and we can see the declining trend in each year.

The figure shows that on an average 30 % of the policy holders are not renewing the policy after the initial new business premium paid by them and this bucket is eroded slowly and at the end of the fifth policy year the insurance company is left only with around 35 % of the policyholders continuing for five years. This is not a healthy trend for the Life Insurance Industry. The major reasons are :-

1) The myth that Insurance products are sold and not bought still prevail in Indian Market
2) Need based selling is not made and Commission based selling is focused in most cases
3) Instead of product based targets – customer satisfaction index target should be given to marketing team for incentive purpose
4) Advisor attrition after first policy year is one of the major reason for discontinuation of the policy
5) Better products at lower cost (especially pure term products) and changing needs shifts the need of the policyholder
6) Lack of focus on Group penetration and
7) Mindset of the masses that Life Insurance premium is not a necessity and a last priority area

Figure 16: Persistency ratio of select countries.

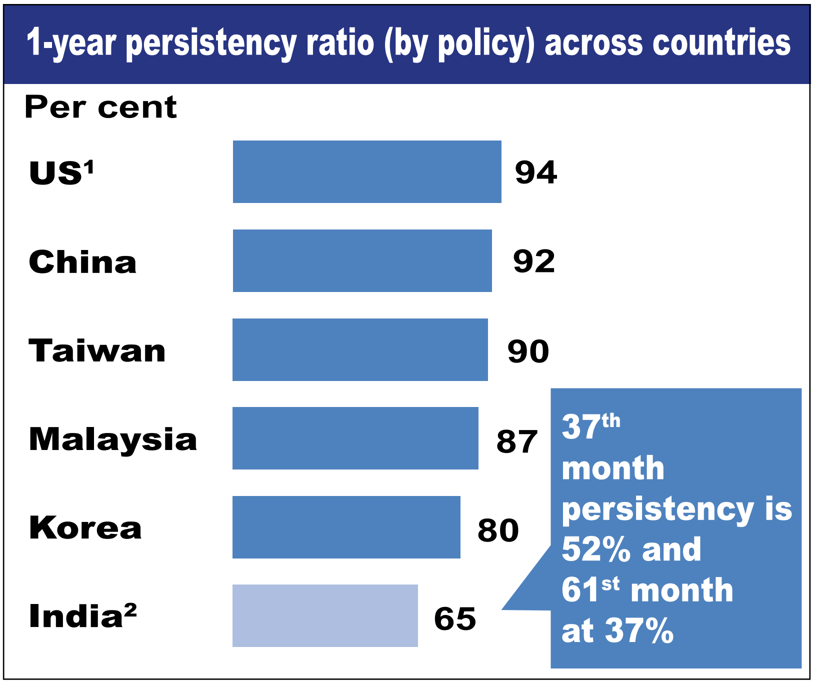
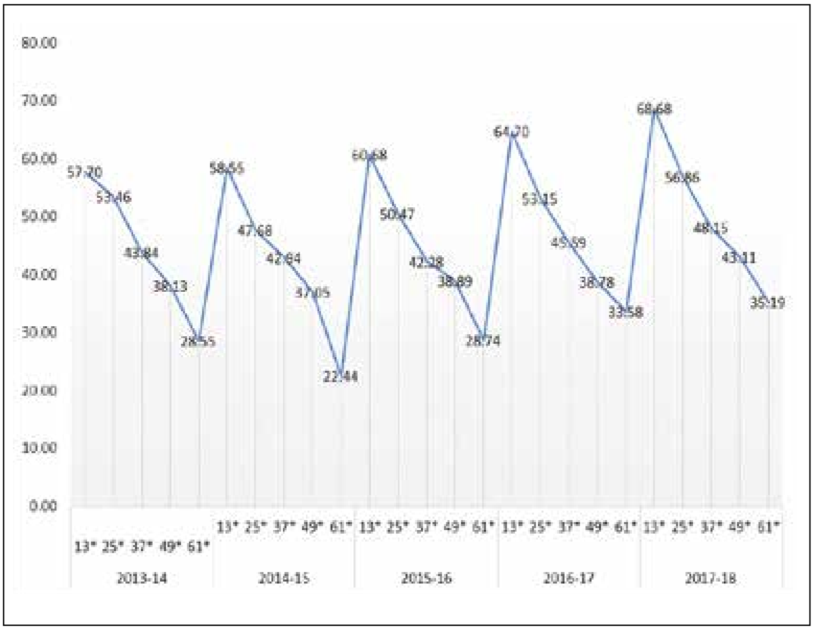


Figure 17: Persistency ratio.



Data Source: IRDAI handbook on Indian Insurance Statistics 2017-18

Though Life Insurance companies are taking lot of steps including putting analytics in place, calling & personally approaching the customers and incentivizing the intermediaries for increasing the persistency, the Industry need to do a lot of trust building activities and be in continuous touch with the policyholder throughout the policy life cycle.

Recently Life Council has brought out a good advertisement detailing the significance of Life Insurance which was a welcome move. Life Insurance Industry should collaborate and see how we can build more trust and change the mindset of the society so that each one feel that buying Life Insurance and continuing Life insurance is a primary obligation and a foremost necessity.

Pricing - A motivating factor for penetration of Life Insurance

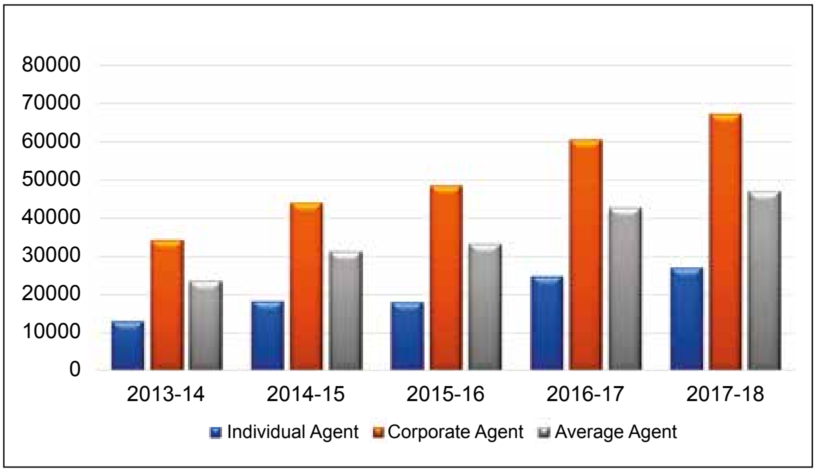
The figure 18 shows the average premium per policy.

The figure 19 shows the average monthly household income of Indian household.

When national average of monthly income is 6,646 (yearly average is nearly Rs. 80,000) Average Life Insurance Premium in the industry works out to Rs. 47,069. Even if Indian households tend to save 12 % of their income average savings per family will be around Rs.10,000 per annum. This inconsistency and gap in average income of the nation and average premium of the nation should be narrowed down and life insurers have to balance this gap by reaching the large numbers.

Pricing Life Industry strong and vibrant in order to align and lead the Indian Economy to USD 5 Trillion Indian Economy within next few years Life Insurance Industry Figure 20 shows the distribution of salaries of in India.

Figure 18: Average Premium per policy



Data Source: IRDAI handbook on Indian Insurance Statistics 2017-18

Figure 19 : Average monthly household income

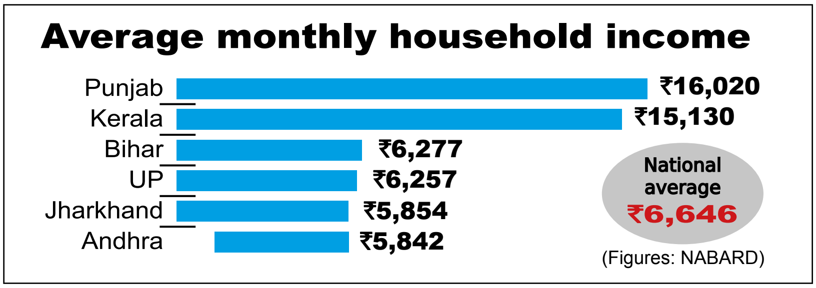


Figure 20: Distribution of salaries in India

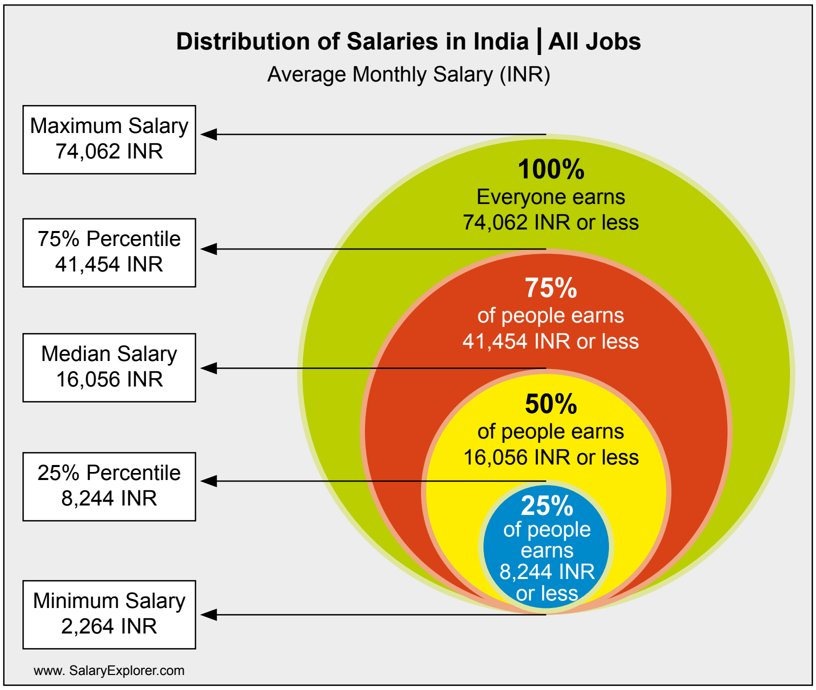


Figure 21 shows how the proportion of income is distrubted across various classes of population and their buying behaviour.

From the tables it is clear that middle class population in India constitues more than 60 % and account for more than half the sales in the market. Product and Benefits should be designed by Life Insurance Industry to meet the need of these middle class masses which can scale up Life Insurance to greater heights.

Most insurance products in India are not pure protection products, but are endowment and ulip products that offer protection and investment features.

In the current competitive environment all business entity of all sectors has to underplay with their pricing. In the competitive economy the entire cost cannot be loaded to the consumer. We can quote example of Airline services where the economy fare is almost equivalent to second class AC fare. Top T.V. channels per day cost are very less than a cost of newspaper. After evolution of JIO. Telecom operators have truncated their charges to a great extent. From these examples it is clear that competition is not within Airline industry alone, Airline has to compete with Railways now, TV channels have to compete with news paper and social media, telecom industry has to invent competitive technology for providing cheap and best quality service to customers. In such a scenario when competition is beyond the industry purview, the Insurance Industry should look beyond its competitors within the insurance industry and see how the entire Financial sector operates

Figure 21: Middle India but not Middle class

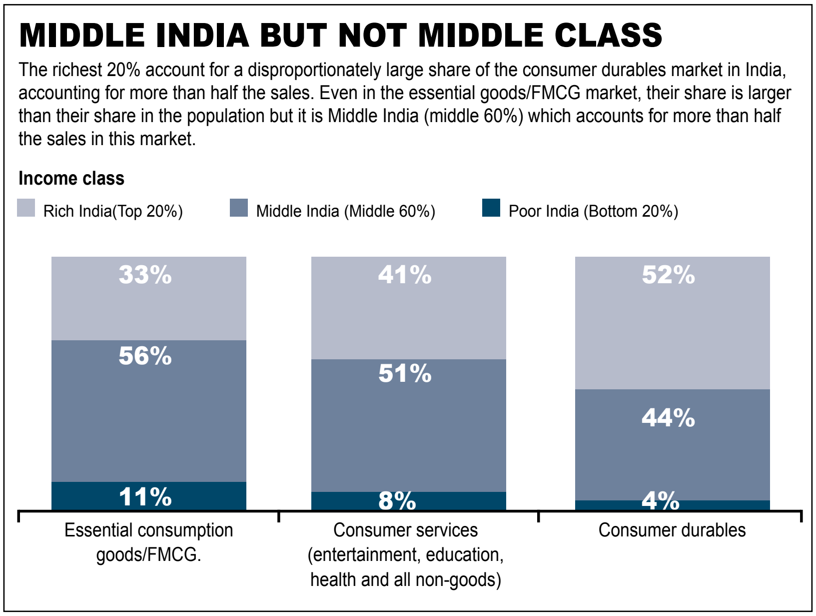
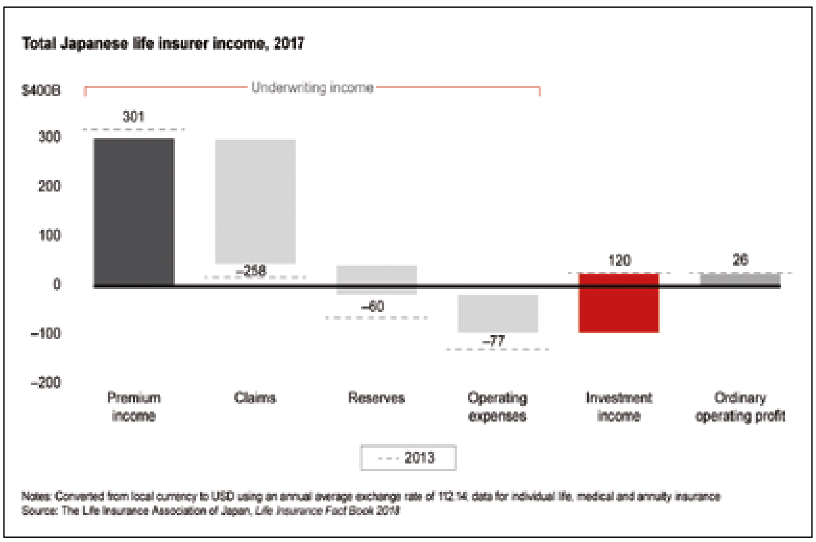


Figure 22: Total Japanese Life Insurance Income 2017



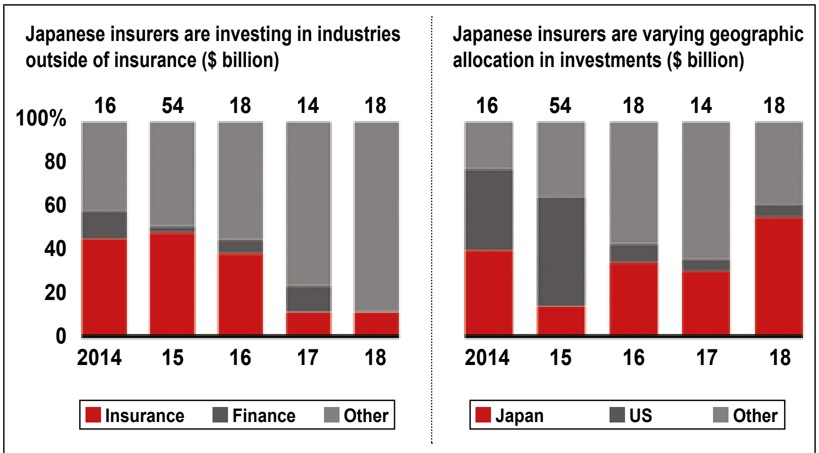
in the spectrum for acquiring and onboarding customers. To compete with other players in the financial market, Life Insurance has to quickly shift its strategy of sole dependency on underwriting profits to earning incomes from other sources, like better investment strategy, innovative technology which save cost to the company and other cost cutting measures. Instead of loading the entire mortality charges the actuaries have to factor the expected earnings from investments and expected savings from reduction in cost and the leveraging benefits that can be derived from the technology while pricing life insurance product. To survive in the market, life insurance players have to seriously have to have a quick look at how customers can be benefitted with better pricing techniques. This model is popular in Japan as detailed in the Fig. 23.

Investing in InsurTech and Innvoation

It is high time for Life Insurance Industry to invest in InsurTech to save cost and enhance productivity and quality of deliveries and to hand the upcoming large scale volumes and complexity. The global spending on InsurTech is growing steadily and this is the need of the hour as detailed in the below diagram. In US Insurance Technology spending has gained top priority and around 37.7 % of US's technological spending as can be seen below. India is also gaining momentum in spending on InsurTech and it will reap benefits in the coming years to a great extent in reduction of expenses and increase in profit and can enhance productivity. The growth of Investment of Global Insurtech is shown in Fig. 24

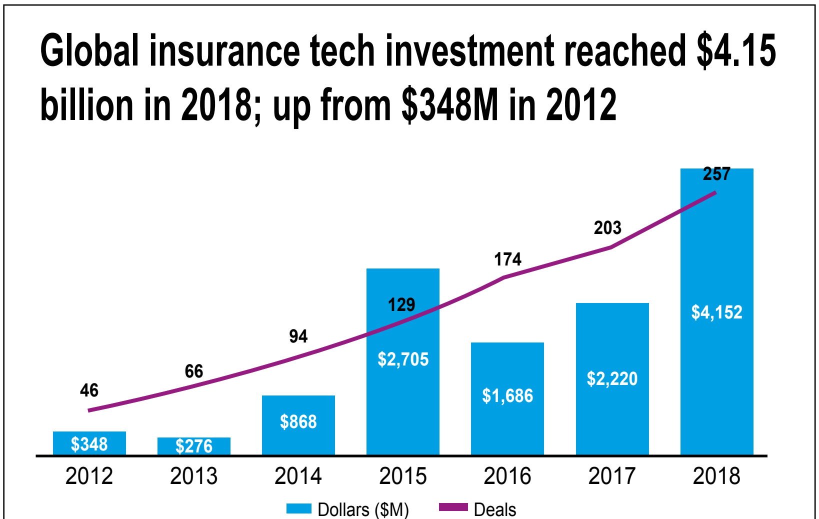
In the below Fig.25, US fintech investment segment wise is given. It is clearly revealed that the investment of Fintech in Insurance sector dominates the major share. This shows the significance of spending on Insurtech and Indian Life Insurance Industry should take a note of this aspect.

Figure 23: Income of Japanese insurers



Source: S&P Capital IQ

Figure 24: Growth of Investment of Global insurance team.



Source: CB Insights Deal Search

Figure 25: US fintech investment – segment wise

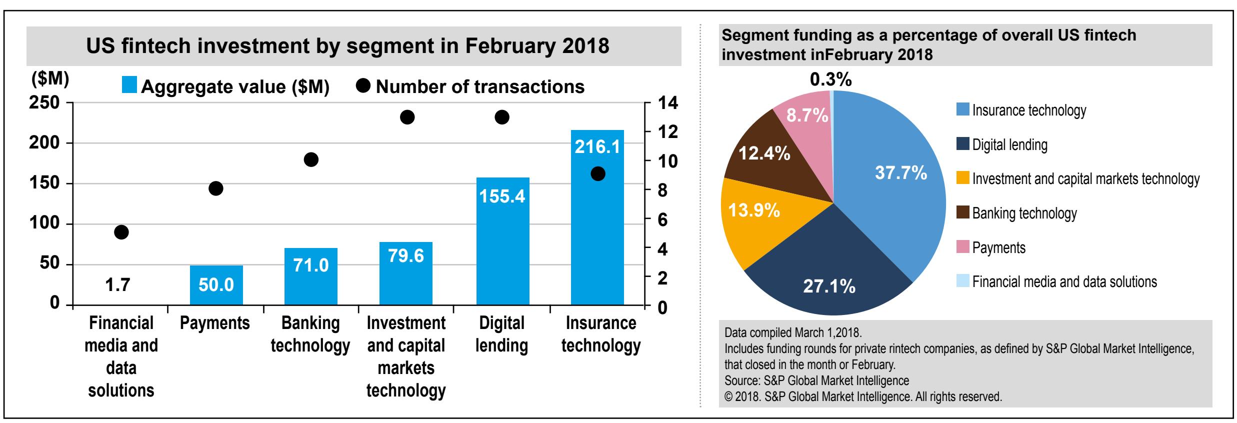
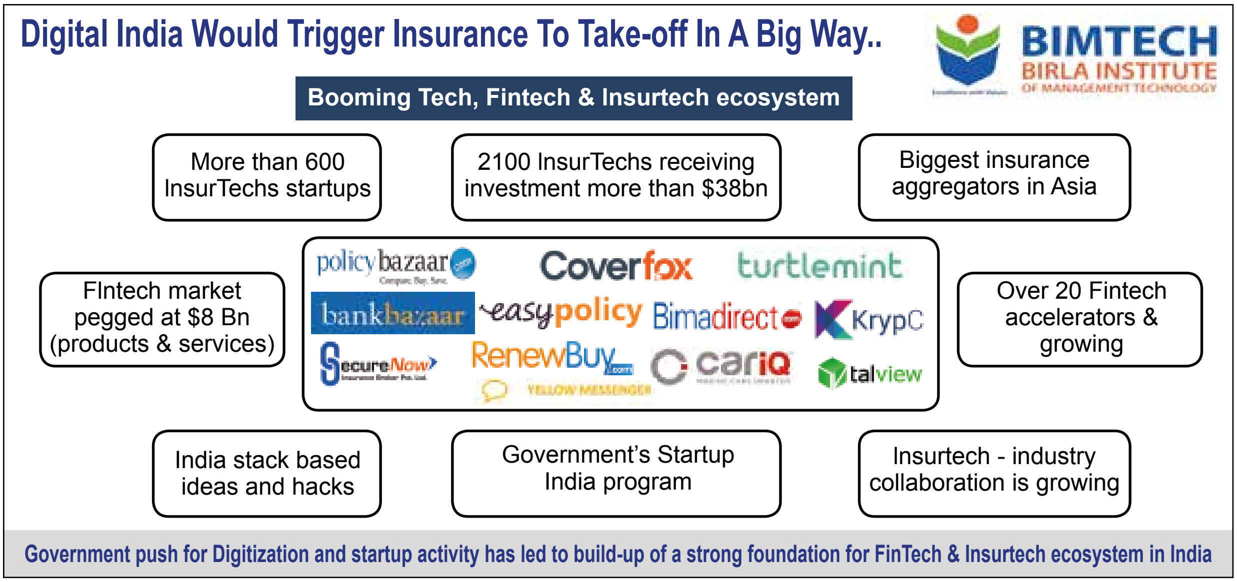


Figure 26: Digital India – Insurance Take off



India is also pushing InsurTech in large scale to maintain the conducive Eco system as per the study conducted by BIMTECH. Fig. 26 shows the take off of Insurance digital India era.

It is high time for Indian Life Insurance Industry should leverage the advanced technology and should manage coverage through a mobile application. Insurance should use predictive analysis to decide on pricing and selection of lives, identifying the inherent risks and deduct the fraud upfront at proposal stage, identifying risk and fraud and anticipating trends. Artificial Intelligence (AI) to create unique customer experience and to improve claim processes and accurate reporting by eliminating human intervention should be brought in. Upcoming machine learning technology will play a vital role in policy administration where machines can process data and learn on their own without frequent supervision. IoT will improve the accuracy of risk assessment and help in improve the pricing. Mining of social media data can bring in a unique customer experience. Dutch Insurance Company Kroodle devised a process of their entire interaction with customers through social media. Customers can log in using their Facebook credentials and they file claims, get quotes, and request other services. Morgan Stanley report cited a tool utilized carriers to investigate claims throughout the assessment process that examines the social relationships between parties involved and monitors their activity on the day of the loss to look for red flags. Drones used to collect data to assess the risk before issuing the policy. A bot can walk a customer through a policy application or claim process with human intervation.

Indian Life Insurance Industry has to compete with global players and should hoist to global standards quickly. Now, we need to see how Life Insurance Industry is and leverage these technological advancement to bring better experience and cheaper products to customers in large.

Conclusion

Strong macro economic condition with stable Government with strong arms to push the right button and with the technological push added with the opportunity of mass millennials population in India it is evident that Life Insurance Industry will take up the Indian Economy to a glorious growth alleyway of a USD 5 Trillion Indian Economy. CARE expects with the regulatory changes and government initiatives to aid in the further penetration of insurance products in the medium term the sector is likely to grow 14 to 15 percent per annum. The future looks promising for Life Insurance Industry and with the focus on the four Ps viz. Penetration, Persistency, Protection focus and Pricing, the Life Insurance Industry is expected to reach US $ 280 billion by 2020 and is expected to grow 12 to 15 percent annually for the next three to five years. Demographic factors such as growing middle class and young insurable population and growing awareness of the need of more protection and retirement planning by the masses will enable the growth of Life Insurance Industry. With the quote of Ben Feldman and American businessman and world-renowned sales person, let us conclude that "Don't sell life insurance. Sell what life insurance can do". IJ

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A Road Map to Insurance Penetration and MSME Risk Management

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Abstract

Government of India and State governments have initiated various steps for financial Inclusion and one of the important steps is Insurance. Financial inclusion, financial literacy and consumer protection are the three major planks of financial stability. The National Strategy for Financial Inclusion for India 2019-2024 has been prepared by RBI under the aegis of the Financial Inclusion Advisory Committee and is based on the inputs and suggestions from Government of India, other Financial Sector Regulators viz., Securities Exchange Board of India (SEBI), Insurance Regulatory and Development Authority of India (IRDAI) and Pension Fund Regulatory and Development Authority of India (PFRDA).

Insurance penetration and Financial Inclusion go hand in hand as it has been regulated and developed in the interest of people. To Increase penetration, the Insurance Industry needs a special focus for Micro, small and medium Enterprises (MSME) which, as a sector, is one of the largest employers in India. Micro, Small and Medium Enterprises (MSME) sector MSMEs are complementary to large industries as ancillary units and this sector contributes enormously to the socio-economic development of the country. A Separate Ministry has been created to cater the needs and sustainable growth of MSMEs. The Ministry of Micro, Small & Medium Enterprises (M/o MSME) envision a vibrant MSME sector by promoting growth and development of the MSME

Sector, including Khadi, Village and Coir Industries, in cooperation with concerned Ministries/Departments, State Governments and other Stakeholders, through providing support to existing enterprises and encouraging creation of new enterprises. MSME Sector focused Insurance is the need of the hour.

Introduction

In the 2015 Chennai floods, Some 10,000 units suffered losses and about 50,000 people lost their jobs due to the floods-TANSITA (Tamil Nadu Small and Tiny Industries Association).

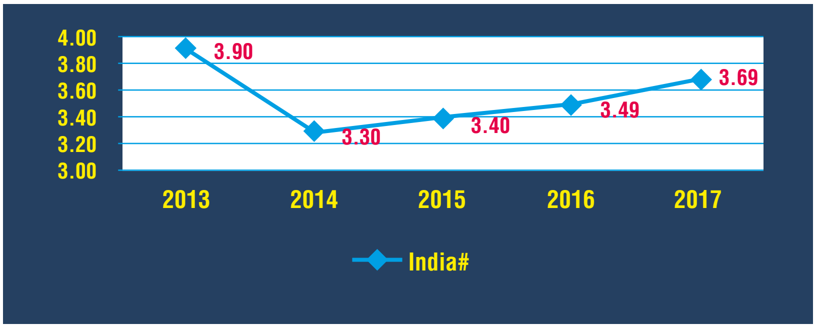
Of the estimated Rs 15,000 crore losses during the Chennai floods in Chennai, MSMEs bore the maximum brunt of about Rs 1,700 crore says a report-SMERA (SME Rating Agency of India). Of the above losses, a very negligible amount was insured. Of the 14000 MSMEs which were affected, almost 4000 became either bankrupt or got caught in vicious loan cycle eventually becoming sick Units. Need for Proper Risk Management and Insurance is very Important for MSME and importance of same can be understood as there is separate ministry created to cater the needs of MSME.

Insurance Industry overview

India is the world's largest democracy and it is gaining demographic dividends. Ever since the Independence of India, there were two crucial moments which defines Insurance industry growth and penetration.

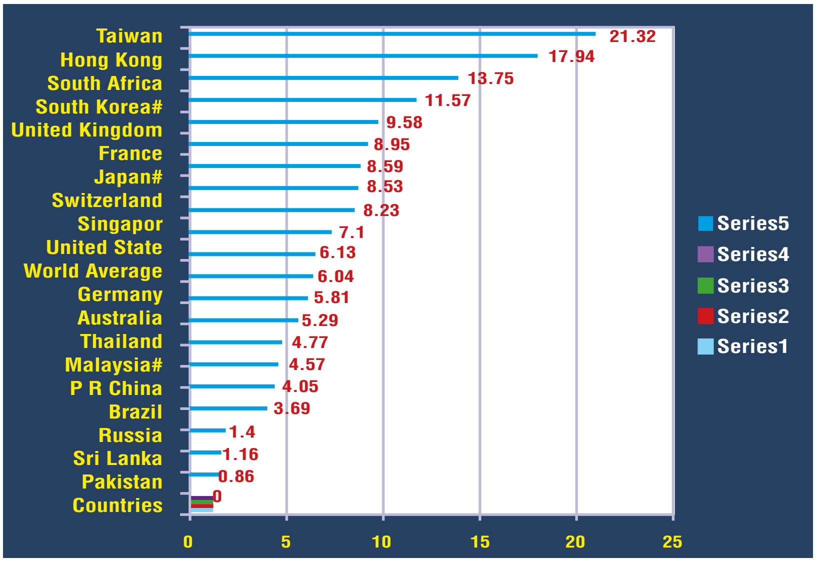
Nationalization and privatization

The insurance sector went through a full circle of phases from being unregulated to completely regulated and then currently being partly deregulated. Both the Nationalization and privatization of insurance aimed to spread Insurance much more widely and in particular to the rural areas with a view to reach all insurable persons in the country, providing them adequate financial cover at a reasonable cost. In the year 1956 Life Insurance sector was nationalized and in 1972 General Insurance business was nationalized. In 2000 IRDA was set up as a statutory body to oversee the Growth and Development of the Insurance Industry in India. After 20 years of liberalization, our insurance industry consists of 57 insurance companies out of which 24 are in the life insurance business and 33 are non-life insurers. In addition to these, there is the sole national re-insurer, namely, General Insurance Corporation of India (GIC Re). Insurance penetration is measured as the ratio of premium to GDP. Due to numerous reforms and prospering economy, Insurance penetration in our country crossed the 3.4% mark in the Financial year (FY) 2016 and it reached 3.69% in 2017 from 2.71% in 2001.



Source: Swiss Re, IRDA

Global Position- Insurance Industry



Source: Swiss Re, IRDA

The Indian insurance market positions itself 5th in Asia, after Japan, South Korea China and Taiwan and is the 19th largest globally. India's population is anticipated to touch 1.35 billion by 2020, with a life expectancy of 74 years. In spite of being the second most populous nation, India currently accounts for less than 1.5 per cent of the world's total insurance premiums.

Initiatives

IRDA Constituted a Working Group on visiting the Product Structure for Dwellings, Offices, Hotels, Shops etc and Micro, Small and Medium Enterprises for cover against Fire and Allied perils, which is an important step taken by the regulator.

Various social security initiatives and government policies have been aimed at the rural and urban poor with the objective to provide protection under the umbrella of insurance. Despite sincere efforts, the attitude of people towards Insurance has not changed much. Insurance is still a push product, not a pull product.

Statutory bodies, and other bodies under the MSME Ministry: Khadi Village Industries Commission (KVIC), Coir Board, National Small Industries Corporation Limited (NSIC), Mahatma Gandhi Institute of Rural Industrialisation (MGIRI), National Institute for Micro, Small and Medium Enterprises (NIMSME).

Ayushman Bharat (Pradhan Mantri Jan Arogya Yojana) was launched to provide coverage of up to Rs 500,000 and till date has enrolled more than 10 crores beneficiaries (e-cards issued).

Pradhan Mantri Fasal Bima Yojana is an insurance service for farmers for their yields, aims to provide a comprehensive insurance cover against the failure of the crop thus helping in stabilizing the income of the farmers.

Aam Admi Bima Yojana (erstwhile Khadi Karigar Jana Shree Bima Yojana) is a Group Insurance Scheme for the benefit of Khadi artisans (MSME) covering natural death, death and permanent/ partial disability due to accident. A total of 5065 artisans have been covered under the Aam Admi Bima Yojana of KVIC so far to provide insurance to the khadi artisans/weavers. One of important outcome of the above programs is, it created awareness among people from all corners of India, Individuals have realized the importance of purchasing insurance plans and hence people have now start investing in the same.

Definition of MSME		
Classification	**Manufacturing Enterprise (Investment in Plant and Machinery) (Rs)**	**Service Enterprise (Investment in Equipment) (Rs)**
Micro	Upto 25 lakh	Upto 10 lakh
Small	Above 25 lakh to 5 crore	Above 10 lakh to 2 crore
Medium	Above 5 crore to 10 crore	Above 2 crore to 5 crore

Definition of MSME

Micro, Small and Medium Enterprises is a major contributor to Indian Economy. MSME is a vibrant and dynamic sector of the Indian economy consisting of heterogeneous groups of enterprises. Their investment, technology and production patterns at the local level are determined by national and international factors.

The enactment of the MSMED Act, 2006 has created the first-ever legal framework for the medium manufacturing enterprises sector. MSME Act defines with particular criteria.

Contribution of MSMEs in Country's Economy at Current Price

As per the data available with Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation, the contribution of MSME Sector in Gross Domestic Product (GDP), at current prices for the last five years is as below and as per the National Sample survey conducted during the period 2015-16, there were 633.88 lakh unincorporated non-agriculture MSMEs in the country engaged in different economic activities.

Number of MSMEs category wise				
Activity Category	**Estimated Number of Enterprises (in lakh)**			**Share (%)**
	Rural	**Urban**	**Total**	
Manufacturing	114.14	82.50	196.65	31
Trade	108.71	121.64	230.35	36
Other Services	102.00	104.85	206.85	33
Electricity*	0.03	0.01	0.03	0
All	324.88	309.00	633.88	100

Estimated Employment in MSME Sector (Broad Activity Category Wise)				
Broad Activity Category	**Employment (in lakh)**			**Share (%)**
	Rural	**Urban**	**Total**	
Manufacturing	186.56	173.86	360.41	32
Trade	160.64	226.54	387.18	35
Other Services	150.53	211.69	362.22	33
Electricity*	0.06	0.02	0.07	0
All	497.78	612.10	1109.89	100
Source: National Sample Survey (NSS) 73rd round 2015-16				

In India, MSMEs are concentrated in the top ten states. Nearly 93% of enterprises hail from ten States.

Source: MEMEs Annual report-2017-18, NSSO As per the National Sample Survey (NSS) 73rd round conducted during the period 2015-16, MSME sector creating 11.10 crore jobs, second only to agriculture.

Risk Management for MSME

Risk management and insurance, can play an important role in improving the sustainability of MSME and provide financial infrastructure for a robust Growth. We may keep MSME and Individuals (poor rural and Urban) in one basket since the problem faced by them are similar, and challenges faced by institutions to reach them with Insurance products are also similar.

Risky business –Being vulnerable

Need for Insurance is much more important for MSME than any other large corporate as MSMEs are more fragile as compared to larger enterprises.

They are vulnerable to the personal risks of their owners and their family members and the risks of their employees. The personal risks affect the business, in addition to the various business-related risks the enterprise faces. The situation is aggravated by the fact that MSMEs face higher exposure to threats and disasters.

Chennai flood leaves 50,000 jobless in MSME sector-Business Line

Shrinking Pattaravakkam Canal floods Chennai's Ambattur Industrial Estate ["The Hindu"]: Due to inundation nearly 100 Units are affected. Ambattur Industrial Estate Manufacturers Association's (AIEMA) president said nearly 100 units were affected for a few days after a sharp rain spell as the area was inundated with the spillover from the canal.

Likewise, lakhs of MSME units are suffering various calamities year on year sustaining losses, which affect not only MSME but also our Nation. These losses, if insured properly, would have helped to avert the bankruptcy and provided crucial continuity to business.

Though welcoming the Regulations which drastically improved the Individual Insurance offerings, MSME sector probably needs some significant attention from the Government and the Insurance Regulator towards drafting certain offerings which provides better risk management solutions at economical premiums. The Report of the Expert Committee on MSME dated 25-Jun-2019, emphasized the importance of Insurance.

Importance of Insurance for MSME

Insurance promotes better Risk Management perspective among Business owner. Without insurance, Business owners will rely on high-cost risk coping mechanisms like a high-interest loan, depleting saving, Selling assets etc…

Insurance is needed:

- ✓ To avoid expensive post-loss risk coping mechanism
- ✓ To have a Sustainable business model
- ✓ To create a robust MSME ecosystem
- ✓ As it will encourage business owners to have better Risk Management in place
- ✓ To free up existing fund for further investment
- ✓ To attract new finding sources
- ✓ To increase creditworthiness
- ✓ To increase entrepreneur confidence
- ✓ To Unlock the potential of Entrepreneurship

Challenges in promoting the Insurance for MSME

RBI's risk Management primarily focus on Finance, refinance, credit flow and working capital management i.e credit risk but insurance/Risk management should also get enough attention. The RBI's approach targets improving ability of banks and other financial institutions to assess credit risk and only creditworthiness. While MSME are operating with limited funds for emergencies, it is also very common for them to underestimate or disregard certain critical risks.

Cost of Insurance

Today, at least for an individual below the poverty line, there is some protection through Government schemes like Ayushman Bharath. The MSME Sector has no such risk mitigation scheme on a holistic level. The limited availability of an MSME sector-focused Insurance program is a big concern and can hamper growth and expansion of this sector. Typically, the standard offerings of insurance companies may not suit their requirements fully. Micro insurance Products provides coverage for life and accident which MSME can access, however there is still a visible gap. Affordability is a bigger concern. Insurers are indifferent towards whether it is MSME, SME or bigger corporate. The rates are the same and are very much higher. Recent IIB rates will further complicate Insurance penetration in General Insurance Sector.

Illustration

Standard fire and Special Peril policy	Rate Per 1000	STFI	EQ	Net	Sum Insured	Premium	GST-18%	Premium payable (RS)
Beedi Factories	1.32	0.25	0.05	1.62	50,000,000	81,000	14,580	95,580
coir Factories	2.07	0.25	0.05	2.37	50,000,000	118,500	21,330	139,830
Storage of Coir Waste, Coir Fibre, Caddies.	9.88	0.25	0.05	10.2	50,000,000	509,000	91,620	600,620

* RATE- Minimum rate charged by insurers for Fire, Lightning, Explosion, Aircraft impact (FLEXA)

* STFI- Storm, Tempest, Flood and Inundation

* EQ- Earthquake

Cost and coverage advantage of Group life and Medi claim Insurance for their employees are not offered, as the minimum number of employees in the group size, is small and they don't meet the criteria set by insurers and the pricing of Insurance is generally higher for smaller groups. For the small group size, there are only limited insurance options available in the market due to which the Insurance sector doesn't look at this sector very favorably as a critical aspect to effective risk management.

MSME Act addresses the problem of delayed payments and it is silent on other challenges faced by MSME. Purchasing power of MSME with regard to Insurance is virtually zero. Less Discounts are offered to worker's welfare/Liability insurance belongs to MSME as compare to its peers of corporate.

Product Availability

There are many insurance products available for MSME; most of products are traditional, which is not suitable enough for small Business. For example there is Trade credit Insurance, which is very expensive and is not available to MSME not only because of cost, but for other operational reasons like non availability of customer credit worthiness, process control, etc.

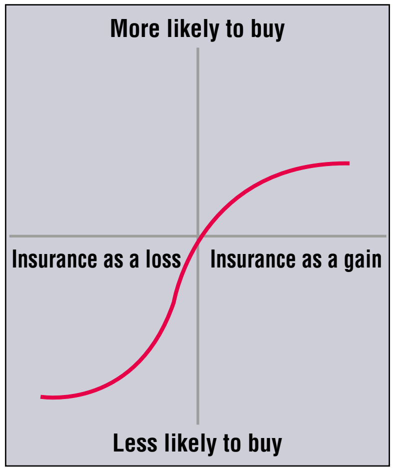
Funds

MSMEs lack the wherewithal to cope with situations like natural calamities. Having very less disposable Income, allocation of resources to Risk Management and Insurance is least priority. Employing safety manager or Risk Manger in-house would be expensive. Loss Prevention measures will add to costs and, if the risk assessment outpaces the benefits.

Understanding Risk Management practices of MSME in light with Behavioral Economics

The demand side issues in Insurance include knowledge of Insurance products and services, willingness to avail etc.

Economic Survey of India (Volume-I) gives prime emphasis on "Behavioral economics"



Behavioral economics relies on this essential insight from human psychology that real people do not always behave like robots, rational and unbiased individuals, that form the basis of classical economic theory called "homo economicus" (Thaler, 2000) ; Economic Survey of India 2018-19.   People adopt risk-seeking attitude when facing losses, and risk-averse attitude when facing gains. Identical situations generate dramatically different decisions depending on whether you see the situation as a potential loss or gain.

These losses effects rationality, MSME often tends not to provide adequate attention to Insurance or resist from taking Insurance totally. This is why loss-making companies give poor attention to Risk Management and it would be a vicious cycle as underwriters quote a higher premium for loss-making companies.

	GAINS	LOSSES
HIGH PROBABILITY **Certainty Effect**	**95% Chance to win $10k** **Fear of disappointment** **RISK AVERSE**	**5% Chance to lose $10k** **Hope to avoide loss** **RISK SEEKING**
LOW PROBABILITY **Possibility Effect**	**5% Chance to win $10k** **Hope of large gain** **RISK SEEKING**	**5% Chance to loss $10k** **Fear of large loss** **RISK AVERSE**

Four Fold Pattern of behavior towards Risk

"Many unfortunate human situations unfold in the top right cell. This is where people who face very bad options take desperate gambles, accepting a high probability of making things worse in exchange for a small hope of avoiding a large loss. Risk-taking of this kind often turns manageable failures into disasters. The thought of accepting the large sure loss is too painful, and the hope of complete relief too enticing, to make the sensible decision that it is time to cut one's losses. – Daniel Kahneman (Thinking Fast and slow; Prospect theory)

Poor people, Sick companies or low-income group/Companies will come under the bracket as said above. When the income is very low or they are making losses allotting a certain portion of the money to future probable loss will not make sense to them, though it is important. They will gamble against the possibility.

'Why invest in something now for a risk that may never happen in the future?'

People rationalize to themselves that paying for something that may or may not happen is not worth.

"Financial literacy is about understanding money and finances and being able to confidently apply that knowledge to make effective financial decisions. Financial literacy is considered an important adjunct for the promotion of financial inclusions and ultimately financial stability" (Nash 2012).

OECD* defines Financial Literacy as "a combination of financial awareness, knowledge, skills, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial well, being".

Many people view their insurance payments as a loss for an unknown gain, and may not opt to get coverage, viewing it as eliminating an unnecessary expense.

A lack of individual financial literacy is thought to affect potential entrepreneurs in most part of our countries. One of the major impediments to the use of Insurance by MSMEs is that most of them are unaware or ill-informed about the possibilities of risk and cover available in insurance.

*OECD- The Organization for Economic Cooperation and Development (OECD) : For example post loss situations :- claim documentation, lack of awareness and skilled human resource in MSME is further complicating the claim situation.

Implementation support

IRDA may consider creating Separate regulatory frame work for MSME and advice Insures to consider MSME as a separate segment. Focus on supply and demand research to reduce transaction cost, developing product addressing the specific requirements.

Like pure Health insurance company, licensing insurance companies to operate as small Insurance company only to service rural, semi-urban MSME and their people.

One of the welcome steps of IRDA is that it has approved regulations for sandbox to create a conducive environment for insurtech and fintech companies to carry innovation in the insurance space. MSME will hugely benefit out of this. IRDA may insist Insurers to Insure a number of MSMEs, the target may be monitored through MSME registration number or PAN number. The same can be used as an Identification number, this number has to be printed in the policy. Still, an Unregistered MSME will be a problem.

Economic survey 2018-19 provides the most important approach and use of Behavioural Economics. Leveraging the Behavioural Economics of "Nudge"- Decisions made by real people often deviate from the impractical robots theorized in classical economics. Drawing on the psychology of human behavior, behavioral economics provides insights to 'nudge' people towards desirable behaviour.- Economic survey of India.

Central buffer fund: The MSME ministry has also sought a budgetary allocation of Rs 12,000 Crore for the financial year 2020-21, a jump of 70% of the allocation for the current fiscal. This fund is earmarked for various schemes like Khadhi, village and coir Industries, PMEG etc…, Government may seek to earmark Certain amount of money to Risk Management and Insurance. This earmarked money may be used to fund insurance premium on credit basis or Installment basis. The same Money may also be used to provide the buffer for fluctuation underwriting results of Insurance companies say for three years. This would encourage Insurers to design distribute and easily settle claims focused on MSME like PMFBY.

Insurers may collect separate Data of MSME proposal and claim settlements details. Have a separate claim cell with trained surveyor in handling MSME claims. Training for surveyor to survey the MSME is important due to the handholding required for MSME. These data points may be used to fix Flexi rates like a higher discount for better risk management - the government can give a premium subsidy for the first three years on a rate fixed by a Group Insurer, which will encourage better risk Management. It will provide the incentive to MSMEs for registration of Insurance. Premium in installments or Credits can help MSME affordability.

MSME should be treated as an Individual in Insurance related matter, special claim cell for MSME to be formed. This will also enable MSME to avail the benefits of consumer protection ACT-2019

Lowering Insurance Costs for successful uptake of MSME insurance, it is essential that products offered should add value and are affordable to targeted consumers. The high distribution cost of insurance products needs to be addressed. Any cost reduction should not be a detriment to coverage or service quality.

Banks and NBFC are distributing Insurance policies to MSME as they reduce the transaction cost. To improve the quality of service IRDA should encourage banks to use the capabilities of Brokers as a subject matter specialties.

Financial literacy and Risk behaviors are the most important factors which need to be understood to a greater extent. As compared to any other challenges, the effects of this are far reaching and removing this impediment calls for a lot of efforts by various stake holders and it would be a continuous process.

Technology and Data – Using technology will reduce the transaction cost, will facilitate intermediaries experience, and claim settlement. By maintaining transparency in product features, cost and services, digital channels are levelling the playing field. MSME Data bank is created by MSME ministry in the year 2016 for facilitating the promotion and development and enhancing the competitiveness of MSMEs. These data banks may useful to Insurers and the regulator to reach the MSME for better risk management.

Conclusion

India is a diversified market, MSME Insurance is an important tool to reduce the regional imbalances. Insurance is an economic tool to achieve the desired social Outcome. Proper Risk Management and awareness about Insurance is the need of the hour for MSME and providing the same is an Important responsibility of the Insurance industry, in the larger interest of the Nation and Economic Growth. Close Coordination of MSME, Banks, NBFC, IRDA , Insurers and Insurance Intermediaries will make wonders for Indian Econmony. TJ

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Data Protection: Legalese and Implementation in the Insurance Sector

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Abstract

This paper intends to analyse challenges faced by the data intensive sectors, and their compliance imperatives in the rapidly changing world of digitalisation, with particular focus on the insurance and allied industry-sectors. Protecting the privacy of the customers, whose data form the primary building blocks, and the regulatory requirements thereon as laid down by the Insurance Regulatory and Development Authority of India and the soon 'expected to be' law of the land, the Personal Data Protection Bill, 2019 provide the primary perspective for this analysis. Amendments in the corporate policies and practices as could emerge from such regulations and some apparent implementation requirements for compliance thereto, are also discussed in the author's endeavour to provide a 360º approach.

Keywords

Data Privacy, Data Protection, Digitisation/Digitalisation, Insurance, Right to Privacy, Customer.

Introduction

The tsunami of digital transformation has impacted all sectors of the corporate world globally and the insurance industry is no exception. Owing to economic growth and higher personal disposable incomes in the country, the Indian insurance industry is expected to reach newer heights.[i] However, owing to the influx of digitisation, insurance although being a heavily intermediated business and highly regulated industry with an intent to grow organically, is shifting its focus from a "product-driven" to a "customer-centric" approach. This strategic shift, however, pre-dominantly involves dealing with data at various phases of the data life cycle.[ii] While an insurance company can have its uniquely defined data life cycle (considering industry requirements and sectoral regulations), it is incumbent for any insurance company to have rigorous **data governance** mechanism in place at each phase of such data life cycle, particularly to ensure **data privacy** and **data protection**. With the changing definition of data from an intangible commodity to an asset, it is pertinent to understand the implications of the new proposed personal data protection law without undermining the impact of already existing general data protection framework and sector-wise regulation and guidelines.

1. Data V. Data Privacy

1.1 Data- A Big challenge

As per recent PWC report[iii], with technology advancements and their growing adoption, every user segment is now becoming more aware and demanding and they are benchmarking service delivery not only against other segments of the financial services industry but also across other industries such as retail, travel and entertainment.[iv] It has been argued, that to survive the impact of digital transformation it is imperative for the insurance industry to adapt to a 360-degree view of a customer.[v]

While having a 360-degree customer view is evidently a progressive and holistic approach which promises significant benefits for both the insurance company and the customer, it heavily relies on collecting, analysing, and using detailed information about the customers, which includes granular personal details as well. The rising digital wave being empowered by rapidly emerging technologies like Artificial Intelligence (AI), the Internet of Things (IoT), and Blockchain powered by analytics and cloud computing coupled with popularity of social networking sites, ubiquitous mobile devices & proliferation of global positioning system, is pushing insurance companies to "Go-Digital" and collect, store and use more data about customers than ever before.[vi] While the data in its new avatar is being treated as a major asset and source of value creation[vii], it is also raising serious privacy concerns and challenging the core principles of privacy which include inter alia "purpose limitation", "informed choice", "data minimization" and "transparency". The collection, storage and use of large quantities of personal data for extended periods of time is the subject of recent legal and policy debates spanning topics as varied as the right to be forgotten, algorithmic discrimination, and a digital dark age.[viii]

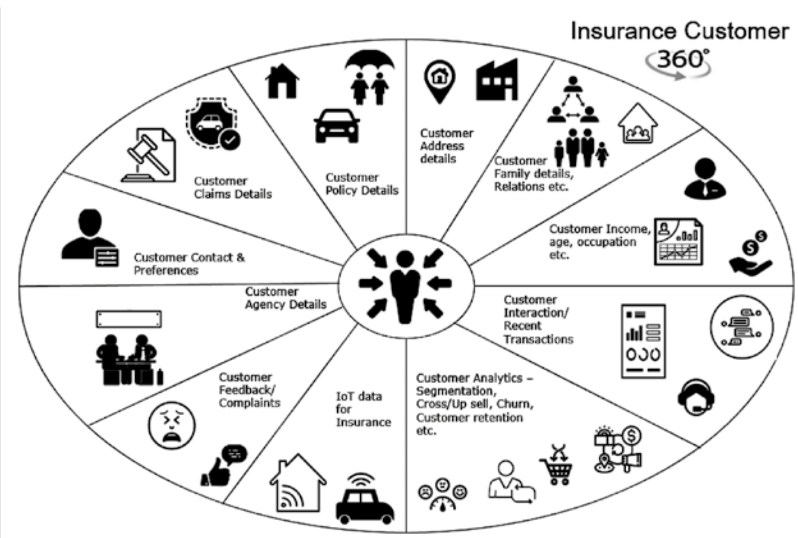

Figure 1: See Supra n.5 (Kulkarni, J. & Kalidoss, D)

1.2 Right to Privacy- A fundamental right

On 24th August, 2017, the Supreme Court of India (vide a Constitutional Bench of 9 judges) in its landmark judgment in Justice K. S. Puttaswamy (retd.) and Anr. V. Union of India And Ors.[ix] upheld unanimously the right to privacy as a fundamental right under Article 19[x] and Article 21 of the Constitution of India. The Apex Court overruled its earlier decision[xi] in which it had held that there was no fundamental right to privacy and instead recognised that privacy is a natural right, which is inherent to a human being and is intrinsic to other liberties guaranteed as fundamental rights under the Constitution. Further, the recognition of privacy as a fundamental constitutional value was a part of India's commitment to safeguard human rights under the International Covenant of Civil and Political Rights.[xii] The Supreme Court has, however, clarified that right to privacy is not an "absolute right" and has laid down the triple test, which needed to be satisfied for judging the permissible limits for invasion of privacy, which are

(a) legality (i.e. existence of law); (b) legitimate goal; and (c) proportionality (i.e. restriction to be proportional to the object). Against the said background, the Supreme Court highlighted the need for a data protection law to confer rights on individuals and enforce such rights against non-State parties as well.

2. Extant Law on Data Protection

2.1 General Framework

Currently, the general framework with respect to privacy and data protection in India is governed by the Information Technology Act, 2000 **("IT Act")**[xiii] and the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011 **("IT Rules")** which were enacted under Section 43 A of the IT Act. As per the IT Act, there are two categories of information, which need to be considered with respect to data protection viz. (i) Personal Information (PI) and (ii) Sensitive Personal Data or Information (SPDI)[xiv]. The IT Rules are applicable **only to a body corporate**[xv] and to **persons located in India**. The following obligations are imposed on body corporates who possess or handle SPDI under the IT Rules:

(i) to draft a privacy policy and make it easily accessible for people who are providing the information;[xvi]

(ii) to obtain consent from the person(s) providing information in writing (or any mode of electronic communication) before collecting SPDI; [xvii]

(iii) to ensure that the person(s) providing information are aware about the fact that the information is being collected, its purposes and recipients, name and addresses of the agencies retaining and collecting the information; [xviii]

(iv) to ensure that the information is collected for a lawful purpose and the collection is considered necessary for the purpose; [xix]

(v) to use the collected information only for the purpose for which it is collected and shall not be retained for a period longer than which is required;[xx]

(vi) to retain the information for no longer than is required for the purposes for which the information may lawfully be used or is otherwise required under any other law for the time being in force; [xxi]

(vii) to offer the person(s) providing information an opportunity to review the information provided and make corrections, if required; [xxii]

(viii) to provide an option to the person(s) providing information, prior to the collection of the information, to not to provide the information sought; [xxiii]

(ix) to maintain the security of the information provided; [xxvi] and, to

(x) designate a Grievance Officer, whose name and contact details should be on the website who shall be responsible to address grievances of information providers expeditiously. [xxv]

(xi) seek prior permission of the information provider before disclosing such information to a third party[xxvi];

(xii) maintain reasonable security processes and procedures such as International Standards (IS / ISO / IEC 27001) that may be implemented by body corporates;[xxvii]

(xiii) maintain data security.[xxviii]

It is evident from the aforesaid that while the IT Act does not exclusively deal with the right to privacy, the IT Rules lay out a framework to govern the collection, management, use and sharing of personal data or sensitive personal data or information. Further, in case of any breach by the body corporate or any other person acting on behalf of body corporate, the body corporate may be held liable to pay damages to the person (s) so affected.[xxix] However, the IT Act and the Rules together provide limited protection to personal data of individuals.

2.2 Insurance Specific Regulations

Considering the nature of business of insurance companies which is heavily dependent on intermediaries[xxx], the Insurance Regulatory and Development Authority (IRDAI) has prescribed a number of regulations and guidelines for the protection of policyholder information and data. The list of relevant data protection regulations applicable to insurance companies and intermediaries as laid down by the IRDAI is provided below :[xxxi]

(i) To maintain confidentiality of policyholder information[xxxii]

(ii) To ensure adequate security of the system in which the policy and claim records are maintained[xxxiii]

(iii) To abide by **the data localisation requirements** with respect to the records pertaining to policies issued and claims made in India (including records held in electronic forms)[xxxiv]

(iv) In case of outsourcing of any activity(ies) to a third party service provider/vendor, to ensure that such third party service provider/ vendor shall have adequate security policies and be bound by same/similar confidentiality obligations as that of the insurer[xxxv]

(v) In case of health insurance, insurers, third party administrators (TPAs) and hospitals (being network providers) to comply with the data related matters as prescribed by the IRDAI from time to time[xxxvi]

(vi) To abide by the IRDAI issued Guidelines on Information and Cyber Security for Insurers dated April 7, 2017 **("Cyber Security Guidelines")**, which mandates both the insurer and intermediaries to have a uniform framework for data, cloud, mobile and cyber security; and an in-built governance mechanism (including a board approved policy on information and cyber security, a chief information security officer responsible for articulating and enforcing the policy and information security committee responsible for the information security governance framework) to address security related issues on a periodic basis.[xxxvii]

(vii) To abide by the IRDAI issued Guidelines on Insurance E-commerce dated March 9, 2017 **("E-commerce Guidelines")** which are applicable to insurance companies and intermediaries who set up an Insurance Self Network Platform for selling and servicing insurance products and require ISPNs to have adequate internal mechanisms to ensure integrity of the automatic data processing system and maintaining privacy of data at all times.[xxxviii]

(viii) In case of intermediary, each intermediary[xxxix] has to abide by the specific regulation and code of conduct applicable to such intermediary which is in addition to the general data protection guidelines as prescribed by IRDAI from time to time.

The guidelines or regulations issued by IRDAI from time to time including but not limited to Cyber Security Guidelines and E-Commerce Guidelines resonates the arrival of a blooming digital economy. However, the unique challenges posed by this dynamic regime calls for an adequate legal framework to ensure data protection and privacy.

3. The Personal Data Protection Bill - A Game Changer

In August 2017, the Ministry of Electronics and Information Technology ("MeitY") constituted a committee, chaired by the retired Supreme Court Justice B.N. Srikrishna, to study and identify key data protection issues, recommend methods to address them and to issue a draft data protection law. The said Committee released the Personal Data Protection Bill, 2018 along with a report titled "A Free and Fair Digital Economy: Protecting Privacy, Empowering Indians" which was open for public comments. On 11 December 2019, after several rounds of consultation with various stakeholders, MeitY released a revised bill, the Personal Data Protection Bill 2019 ("PDP Bill"). The PDP Bill was introduced in the Lok Sabha and sent to a Joint Parliamentary Committee, which has sought views and suggestions on the PDP Bill within a period of three weeks starting February 4, 2020.

3.1 Scope and Applicability

The PDP Bill is applicable to processing[xl] of Personal Data (PD)[xli]; Sensitive Personal Data (SPD)[xlii] and an additional category of Critical Personal Data (CPD)[xliii] of natural persons. Any natural person to whom the personal data relates is referred to as a **"Data Principal"**.

The Bill will govern all processing of personal data: (i) within India; (ii) by Indian entities, authorities or persons; and (iii) outside India, if such processing is in connection with: (a) business in India or offering goods/ services to Data Principals in India; or (b) profiling of Data Principals in India, which is collected, disclosed, shared or processed by data fiduciaries. A **'Data Fiduciary'** is any entity, including the State, a company, a juristic entity, or any individual, that determines the purpose and means of processing of the personal data. The PDP Bill also introduced a category of **"Significant Data Fiduciaries"** which is yet to be notified.

Additionally, the PDP Bill contemplates the creation of an independent Data Protection Authority (DPA). The DPA has been given a wide range of administrative and quasi-judicial powers to enforce PDP regime, the non-compliance of the same will attract both financial and criminal liability.

3.2 Obligations of Data Fiduciary

The PDP Bill imposes following obligations on Data Fiduciaries:

(i) **Fair and reasonable processing:** Data Fiduciary must ensure that the processing of the personal data is done in a fair and reasonable manner and to maintain transparency and accountability measures taken regarding processing practices.

(ii) **Privacy by design policy:** Data Fiduciary shall prepare a "privacy by design policy" which shall be submitted to DPA for certification.

(iii) **Purpose and Collection Limitation:** To ensure that collection of data from Data Principals is limited to the extent necessary for the purposes of processing of such personal data; and the processing of data must be done only for the purpose specified to the Data Principals or for such incidental purposes that an individual, whose data is collected, would reasonably expect the personal data to be used for.

(iv) **Storage Limitation:** Data Fiduciary shall have data retention policy to specify the period of retention of collected data.

(v) **Grounds for Processing:** Personal data and sensitive personal data to be processed only on the basis of grounds of processing, specified separately for each category of data in the PDP Bill.

(vi) **Data Quality:** Data Fiduciaries are required to take reasonable steps to ensure that the personal data processed is complete, accurate, not misleading and is updated, subject to conditions specified under section 8 of the PDP Bill.

(vii) **Notice:** The Data Fiduciaries are required to provide a notice (which needs to be clear, concise and easily comprehensible to a reasonable person and comply with the conditions specified under section 7 of the PDP Bill) to the Data Principals at the time of collection of the personal data. If the data is not collected directly from the Data Principal, then the notice must be provided to such individual as soon as is reasonably practicable.

(viii) **Accountability and Reporting in case of Breach:** Data fiduciaries are responsible for complying with all obligations set out in the PDP Bill with respect to any processing undertaken by it or on its behalf. In case of any breach of any personal data by Data Fiduciary, it is obligatory on the part of Data Fiduciary to inform in the manner specified under Section 25 of the PDP Bill.

(ix) **Security Safeguards:** Every Data Fiduciary is required to implement security safeguards on the basis of the nature, scope and processing of data and risk. Further, Data Fiduciary or processor must undertake periodic review of security safeguards as specified.

(x) **Significant Data Fiduciaries:** DPA may classify any Data Fiduciary as Significant Data Fiduciary, after considering various factors like volume, sensitivity of personal data processed, turnover, usage of technology & the risk in processing of personal data. In addition to the obligations applicable to Data Fiduciary, every significant Data Fiduciary is under an obligation to undertake data protection impact assessments (DPIAs); maintain accurate and updated records of important data life-cycle operations, security safeguards, DPIA; annual independent data audits; appointment of data protection officer and such other requirements as specified by the DPA from time to time.

(xi) **Cross Border Data Transfer and Data Localization:** SPD may be transferred outside India for processing if explicitly consented to by the Data Principal, and subject to certain additional conditions. However, such SPD should continue to be stored in India. CPD can only be processed in India.

3.3 Rights of Data Principal

(i) **Right to Confirmation:** Data Principal shall have the right to obtain confirmation on whether the Data Fiduciary is processing or has processed his personal data; Data Principal shall have the right to access in one place the identities of the Data Fiduciaries with whom his personal data has been shared by any Data Fiduciary together with the categories of personal data shared with them, in such manner as may be specified by regulations.

(ii) **Right to Correction and erasure:** Data Principal shall have the right to - (a) the correction of inaccurate or misleading personal data; (b) the completion of incomplete personal data; (c) the updating of personal data that is out-of-date; and (d) the erasure of personal data which is no longer necessary for the purpose for which it was processed.

(iii) **Right to Data Portability:** Data Principal shall have a right to have his personal data transferred to any other Data Fiduciary where the processing has been carried out through automated means.

(iv) **Right to be forgotten:** Data Principals shall have the right to restrict or prevent disclosure after a time, of their personal data by a Data Fiduciary where such disclosure—(a) has served the purpose for which it was collected or is no longer necessary for the purpose; or (b) was made with the consent of the Data Principal and such consent has since been withdrawn; or (c) was made contrary to the provisions of this regulation or any other law for the time being in force.

3.4 Impact on Insurance Industry

The PDP Bill has major implications for customer data management practices of insurance companies and financial sector intermediaries. Once the PDP Bill becomes an Act, the insurance companies and intermediaries will have to align their current policies and procedures regarding processing of personal data with the compliance obligations under the PDP Bill[xliv].

The chart below offers a blueprint of the broad compliance framework for insurance companies and intermediaries, basis the current version of the PDP Bill:

(A) REVIEW & ANALYSE- *the existing framework*

- Identify and list all types of data collected- including *any anonymised data*
- Classify data as PD or SPD or CPD *(once defined)- also categorise separately PD or SPD of children*
- Identify and list all third-party data processors *(including customers, vendors and employees)*
- Examine current policies and procedures on data processing *(including cross-border flow)*- particularly at the time of (i) data collection; (ii) data processing; (iii) storage and retention
- Examine "the consent" obtaining mechanism- in case of PD or SPD of childredn parental consent is mandoatory
- Review the existing documentation with each third party data processors
- Evaluate the existing IT system
- Evaluate the possibility of being classified as: *(i) Significant Data Fiduciary or (ii) Guardian Data Fiduciary - in which case the Data Fiduciary would be subject to enhanced compliance requirements*

(B) DESIGN & Implement- *a PDP compliant framework*

- Develop a *"Privacy by Design"* Policy based on the principles of transparency and accountabiliy-to be *certified* by the DPA
- Standardise *"Consent Notice"* format & modify existing templates of documents pertaining to customers *viz proposal form, policy servicing form*, accordingly
- Ensure that 'explicit consent' specifically forms part of any thrid party engagement- *say vendor contracts, agent engagement form, agreement with data processors and employee recruitment forms*
- Modify / Develop *"Data Storage Policy"* with special empahsis on *data localisation requirement*
- Modify / Develop *"Data Retention Policy"*
- Modify / Develop *"Data Access Control Policy"*
- Modify / Develop well defined internal guidelines including without limitation *"Data Breach Notification and Response Plan", "Data Update Requests", "Data Erasure Requests", "Data Portability Requests"*
- Firm up and align "Information Security Safeguards" with PDP compliance requirements
- Clearly define standard of 'anonymisation'
- Sensitise all data processors and employee- by imparting training, regarding compliance obligations under PDP regime
- Enhance existing IT Systems - right from data collection to processing upto storage/retention
- Update employee onboarding process- considering restriction if any, *on biometric processing*
- Appoint a Data Protection Officer (who may be the Chief Information Security Officer of the Company) - to ensure compliance with PDP regime
- Appoint *independent* Data Auditor to audit compliance
- Upgrade the existing Grievance Redressal Mechanism, if required, to comply with PDP regime
- Upgrade system readiness from time to time to comply with the code of conduct as & when notified / revised by the DPA.

A New Beginning

The insurance industry is not alien to a protective regime, but having a progressive regulator like the IRDAI does mitigate the pain-points. However, amidst the changing face of global economy owing to rapid digitalisation, which has led to the growth of the ever demanding breed of Gen Y and later generations of affluent customers, insurers are under tremendous pressure to integrate technology with their marketing strategy and process management. On the one hand, while the existing data protection and privacy regime is not fully equipped to deal with the aggressively emerging field of digital technology, on the other hand the insurance sector has yet to fully exploit the emerging nuances of 'block chain', peer-to-peer insurance, micro insurance, AI, IoT, Big Data etc. as glorified by the new genre of insure-tech companies.

The arrival of the new PDP regime is undoubtedly a welcome step towards better corporate governance as it ensures the right to primacy of customers over their own data. It will certainly propel insurance companies towards having a more effective data protection framework and in firming up their data protection and privacy practices. However, it requires a constant vigil on the part of the sector to prevent and to mitigate the risk involved in processing of personal data. It is thus advisable that the insurance companies and related financial intermediaries gear themselves up to ensure better compliance with the forthcoming PDP regime. The arrival of the new PDP regime makes it imperative for companies, more so in the insurance sector, to pro-actively revamp their existing business models and/or organisational practices to mitigate and prevent violation of obligations under the new PDP regime. It is in this regard that the regulators' move to provide a regulatory sandbox[xlv] (for a defined period) is commendable, as it allows the insurance sector to experiment with emerging insure-tech solutions in a benign environment. IJ

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[iii] PwC (June 2019), 'Competing in a new age of insurance: How India is adopting emerging technologies', Retrieved from https://www.pwc.in/assets/pdfs/consulting/financial-services/competing-in-a-new-age-of-insurance.pdf

[iv] See Ibid at page 5.

[v] Kulkarni, J. & Kalidoss, D (May 15, 2018), 'Implementing 360-degree view of Insurance Customer – A Practitioner's Perspective', Retrieved from https://www.mindtree.com/blog/implementing-360-degree-view-insurance-customer-practitioners-perspective

[vi] The PwC report (Supra n. 3 at pg 16), claims that owing to the digital revolution the customer expectation from insurers have drastically changed and includes without limitation digitisation, customer centricity, personalisation and simplicity.

[vii] Ira S. Rubinstein (2013), 'Big Data: The End of Privacy or a New Beginning?', International Data Privacy law, Vol. 3, No. 2,74 at pg 76. Retrieved from https://academic.oup.com/idpl/article-abstract/3/2/74/709082

[viii] Micah Altman et al (2018), 'Practical approaches to big data privacy over time', International Data Privacy law, Vol. 8, No. 1, 29 at pg 30-31 Retrieved from https://academic.oup.com/idpl/article-abstract/8/1/29/4930711

[ix] Supreme Court, Writ Petition (civil) no 494 of 2012

[x] Article 19 (1) states that: "All citizens shall have the right- (a) to freedom of speech and expression; (b) to assemble peaceably and without arms; (c) to form associations or unions; (d) to move freely throughout the territory of India; (e) to reside and settle in any part of the territory of India; and (g) to practice any profession, or to carry on any occupation, trade or business."

[xi] M P Sharma & Ors v. Satish Chandra, District Magistrate, Delhi & Ors, 1954 AIR 300, 1954 SCR 1077. Kharak Singh v. State of Uttar Pradesh, 1963 AIR 1295, 1964 SCR (1) 332.

[xii] For a detailed discussion on the Judgment see Nishith Desai Associates (November, 2018) 'Privacy & Data: India's Ticket to Global Technological Supremacy' Legal, Regulatory and Tax Considerations, Retrieved from ndaconnect@nishithdesai.com

[xiii] See Section 43A and Section 72A of the IT Act

[xvi] See Rule 3 of the IT Rules provides a list of items that are to be treated as "sensitive personal data".

[xv] As per Section 43 A (i) of the IT Act, “body corporate” means any company and includes a firm, sole proprietorship or other association of individuals engaged in commercial or professional activities.

[xvi] See Rule 4 of the IT Rules

[xvii] See Rule 5 of the IT Rules

[xviii] See Rule 5 of the IT Rules

[xix] Ibid

[xx] ibid

[xxi] Ibid

[xxii] Ibid

[xxiii] Ibid

[xxiv] Ibid

[xxv] Ibid

[xxvi] See Rule 6 of the IT Rules

[xxvii] See Rule 8 of the IT Rules

[xxviii] Ibid

[xxix] Section 43 A, 72A and 75 of the IT Act,

[xxx] As per Section 2 (f) of the IRDAI Act, 1999 “intermediary or insurance intermediary” includes insurance brokers, reinsurance brokers, insurance consultants, surveyors and loss assessors.

[xxxi] See Bishnu, I & Aakulu, S. (May 13, 2019), ‘Data Protection in the Indian Insurance Sector-Regulatory Framework Part I’ India Corporate Law Retrieved from https://corporate.cyrilamarchandblogs.com/2019/05/data-protection-indian-insurance-sector-regulatory-framework-part-1/. Also, see various IRDAI regulations available at http:///www.irdai.gov.in.

[xxxii] Regulation 19(5), IRDAI (Protection of Policyholders’ Interests) Regulations, 2017

[xxxiii] Regulation 3 (3) (b), 3 (9), IRDAI (Maintenance of Insurance Records) Regulations, 2015

[xxxiv] Ibid

[xxxv] Regulation 12, IRDAI (Outsourcing of Activities by Indian Insurers) Regulations, 2017

[xxxvi] Regulation 35 (c), IRDAI (Health Insurance Regulations), 2016

[xxxvii] See Bishnu, I & Aakulu, S. (May 14, 2019), ‘Data Protection in the Indian Insurance Sector-Regulatory Framework Part II’ India Corporate Law Retrieved from https://corporate.cyrilamarchandblogs.com/2019/05/data-protection-indian-insurance-sector-regulatory-framework-part-2/

[xxxviii] Ibid

[xxxix] For detailed information see Bishnu, I & Aakulu, S. (supra n. 17). For instance, the IRDAI (Third Party Administrators- Health Services) Regulations, 2016 are applicable to Third Party Administrators- Health Services, IRDAI (Licensing of Banks as Insurance Brokers) Regulations, 2013 and IRDAI (Insurance Brokers) Regulations, 2018 are applicable to insurance brokers.

[xl] Processing has been defined very broadly to include collection, storage, organisation, structuring, adaptation, transmission, disclosure, or even erasure or any such operation performed on personal data

[xli] As per Section 3 (28) of the PDP Bill, “personal data” means data about or relating to a natural person who is directly or indirectly identifiable, having regard to any characteristic, trait, attribute or any other feature of the identity of such natural person, whether online or offline, or any combination of such features with any other information, and shall include any inference drawn from such data for the purpose of profiling.

[xlii] As per Section 3 (36) of the PDP Bill, “sensitive personal data” means such personal data, which may, reveal, be related to, or constitute—

(i) financial data;

(ii) health data;

(iii) official identifier;

(iv) sex life;

(v) sexual orientation;

(vi) biometric data;

(vii) genetic data;

(viii) transgender status;

(ix) intersex status;

(x) caste or tribe;

(xi) religious or political belief or affiliation; or

(xii) any other data categorised as sensitive personal data under section 15.

[xliii] It is not defined in the PDP Bill. The DPA may notify any category of PD as CPD.

[xliv] For a detailed discussion see Prabhu, A. (December 16, 2019) ‘The Personal Data Protection Bill, 2019: An Analysis’, Retrieved from https://www.mondaq.com/india/Privacy/874948/The-Personal-Data-Protection-Bill-2019-An-Analysis#_ftnref39

[xlv] On February 5, 2019 the IRDAI a ten member committee constituted by IRDAI presented its report on regulatory sandbox in insurance sector. Section 40 of the PDP Bill also provides provision for regulatory sandbox to encourage development of new technology.

Insurance Marketing - Challenges and Strategies

A recent survey conducted by Life Insurance and Market Research Association (LIMRA) shows that only two-thirds of Generation Y, called millennials, have any kind of life insurance. And as per survey the main reason behind it the lack of awareness among millennials about the latest insurance product development and its market development. It is the bitter truth that selling insurance is the most challenging task in the world, in my opinion just below to climbing Mount Everest. Beth Comstock very rightly said that you can't sell anything if you can't tell anything. So, telling aptly about how insurance will change the life of the customer and solve her problem, is the crucial service of the insurance company. Therefore, insurance marketing becomes of utmost importance. It is no doubt that traditional ways of insurance marketing like- door knocking, brochures, and old television ads are not going to work anymore because of recent challenges coming from demographic and social trends. For example,

First, this generation is entering the workforce with more challenges as compared to the older generation. The millennials are entering with a significant amount of debt like education loans, home loans, etc. Second, they are also more tech-friendly. They prefer digital channels, less opt for face to face meetings. Third, the traditional milestones which used to create the need for insurance timely like marriage, having children and purchasing the home, are being delayed. Next, there is a visible shift in the income and lifestyle of millennials. Last finally, according to some researches the trust over the

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insurance company is very less even lesser than a bank. All of this posing the challenges for insurance marketing.

Unquestionably, there are so many opportunities available for the insurance companies and that's why they are evolving their marketing strategies. There are following strategies which the insurance company can use-

Assure Transparency and Build Trust

The insurance business is truly based on relationships and strong trust. Companies are building trust among customers through social and digital media. For example, Lemonade Insurance Company significantly uses these new means of media. Its strong thrust on openness and trust has enabled it to insure more than 100,000 homes and earned $10 million in sales in just the second year of its operation. It has a special transparency blog where it publishes all stories of negative feedbacks and failures. The aim is simple- improving customer services and make aware customers that the company knows its weak areas and working on it to become better & better.

Popularize Societal Good

The best marketing strategy ever is- CARE. The motive of insurance is to help people in a tough time. By supporting the societal good, the company can signify how it also gives back to the community. What can be a better example other than the Farmers Insurance Company, which has launched its charity campaign 'Thank America's Teachers'. In this, the company donated charity money to teachers as a recognition for their crucial role in preparing students for the nation-building. Another example is of Lemonade which reported in 2018 that it has distributed $ 1, 62,000 to 15 different countries through its campaign 'Lemonade Giveback'. The societal marketing helps in inculcating trust and show your customers that you are a company that cares for its community and its well-being.

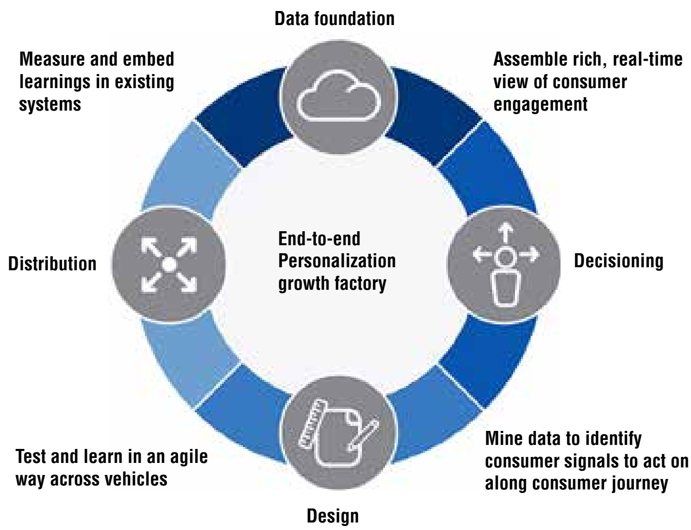
Endeavor Personalized Marketing

As per 2019 Global Financial Services Consumers Study of Accenture 88% of insurance consumers demand more personalization from providers. Hence, personalized marketing is the future of the company. In it, the company reaches the customer with targeted messaging, offers and pricing. The availability of analytical tools, customer data and technology helps the company to run hundreds of personalized campaigns to improve the selling, cross-selling and return on investment. Further, personalized approaches help the company to create a lasting relationship with the customer and fight with competitors. As per the Mckinsey & Company report, personal auto

The best marketing strategy ever is- CARE. The motive of insurance is to help people in a tough time. By supporting the societal good, the company can signify how it also gives back to the community. What can be a better example other than the Farmers Insurance Company, which has launched its charity campaign 'Thank America's Teachers'.

insurance carriers in the USA could earn an additional $ 2 billion if they retained just 10% of the $ 19 billion in direct premium paid when people switch from one carrier to another every year. The tools like SPIXII, CRM, and big data can help a company to design a marketing strategy to a personal level.

Insurers can build deeper one-to-one relationships with consumers at scale.



McKinsey & Company

Embrace Technology

The new disruptor in the insurance industry is Insuretech just like Fintech in the banking industry. These tech-led companies are cashing the benefits of modern technology to cover the tech-friendly customer base- the millennials. As per the data from the Fintech Global database the annual investment in Insuretech has doubled. In 2019, the investment in Insuretech has exceeded $ 1.2 billion. The use of Artificial Intelligence, Machine Learning, robotics and the Internet of Things is in trend in the insurance industry. There are many examples of it.

- *Digit Insurance Company,* one of the fastest-growing general insurance company in India works on the latest technology like micro service-based architecture, advanced core system, machine learning, and infrastructure being 100% on the cloud. Nearly 85 percent of the claims received are approved within 24 hours.
- *Cuvva* a UK based insuretech company provides innovative insurance product that is Pay-As-You-Go car insurance by the hour, day, week, or month through mobile phone.
- *Onsurace* which is a shopping engine that provides personalized auto insurance quotes. For this, it uses a tool Mojio. This can be plugged into the driver's vehicle to derive data. Later this data is used to analyze the driver's driving habits by using a unique algorithm. Then Onsurace searches the internet and suggests a highly suitable insurance plan.
- *SPXII* an insuretech startup has created insurance chatbots that interact with the customer. The other insurance companies can customize it accordingly. It suggests policies, provide quotes, and help in selecting the coverage and also in managing the claims.

Remarketing

Insurance ads are the most expensive ones. If after showing the advertisement, customer visit to your company website and leave without taking any action, it cost a lot to a company. Remarketing is the solution, which helps the company to reach people who come to the web but depart without action. With Remarketing ads, the company can target such people with display ads. These ads have a higher conversion rate and lower cost per customer.

In brief, the insurance companies can't escape from the tough challenges, hence, they need to continuously evolve their marketing strategies. The aim should be to make insurance a basic need just like food, shelter, and clothing. The personalized marketing, societal marketing and remarketing are outstanding marketing ideas. Using these, the company can capture many opportunities and withstand the attacks of competitors.

"Good marketing makes the company looks smart.

Great marketing makes the customer feel smart." - Joe Chernov

PMSBY Insurance - Analysing the Adequate Coverage of Accidental Deaths in India

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Abstract

In 2015, PMSBY scheme was introduced to enable various strata's of society to have easy and economical access to the protection provided by this scheme against accidental coverage by the Government.

Technology would be a key enabler to spread its benefits. This scheme could lead to an integrated closed knit protected social security system which would benefit various strata of society in our country.

The aim of this discussion is to study

- The correlation between total accident occurrences v/s number of claims settled under PMSBY scheme.
- Number of accidental insurance claims paid state wise.
- Effect of ICR on Premium being charged

The paper draws references from various articles, research paper and websites. The data of parameters for number of accidents state wise were

tabulated and analysed for determining a correlation/pattern between the number of occurrences of accidents and claims settled under PMSBY scheme.

The findings indicate that there is a direct correlation between numbers of accident which had occurred and claims which were settled under PMSBY policy indicating that PMSBY scheme is efficiently able to cover a certain percentage of total accidents in a proportion and in direct correlation.

Introduction

The concept of the general welfare of subjects is denoted by Sanskrit term 'Yogakshema' found in the Rig Veda. 'Bhagavad Gita' gives a perspective of Insurance, where Lord Krishna says that 'he carries the responsibility of providing to his devotees, what they lack and also protect what they already possess'.

Through this paper an attempt is being made to understand the gap between insured that have already availed PMSBY and the uninsured in terms of market penetration and accidental coverage adequacy of PMSBY insurance scheme. To understand the linearity pattern of its graph for number of accidents occurrence v/s protection or coverage by way of PMSBY scheme; does it follow the similar linearity pattern of graph of number of accidents in a year to that of PMSBY policy claims settled. Since if it follows the linearity pattern, it would imply that number of people affected in accidents have been proportionately covered under PMSBY scheme and the efforts only need to be directed in increasing the penetration of this PMSBY policy under various strata of the society for more coverage else if the pattern is not linear then revised research hypothesis needs to be made to understand the pattern and influence of other factors and required efforts by concerned organisations to be made in those directions. PMSBY primarily covers Table I & IA i.e. death & PTD. At S.I of Rs.2 Lac and premium of Rs.12; the discount primarily varies from 87% to 96% due to categorisation of work profile into normal, medium and heavy risk.

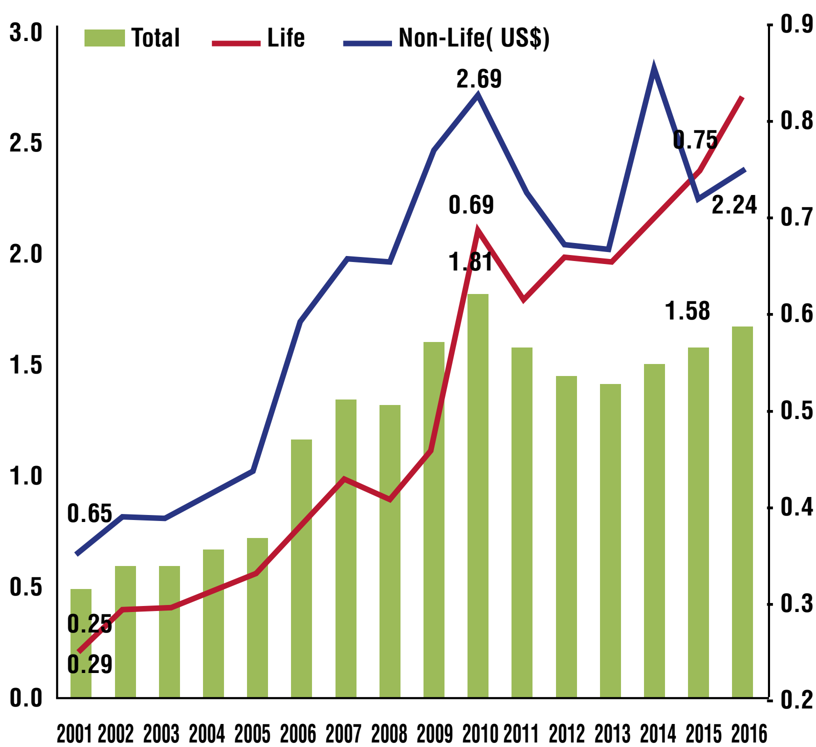
The figure 2.2 indicate that India's insurance penetration has increased from 2.7% in 2001 (Life 2.2% and Non-life 0.6%) to 5.2% (Life 4.6% and Non-life 0.6%) in 2009, before it decreased to 3.3% (Life 2.6% and Non-life 0.7%) in 2014. However, the trend reversed and then went to 3.5% (life: 2.72% & 0.77% non-life) in 2016-17.

Surprisingly in India, only 12 percent of the working population is covered under formal Pension system, only 4 percent have Accidental Insurance and 20 percent have life insurance coverage. Hence presenting a good opportunity for accidental insurance coverage for the insurance industry.

Indian Insurance Sector in Global Scenario

Globally, the life insurance business commands a total premium of 55.3%. Exceptionally, the share of life insurance business in India was very high at 77.95% however General insurance business was only at 22.05%. In life insurance business, India holds 10th rank among the 88 countries, as per data published by Swiss Re. India's share in global life insurance market was 2.36% during 2016. However, during 2016, the life insurance premium was excellent and in India it increased by 8 percent (inflation adjusted) when global life insurance premium increased by 2.5%.

Figure 1.1 India's Progress in Insurance Business in the World (%Share)



Source: SIGMA, Swiss Re

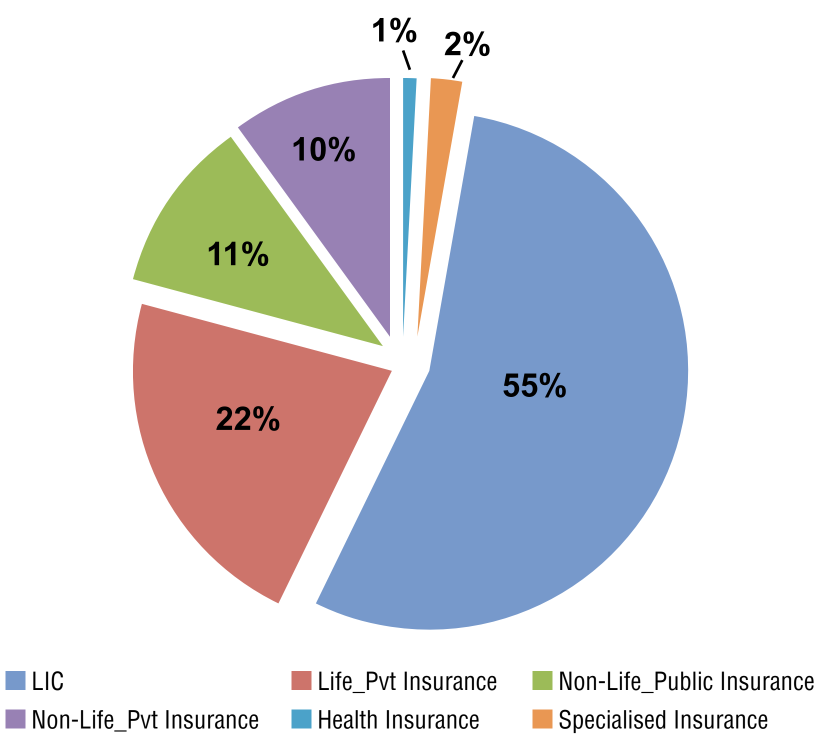
Table 1.1 Cross Country Comparison of Insurance Penetration & Density (2016)

Country	Insurance Density (US$)			insurance penetration(%)		
	Life	Non-Life	Total	Life	Non-Life	Total
UK	3033	1031	4064	7.58	2.58	10.16
US	1725	2449	4174	3.02	4.29	7.31
France	2228	1168	3395	6.06	3.17	9.23
South Africa	616	147	763	11.52	2.74	14.27
Switzerland	3700	3233	6934	4.72	4.12	8.85
Japan	2803	928	3732	7.15	2.37	9.51
India*	**47**	**13**	**60**	**2.72**	**0.77**	**3.49**
China	190	147	337	2.34	1.81	4.15
singapur	2895	882	3777	5.48	1.67	7.15
South Korea	2050	1312	3362	7.37	4.72	12.08
World	553	285	638	3.47	2.81	6.28

*Source Swiss Re, Sigma 4/2017: * data related to Financial year 2016-17*

Insurance Penetration & Density in India

Figure 2.1 Structure of Indian Insurance Industry (% Market Share)

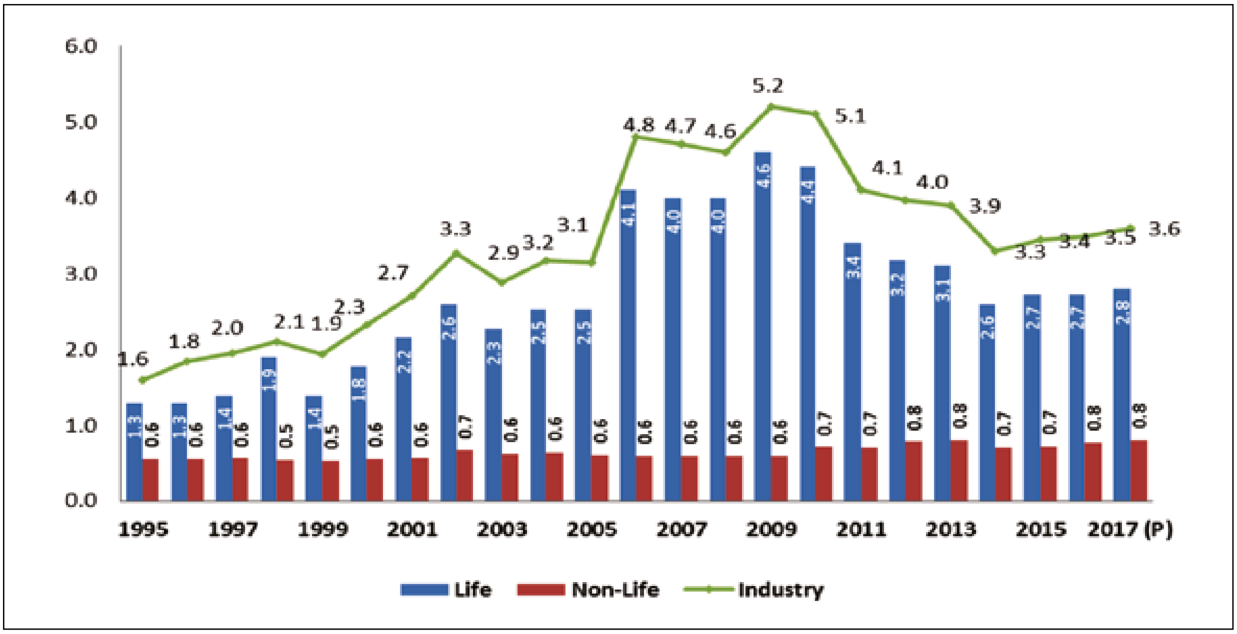


Source: IRDAI.

Globally, the life insurance business commands a total premium of 55.3%. Exceptionally, the share of life insurance business in India was very high at 77.95% however General insurance business was only at 22.05%. In life insurance business, India holds 10th rank among the 88 countries, as per data published by Swiss Re. India's share in global life insurance market was 2.36% during 2016. However, during 2016, the life insurance premium was excellent and in India it increased by 8 percent (inflation adjusted) when global life insurance premium increased by 2.5%.

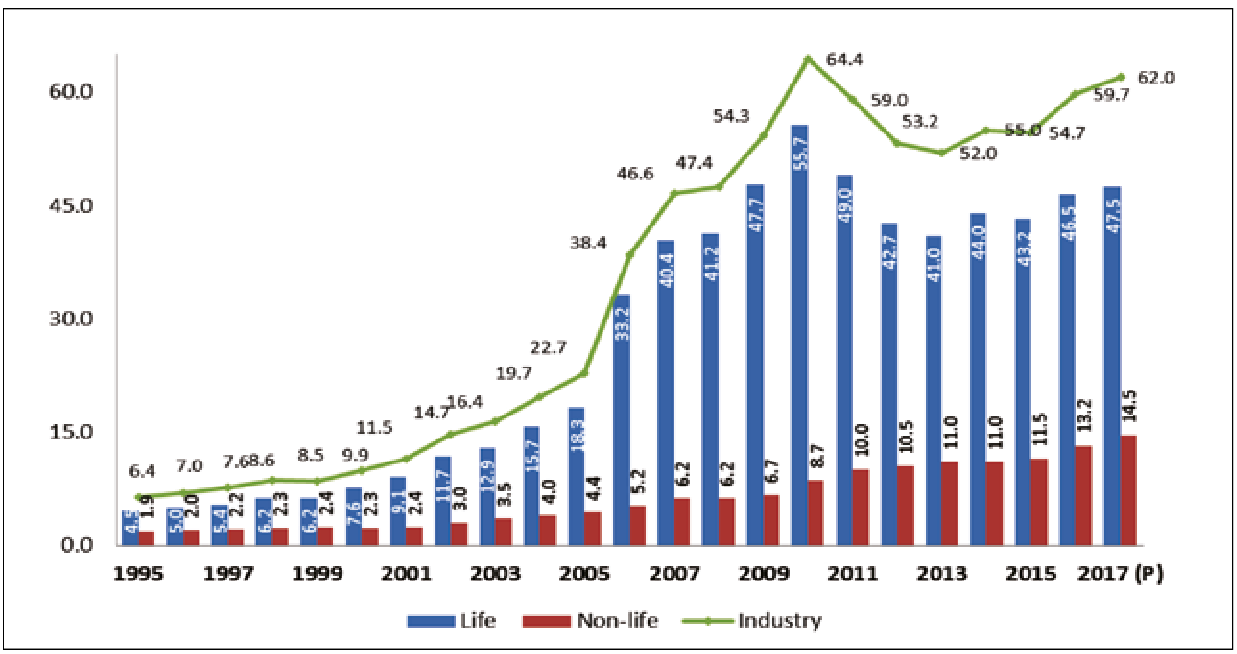
In the global market, *insurance penetration* and *density* is universally accepted as a measure of the performance and development of the insurance sector. India's insurance penetration is has been at very low level of 3.5% (Life: 2.7% & Non-life: 0.8%) in 2016, which was comparatively at lower then World average of 6.3% (Life: 3.5% & Non-life: 2.8%). Moreover India's insurance density was also at a lower level of $60 in 2016-17 (Life: $47 & Non-life: $13), in comparison World average of $638 (life: $353 & non-life: $285).

Figure 2.2 Insurance Penetration in India (% GDP)



Source: SIGMA, Swiss Re

Figure 2.3 Insurance Density in India (USD)



Source: SIGMA, Swiss Re

The government of India adopted the mission of Inclusive Growth in its Twelfth plan period in order to maintain the momentum consistency and to achieve sustainable growth. World Bank has defined Inclusive Growth as-

"the pace and pattern of growth that is the speed at which an economy grows and how far the benefit spreads. The word 'inclusive' necessitates participation of larger section of the labour force, irrespective of socio-economic background and regions in generation as well as accessibility of growth. The idea rests on the idea of 'pro- poor' growth which in absolute terms refers to growth benefitting the poor".

If we take a look at the table no.2.1 number of accidental deaths due to natural and unnatural deaths and following figure 2.4 indicating state wise accidental insurance claims settled it will lead to further inferences and similarities for the correlation between number of accidents which occurred and the claims settled under PMSBY policy.

Table 2.1 Incidence and Rate of Accidental Deaths due to Natural Causes, Un-Natural causes and other causes during 2015

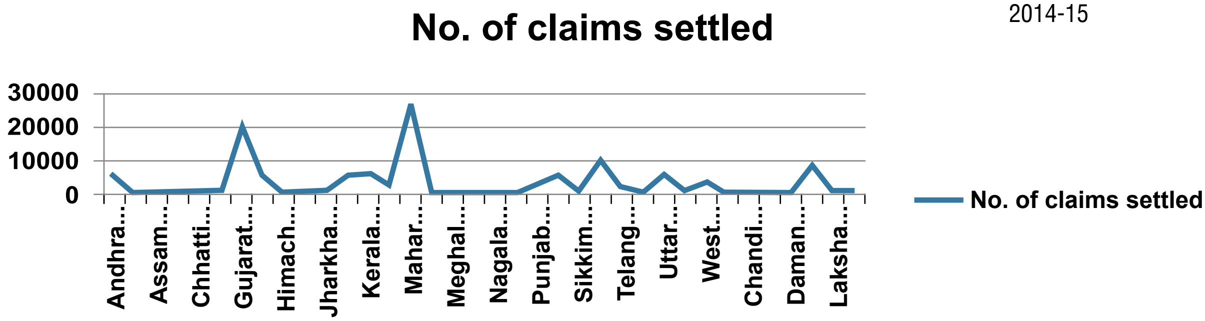
Sl. No.	State / UT	Total Number of Accidental Deaths				Percentage Share in Total deaths	Projected Mid-Year Population* (In Lakh+)	Rate of Accidental Deaths (Col.10) = Col.7/Col.9
		Natural	Un-Natural	Others	Total			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	STATES							
1	ANDHRA PRADESH	771	15320	1321	17412	4.2	513.4	33.9
2	ARUNACHAL PRADESH	27	319	23	369	0.1	13.0	28.3
3	ASSAM	236	3910	185	4331	1.0	322.0	13.5
4	BIHAR	417	9470	481	10368	2.5	1031.4	10.1
5	CHHATTISGARH	261	14333	4679	19273	4.7	256.6	75.1
6	GOA	0	746	54	800	0.2	19.7	40.7
7	GUJARAT	250	22127	6091	28468	6.9	623.3	45.7
8	HARYANA	619	10408	2246	13273	3.2	272.2	48.8
9	HIMACHAL PRADESH	283	2449	638	3370	0.8	70.6	47.8
10	JAMMU & KASHMIR	387	1284	241	1912	0.5	123.4	15.5
11	JHARKHAND	342	4819	576	5737	1.4	333.5	17.2
12	KARNATAKA	143	20065	6196	26404	6.4	619.9	42.6
13	KERALA	40	8635	2810	11485	2.8	355.5	32.3
14	MADHYA PRADESH	648	30513	9468	40629	9.8	771.3	52.7
15	MAHARASHTRA	450	51435	12681	64566	15.6	1191.4	54.2
16	MANIPUR	0	240	46	286	0.1	25.7	11.1
17	MEGHALAYA	19	369	33	421	0.1	27.5	15.3

Sl. No.	State / UT	Total Number of Accidental Deaths				Percentage Share in Total deaths	Projected Mid-Year Population* (In Lakh+)	Rate of Accidental Deaths (Col.10) = Col.7/Col.9
		Natural	Un-Natural	Others	Total			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
18	MIZORAM	2	153	28	183	0.0	10.6	17.3
19	NAGALAND	0	84	4	88	0.0	23.6	3.7
20	ODISHA	954	9887	1746	12587	3.0	422.5	29.8
21	PUNJAB	238	8471	1715	10424	2.5	289.4	36.0
22	RAJASTHAN	196	23134	4988	28318	6.8	723.1	39.2
23	SIKKIM	10	183	17	210	0.1	6.4	32.7
24	TAMIL NADU	362	28624	4679	33665	8.1	691.6	48.7
25	TELANGANA	246	13225	1138	14609	3.5	365.6	40.0
26	TRIPURA	4	399	147	550	0.1	38.0	14.5
27	UTTAR PRADESH	2383	32636	1963	36982	8.9	2158.4	17.1
28	UTTARAKHAND	186	2134	428	2748	0.7	105.4	26.1
29	WEST BENGAL	291	13601	1260	15152	3.7	930.0	16.3
	TOTAL (STATES)	**9765**	**328973**	**65882**	**404620**	**97.9**	**12334.8**	**32.8**
	UNION TERRITORIES							
30	A & N ISLANDS	0	96	91	187	0.0	5.5	34.2
31	CHANDIGARH	0	199	67	266	0.1	17.4	15.3
32	D & N HAVELI	0	106	18	124	0.0	4.2	29.7
33	DAMAN & DIU	0	121	24	145	0.0	3.2	45.2
34	DELHI (UT)	745	5763	393	6901	1.7	208.8	33.1
35	LAKSHADWEEP	0	4	3	7	0.0	0.8	8.8
36	PUDUCHERRY	0	789	418	1207	0.3	16.5	73.4
	TOTAL (UTs)	**745**	**7078**	**1014**	**8837**	**2.1**	**256.3**	**34.5**
	TOTAL (ALL INDIA)	**10510**	**336051**	**66896**	**413457**	**100.0**	**12591.1**	**32.8**

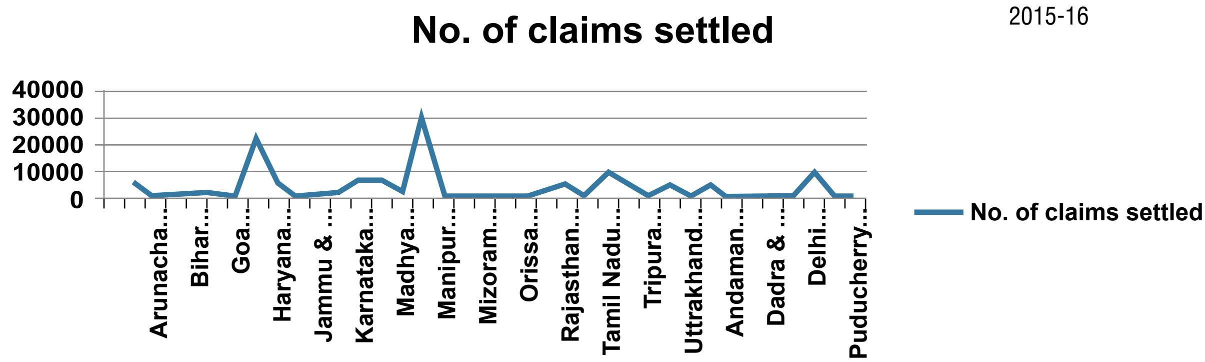
Note: adjusted mid-year projected population for the year 2015. Source: Registrar General of India, MHA

Figure 2.4 State Wise Number of Claims settled (2014 to 2018)

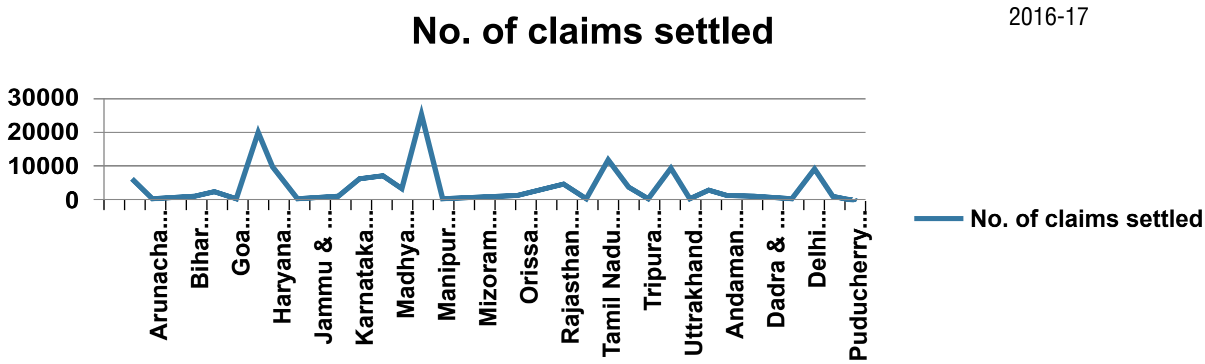
2014-15



2015-16



2016-17



2017-18

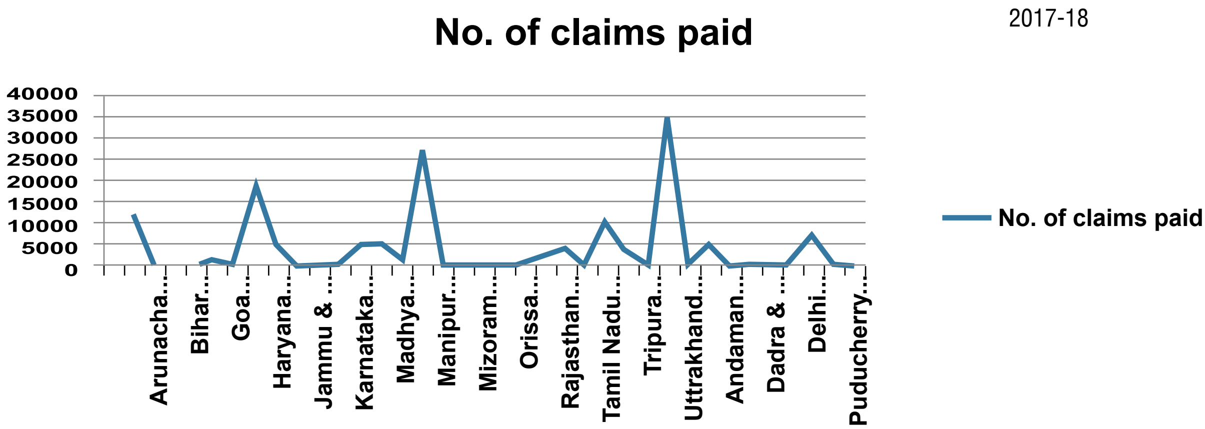
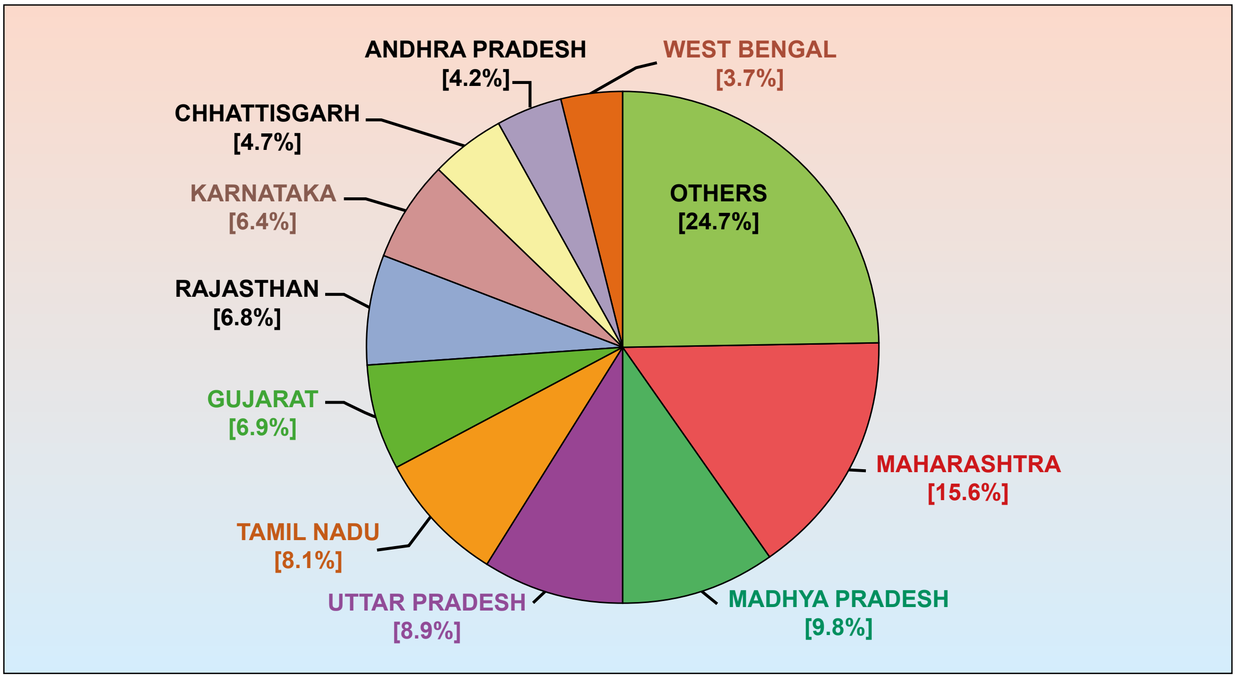
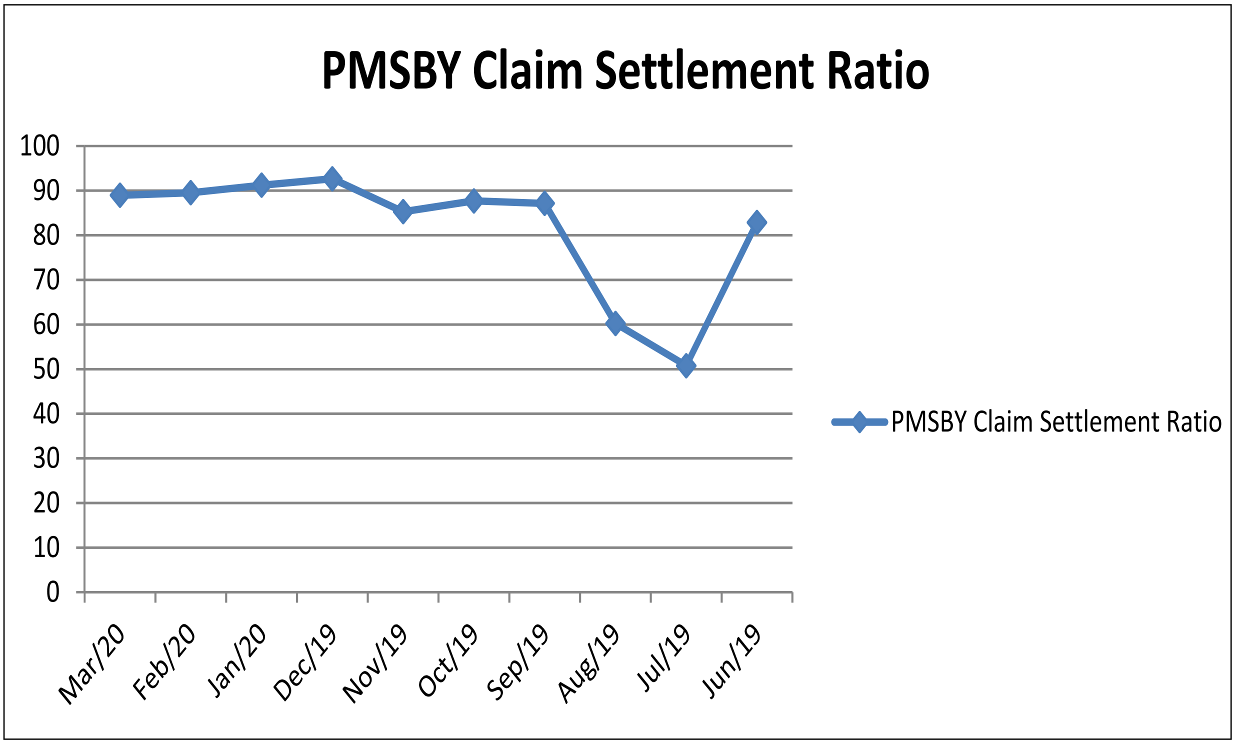


Figure 2.5 Percentage share of Major States in Accidental Deaths during 2015



Other States include Arunachal Pradesh, Bihar, Assam, Chandigarh, Goa, Haryana, Jammu & Kashmir, Jharkhand, Kerala, Manipur, Mizoram, Meghalaya, Nagaland, Odisha, Punjab, Sikkim, Telangana, Tripura, Uttarakhand, A & N Island, D&N Haveli, Daman & Diu, Delhi, Lakshadweep and Puducherry

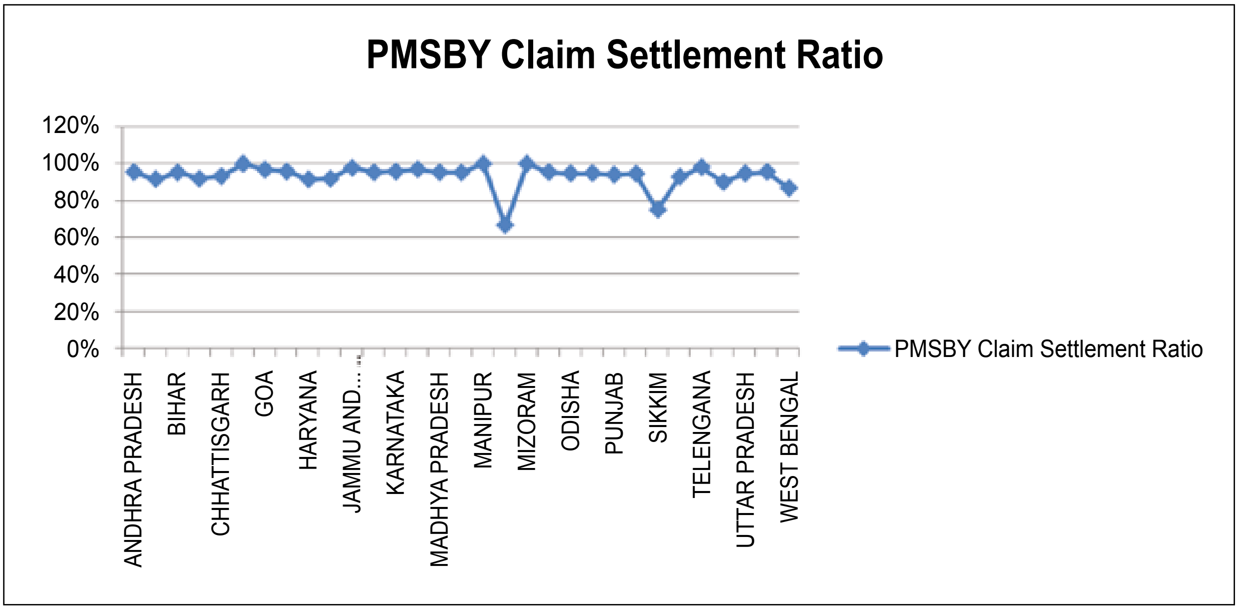
Figure 2.6 PMSBY Claim Settlement Ratio



Source: Real time Dashboard of an insurer

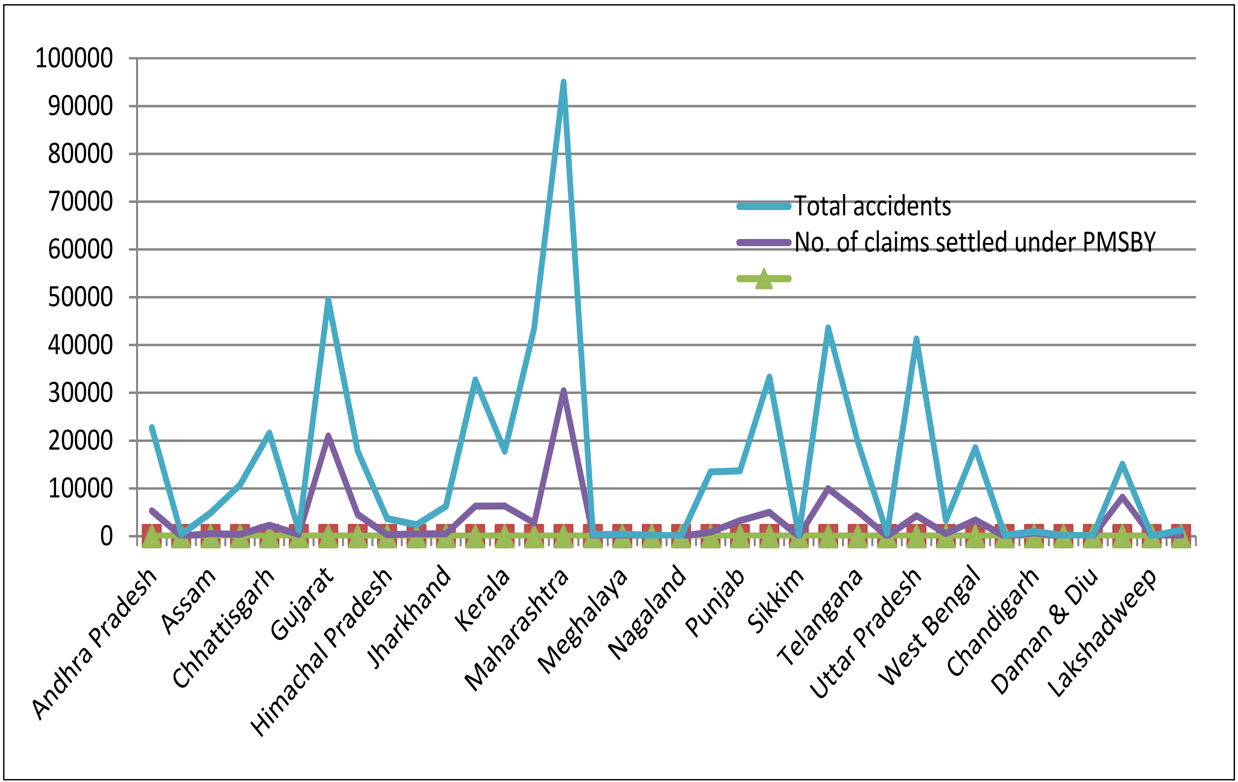
State wise PMSBY Claim settlement

Figure 2.7 PMSBY Claim Settlement Ratio



Source: Press Information Bureau, GOI, MOF

Figure 2.6 Total Accidents VS Number of Claims settled under PMSBY



SWOT Analysis

Challenges & Opportunities

The Indian insurance industry is going through a wave of structural and need based change generated by shifting macroeconomic, demographic and improving financial conditions, the market is welcoming new products and services with open arms, and increasing regulatory pressure, which may put a number of new challenges and opportunities to remain relevant and successful in the current insurance scenario. Aspirations are higher for both existing insurance behemoth and new entrant relying on more on digital platform. The key to unlock potential of Indian insurance market would be a greater focus on (i) cost efficiency, (ii) data analytics and (iii) product innovation at a lower premium, a mandatory requirement for being competitive and for growth generation.

Challenges

In total 62 insurers, each represented by thousands of agents, brokers, and intermediaries present a huge challenge for Indian Government and IRDAI for an effective regulation. Promoting competition in the market would be in order to bring efficiency, lowering the premium price and regulation in place would provide protection to interest of policy holder. However balance in the approach would be required so that excess control and regulation do not affect the growth and expansion of the insurers with degree of autonomy for business growth. To regulate the sector, IRDAI has stepped up its effort for overseeing the sector.

At present, the insurance companies are focusing more on building their brand image and carving a niche in the minds of its prospective customers and to increase awareness on the importance of insurance.

The next focus area would be setting up infrastructure and reaching out to as many cities, towns and villages as possible. Innovation in new products would be required to meet the changing demands of the various segments of the society. Management of funds for insurers to remain profitable and solvent would present another challenge area.

Opportunities

The population; since even LIC c – does it mean life Insurance companies or corporation ?...Please verifyover only around 5% of the total population. In India, the ratio of assets of insurance companies to those of banks is only 3% while in US it is 10% i.e. another potential opportunity indicator for the country.

Being highly regulated by IRDAI violations and variations would be minimised.

The employment opportunities would be created in Insurance sector with its growth in similar patterns to banking sector. Various intermediary channels innovations are being done like web aggregators, IMF, Insurance on Wheels etc. Even entirely digital based insurance companies are being launched.

New training institutes are being setup along with web portals and insurance related journals to create awareness of insurance in the country.

Around 15.47 Crore people were enlisted under the PMSBY scheme with huge scope for further coverage.

Pricing of PMSBY

For a S.I of Rs.2 Lac the premium of Rs.12 is charged; the discount of premium varies from 87% (for normal risks at 0.45%0) to 96% (for heavy risk at 1.50%0) due to categorisation of various job profiles under normal, medium and heavy risk. Hence PMSBY policy offers a lucrative discount option compared to a standard PA policy a rate which is offered through bank. Many insurance companies do not offer discount on PA rates.

Threats/Challenges ahead

Lack of financial awareness affects mostly poor citizens. Unexpected loss of life may push the economically weak into a financial burden and into a poverty trap. Due to lack of awareness of various government schemes, poor citizens suffer the most. If everyone can access the right government schemes on time lot of sufferance of the poor can be avoided.

The other challenge which if overcome can lead to overall growth of the nation and would be a service to the under privileged i.e. if workers in unorganised sector can be covered under insurance cover.

The other aspect which would require consideration would be incremental quantum requirement which the policy offers i.e. a sum of Rs 2 lac only. Inadequacy of sum insured is rightly pointed out by Tanwir Alam, founder and CEO, fincart.com, says: "The scheme is for everyone but this certainly is of good for people such as drivers, labourers working at constructions sites, etc. However, on account of partial disability the cover is for an amount of Rs 1 lac only."

It is estimated that about 30 percent of Indian population have no access of banking System. Banks have found it difficult to expand its reach in the hinterlands. Physical infrastructure adequacy needs to be corroborated in rural areas. More access of people to banking system, more would be the generation of contact points for insurance penetration which has been a hindrance as of now. After factoring the above challenge the other real challenge would be to keep these insurance accounts active by ensuring timely renewals and/or minimum balance in the bank accounts to enable auto-debit of premiums which would keep the bank account holder continuously insured.

Till some years back connectivity though mobile technology was a distant dream for many but with evolving technology, awareness among consumers and competitive pricing many consumers have gained access to larger world of information, knowledge, connectivity and digital atmosphere.

However with changing times the Mobile technology; which has now emerged as a proven significant weapon against Financial Exclusion requires spectrum allocation to mobile service providers. Similarly, enough bandwidth should be made available to customer service providers in villages for connecting over the internet to core banking platform of banks and insurance service providers. Hence Telecom sector would have a greater role in increasing the access of insurance companies, brokers and agents to common mass.

Public sector companies have been incurring losses to the tune of 80-100% in PMSBY. Insurers have been seeking to increase premium from Rs 12 per annum to about Rs 20-30 due to high ICR. This Rs.20-30 premium would also be at threshold level since premium at present being offered by insurer is around Rs 80 for an individual and around Rs 45-50 for a group. In the past years, claims from PMSBY have remained more or less in the same range. "In the past three years, claims from PMSBY have remained in the same range and the government had said that premium rate revision would be taken after three years," said a senior official of a leading insurance company.

Way Forward/Future

Insurance penetration in Life segment for insurance premium to GDP was 3 percent as compared to world average of 3.5%. The General Insurance penetration ratio was 0.8 percent compared to world average of 2.8 percent. It is that this scheme is way for future and the Government could think of bringing other variants of the schemes in the near future. However, there is a need for more banking penetration especially in rural and remote areas and efforts to create awareness among the most vulnerable and poor section of society about the various aspects of these Schemes so that benefits of these schemes reach to every person.

More business Correspondents to be employed and use of biometric devices for ensuring that benefits reach to the beneficiaries in full and there is no scope for intermediaries to take any undue benefit especially in case of poor, illiterate and vulnerable section of people living in far flung rural areas.

Another important suggestion which has emerged is the usage of Post offices as payment banks for all the social security schemes including PMSBY; as last mile connectivity to every village of our country. As our economy is prospering, the Finance Minister has laid more emphasis on bringing out IPO of state owned insurance companies, on increasing the FDI limit from 49% to 74% for foreign insurer/broker/intermediaries. More resources need to be channelized towards innovative schemes like PMSBY leading to more variants in the market with lot more improvements. Since Post offices have also started their banking operations- India Post Payments Bank; many inaccessible areas have also come into ambit of insurance which can channelize these branches as POS for PMSBY insurance. Simultaneously the Government efforts have been to bring all the people in the ambit of formal banking channel leading to more financial inclusion of maximum population. Like many other developing countries, India is slowly but definitely moving towards adopting higher-end technologies to reduce high transaction costs and geographical barriers in the journey towards fuller financial inclusion. 'Mobile Banking' has emerged as a significant tool to expand the outreach by banks because the cost of mobile phones and the user charges have become affordable to the common man, thus increasing its usage by the consumer at rapid rates and secondly, the geographical reach of mobile phones is not only vast and but also can provide faster communication. Many mobile industry experts also foresee a rising trend in future and there is growing confidence of the people in mobile banking, a positive indicator for greater financial inclusion which could lead to wider audience for PMSBY scheme.

Conclusion

The discounting in the PMSBY policy makes it a lucrative option for a commoner and the intermediation of the bank makes it more convenient for easy and seamless renewal. However due to high discount on standard PA rates and good claim settlement ratio the policy is rendered a loss making proposition and there is a gap between the premium being charged and premium which should be charged so that this PMSBY scheme becomes a profitable one for the insurer and coverage for wider population would be possible at optimum premium not giving any undue advantage to either insured or insurer and make this scheme a sustainable proposition.

There is a graphical direct linear correlation between number of accident and number of claims being settled under PMSBY scheme implying that certain percentage of total accidental occurrence has been adequately covered by way of PMSBY policy and thus it means wider penetration of PMSBY policy benefiting the society at large. Hence PMSBY policy can be made compulsory as an add on in other social schemes/coverage's like NPS or by way of add ons by charging additional premium for people having gas connection/ electric metre/mobile connections etc.

Hence if its reach is increased to various people, PMSBY scheme would adequately cover various accidental incidences under this insurance protection social scheme. An option for consolidated premium can be initiated in the PMSBY policy so that lump sum premium may be deducted from salaries/retirement account giving protection for a long duration of time. This option will bring the PMSBY policy into profitability and various people would be adequately covered. Moreover incremental S.I option can also be introduced so that adequacy of S.I would be maintained throughout the complete life cycle of the insured which would also cater to convenience and adequate coverage requirement of an insured.

The premium of PMSBY policy should be increased to Rs 20-30. This step by Government would ease the pressure and bring down the ICR of PMSBY policy and this would increase the profitability of insurer and viability of this product and will in turn lead to sustainable implementation of future social insurance schemes and wider coverage for various strata of our nation.

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Unraveling Gems in Sandboxes

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Abstract

Insurance contract helps an insured to obtain coverage for future losses on happening of a specified event by transferring associated risks to an Insurer in exchange for premium. The risk and coverage under the contract might not be same for every individual. An Insurer only tries to quantify coverage on basis of an arithmetic evaluation of pool of similarly placed risks. However the above approach might not be enough to cope up with the increasing need of customized products or tailor made solutions. The Insurers have to be agile in catering to demands and needs of consumers for better growth prospects and end user satisfaction, while safeguarding their own interests and not falling into traps of insurance frauds. This may require out of box thinking solutions. However the practical application of such solutions into an end-user product are subject to regulatory approvals wherein the regulator prioritizes the interest of policyholders. With such a deadlock like situation, Insurance Regulatory and Development Authority of India (IRDAI) has come up with concept of Regulatory Sandbox. Regulatory Sandbox Approach helps insurance companies to leverage latest technological innovations and apply them on out of the box solutions in a dynamic manner so as to create newer unconventional insurance products. The Do it Yourself approach envisaged under this new regulations will help bring cheer for money conscious customers who

are always on the lookout for affordable ways to get optimal coverage's.

This article helps to gain an insight into such innovative products under the Sandbox Regulations which are approved by IRDAI for a limited period of time to be sold to selected customer under its supervision to ascertain the associated risks and contain consequences of failure (if any) before finally being commercially adopted; consequently not allowing regulation being a constricting force in their innovation journey.

Keyword

Regulatory Sandbox Approach, Fin-Tech Solution in Insurance, Insurance Khata, Wearable fitness tracker, Friend Assurance, Pay as you use motor cover, Health profile based pricing, app monitored wellness program, Shagun, Motor floater.

What is a Regulatory Sandbox Approach?

IRDAI states that Regulatory Sandbox Approach can be used to carve out a safe and conducive environment to experiment with innovative approaches (including Fin-Tech solutions), and where the consequences of failure, if any, can be contained. The regulator has notified IRDAI (Regulatory Sandbox) Regulations, 2019 to provide flexibility in dealing with regulatory requirements while fostering innovative ideas in Insurance Industry and at the same time focusing on policyholder protection. In other words, the Regulatory Sandbox allows the regulator, innovators, financial service providers and customers to conduct field tests to collect evidence on the benefits and risks of new financial innovations, while carefully monitoring and containing their risks. As much as 172 applications were received for launching different insurance products under the regulation. However only 33 were able to pass the regulatory nod. Such products would be offered to a select group of customers for over 6 months and maximum upto 1 year to evaluate risk reward ratio before a commercial launch. The list of approved applications under Health and Non-Life segments is provided below:

S.No	Application ID	Applicant Name	Proposal Name
HEALTH			
1	240	Max Bupa Health Insurance Co Ltd	Friend Assurance
2	238	Max Bupa Health Insurance Co Ltd	Health profile based pricing
3	239	Max Bupa Health Insurance Co Ltd	Wearable Fitness Tracker
4	114	Star Health Insurance Co Ltd	Comprehensive Wellness programme with wearable device
5	132	Star Health Insurance Co Ltd	Centrally administered Auto Adjudication system
6	224	Religare Health Insurance Co Ltd	OPD and Wellness with Integrated Flexible Rewards program
7	229	Religare Health Insurance Co Ltd	Short Term Health Insurance
8	228	Religare Health Insurance Co Ltd	Payment through reward points
9	226	Religare Health Insurance Co Ltd	Friend Assurance
10	60	Bharti Axa General Insurance Co Ltd	Short term Health Insurance
11	140	Kotak Mahindra General Insurance Co Ltd	Wearable Devices to existing customers
12	165	Kotak Mahindra General Insurance Co Ltd	Wearable devices to New customers
13	124	Kotak Mahindra General Insurance Co Ltd	Friend Assurance
14	94	TATA AIG General Insurance Co Ltd	Restricted Network (OPD / IPD)
15	82	Go Digit General Insurance Ltd	Need based Health Insurance
16	222	SBI General Insurance Co Ltd	Shagun- Gift an Insurance
17	50	Bajaj Allianz General Insurance Co Ltd	Co-Pay model
18	145	ICICI Lombard General Insurance Co Ltd	APP Monitored Diabetes Mellitus Wellness Program
19	146	ICICI Lombard General Insurance Co Ltd	APP monitored Dyslipidemia Management Program

S.No	Application ID	Applicant Name	Proposal Name
NON-LIFE			
1	59	Bharti Axa General Insurance Co Ltd	Usage Based Motor Insurance - Pay As You Drive_ Private Car Policy_Own Damage Section
2	77	TATA AIG General Insurance Co Ltd	
3	79	Go digit General Insurance Co Ltd	
4	173	ICICI Lombard General Insurance Co Ltd	
5	175	ICICI Lombard General Insurance Co Ltd	
6	17	Acko General Insurance Ltd	
7	45	Bajaj Allianz General Insurance Co Ltd	
8	96	Liberty General Insurance Co Ltd	
9	138	Edelweiss General Insurance Co Ltd	Motor Floater
10	4	Reliance General Insurance Co Ltd	
11	179	ICICI Lombard General Insurance Co Ltd	

Source: IRDAI website

Let us focus on some of the new innovative products above to understand how beneficial they could be in long run for the end customers.

Friend Assurance: Currently, IRDAI guidelines allow group covers to employee of firms, credit card holders, home loan borrowers and so on. Such group coverage may come with own set of perks and limitations which are only imposed on the policyholders part of the group. However going forward, under new proposed product, a group of like-minded policyholders can seek coverage under group policy, which would help them get a more tailor made customized coverage option with added benefit of reduced outgo applicable basis on group numbers. Eg: A group of friends who workout in the gym together or part of cycling group etc. Insurer logic is that under such a cover, the small group of policyholders which pool coverage under the group policy would motivate each other to maintaining good health in order to avail additional discounts. Such product would also give policyholders under the group to form a census on coverage to be provided under the policy and have more bargaining power than under standard individual policies. Max Bupa Health Insurance Company, Religare Health Insurance company and Kotak Mahindra General Insurance company have been given approval for launching this product on trial basis.

Health profile Based pricing: Max Bupa Health Insurance has received approval in this space. This product is more of a pricing tool to fix premium of health insurance policy on an individual basis. Currently the premium on policies is charged based on age and in some cases geographies. Eg: A fit and health conscious 35 year old male maybe paying more premium compared to a lazy 32 year old male because of archaic way of actuarial valuation of premium calculation. However going forward, based on data available on underwriting and claims side, Max Bupa has devised a dynamic pricing model where every individual will be offered different pricing. Mr. Ashish Mehrotra, CEO & MD of Max Bupa told that "All 35-year-old will not have to pay same premium. They will be asked a set of questions on their health, family history and lifestyle etc. If it doesn't suffice, we'll do a second layer of due diligence through tele conference, where much more detailed questions on health profile will be asked. If it doesn't help either, finally we'll send that person for medical check-up. On the basis of reports, we'll fix the price of the policy".

Wearable Fitness Tracker: Millenniums today have started embracing and investing in trendy wearable devices which help them monitor their vital health parameters on a real time basis. Realizing the importance of access to this first hand information with regard to underwriting of health insurance policies in mind, Max Bupa Health Insurance has entered into an exclusive three-way partnership with fitness technology player GOQii and global reinsurance giant Swiss Re is an attempt towards creating a health and fitness brand that offers digitally enabled and holistic wellness solutions, tailor-made to meet the evolving health needs of digital savvy customers. GOQii is a smart-tech enabled, integrated preventive healthcare that provides an end-to-end healthcare and wellness experience for users. It offers a wearable fitness band with a mobile-app, and personalised remote coaching. While most insurers are offering footstep-based discounts via their apps, these companies have got approvals for specific wearable devices. Mr. Ashish Mehrotra of Max Bupa informs that "With this, now measurement will be more accurate. For now, we'll be offering it to our existing GoActive policyholders". Kotak Mahindra General Insurance Co Ltd is another insurance company which too bagged approval for launching product under this genre.

Short Term Health Insurance: The insurance companies with a motive to increase health insurance penetration in the country would be allowing people an option to buy sachets (shorter) period of insurance at fraction of the cost of traditional year long health insurance policies. The customers may choose to adopt health insurance for a short period during the emergence of diseases to safeguard themselves from the financial repercussions of these health hazards. A short and finite period of health insurance cover would cater to the specific needs of the customers, covering particular events or perils based on need. The product would come with customizable waiting period, and includes both indemnity and benefit. This policy would also benefit those visiting India for a short period of time or people who are unemployed for a short duration between switching jobs when they do not have the benefit of Employer provided group insurance policy.
eg: there could be instances where a husband has to align his policy date with that of his wife. They can discontinue one of the policies and buy a short-term policy for the spouse who is un-covered and align dates accordingly. Religare Health Insurance Co Ltd and Bharti AXA General Insurance Co may launch such product in near future.

Need-based health insurance: Traditional health polices do not cover critical illness unless charged extra. They come up with a waiting period too for pre-existing diseases. However, people may want coverage only for specific diseases and may not be interested in a comprehensive health plan. Go Digit Insurance's need-based health insurance will cater to this segment. "There will be covers such as Dengue Cover, Vector borne Disease Cover, Women Specific Illness Cover, Breast Cancer Cover, Cervical Cancer Cover, Malaria, Typhoid & Jaundice Cover, Health Illness Diabetes Cover etc.and now a COVID-19 cover   The intent of these covers is to break down needs of people in different life-stages, genders and locations and give them what will be most beneficial to them," says Mr. Adarsh Agarwal, Appointed Actuary, Digit Insurance.

OPD and Wellness with integrated flexible rewards program: Under standard health policies, there is a set of selected medical procedures where coverage is allowed on OPD basis due to advancement in medical treatments, thereby relaxing rule of minimum in-patient hospitalization of 24 hours. Apart from that, any expenses incurred for treatment on OPD basis is a general exclusion under the policy unless covered for extra premium. However, soon Religare Health Insurance Company might launch a product which would offer instant rewards based on completion of set goals, say fixed quota of certain exercises to be completed every week by the insured, which would be monitored using a mobile application. This would not only help the insured to

The insurance companies with a motive to increase health insurance penetration in the country would be allowing people an option to buy sachets (shorter) period of insurance at fraction of the cost of traditional year long health insurance policies. The customers may choose to adopt health insurance for a short period during the emergence of diseases to safeguard themselves from the financial repercussions of these health hazards. A short and finite period of health insurance cover would cater to the specific needs of the customers, covering particular events or perils based on need. The product would come with customizable waiting period, and includes both indemnity and benefit.

follow and maintain a healthy lifestyle, but also offer rewards in the form of instant vouchers which could be used as per convenience of the policyholder, unlike in present scenario where insured has to wait for year long before being able to redeem the rewards against getting discount in renewal premium.

"We have integrated OPD and wellness so that we can play a proactive role in managing customers' OPD spends, and at the same time reward them for displaying good behavior. We will give them points based on their activity level and healthy behavior. They can redeem those in our network of clinics," informed Mr. Ashutosh Shrotriya, Head-Products and Business Processes, Religare Health.

Shagun – Gift an Insurance: As the name suggests SBI General Insurance got approval for launching a product which aims to tap the growth potential by leveraging the Indian tradition of gifting "Shagun" on auspicious occasion. Only difference is that instead of offering cash, the company has proposed to gift insurance covers. "This is a concept whereby a proposer can gift an insurance policy to any member of their extended family (spouse, children, parents, parents-in-law, siblings, cousins, grandparents and grandchildren). It consists of a personal accident cover along with the option to select emergency medical services and ambulance cover. Traditionally in India, cash is given on auspicious occasions such as festivals by way of 'shagun'. Here, by gifting an insurance policy instead of money, we are hoping to increase insurance penetration," informed Mr. Subramanyam Brahmajosyula, Head -Underwriting & Reinsurance, SBI General Insurance. If such a product does make into the market, it would add to delight of all those people who are looking for gifting their ageing parents the much required medical protection in a way which would not burn a hole their pocket.

Co-Pay model: Bajaj Allianz General Insurance Co Ltd is going to offer products under this approach. Co-pay is a clause under an insurance policy, where the policyholder is forced to be liable for certain percentage of total claimed amount or an amount on absolute basis for each and every payable claim under the policy. Under this product the insurer promises to bring down the insured's claim burden by discounting co-pay based on engagement of the policyholder on a health platform. Mr. Tapan Singhel, MD and CEO, Bajaj Alliance General Insurance said "I believe that healthy lifestyle individuals with health insurance increases the life expectancy of a person. Under the co-pay model, we are associating with GOQii, wherein based on the engagement level of insured on the health platform offered by GOQii, the percentage of their copay will be decided".

App Monitored Wellness program: ICICI Lombard General Insurance Co Ltd bagged approval for two such products – App Monitored Diabetes Mellitus Wellness Program and App Monitored Dyslipidermia Management program. Known as pioneer in extensive use of technological offerings, ICICI Lombard plans to launch a Disease Management Application along with access to Nutritionist counselling for diet. The product offers customers a mobile application based monitoring service to bring the best out of an insured individual. Customers who exhibit good behavior would be rewarded with wellness points for following the given diet and fitness regime. In today's lifestyle where numerous claims arise due to diagnosis of Diabetes and Cholesterol related health complications, such product would be no less than a boom which will not only help Insurance Company to monitor potential claims under the policy, but also benefits customers to get motivated to secure good health based discounts/reward points and follow a balanced nutrition diet.

Pay as you Drive: In traditional motor policies, the premium is based on age, model and geographical usage of the motor vehicle. The premium does not factor the usage of the vehicle, which makes the cost conscious customer to just go in for mandatory TP only cover. However under new Sandbox approvals, Bharti AXA General Insurance, TATA AIG General Insurance, Go Digit

General Insurance, ICICI Lombard General Insurance, Bajaj Allianz and many others would be launching such covers which would help consumers to get coverage for their vehicle (OD portion) at quite affordable cost based on usage of vehicle. Under such product, customers would be charged based on driving habits as to how they use and drive the vehicle using help of a mobile based application or by installing a device in the vehicle. Insurers would tend to gain by likely increase in premium income by luring customers who opt for third party only coverage into buying comprehensive coverage by charging own damage premium based on kilometers driven or time spent on driving.

Motor Floater: Health insurance industry brought in the novel concept of providing cost effective health policies to family members or groups without compromising on the coverages. The idea was to allow insuring people to not to compromise on the coverage benefits due to increasing premium under individual policies. The concept was indeed impressive and revolutionized health insurance industry. Taking cue from same, ICICI Lombard General Insurance Company, Edelweiss General Insurance Company and Reliance General Insurance Company would soon be launching products in motor segment which aims to bring a cost effective method of insuring multiple cars registered to a single individual on the lines of floater coverage's available in health industry. The idea is provide a mobile based application which would help the insured to switch coverage under the policy to any car which is owned by him and covered under the floater policy. With focus on customer centricity, the product offers to make the customer's life simpler and more convenient. The motor floater policy entails documentation for multiple policies under one umbrella policy, which helps save time, reduces hassle and paperwork for policyholders. The single floater policy also provides ease of usage to policyholders as all communication and personal details can be clubbed under this one policy. The sum insured will be defined according to the value of the highest sum insured vehicle, and the customers can add or delete vehicles under the policy.

Insurance Khata: Customers will have to wait for commercial launch of above products, which would be dependent upon the viability of the product based on trial testing for period of 6 months from 1st February 2020. However, one such product has already been launched in India by a India First Life Insurance company back in 2017 under the name of Insurance Khata. Under this product, a person can pool multiple single premium life insurance policies in his khata (account) to enhance his life cover at any point of time whenever he has the necessary additional means to pay for additional coverage. The product is designed keeping in mind the lower strata of the society which might not have enough money at single point of time to opt for an adequate life cover, but as and when he/she has additional income, they may purchase additional policies to enhance the cover. With provision of single premium payment for as low as Rs 500 for a risk cover of 10 times for 10 years, it may not make much of difference initially, but concept is quite analogous to SIP (Systematic Investment Plan) in mutual funds, with aim to provide adequate life cover over time. Consider this to traditional life insurance policies, which either have longer annual premium paying terms or higher one time single premium payment option. While many people may not be able to choose the option of single premium payment due to financial constraints, it's a common sight to see people cringing for ending up with a lapsed policy in case of missed premium payments in longer annual premium paying policies. But in this product policyholder may purchase multiple policies of varying sum assured anytime as per his convenience and keep on adding to his life cover using the khata account. To add cherry on the cake, the company promises to return the

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premium paid on surviving the term of cover, coupling insurance coverage with return of investment. While traditional life insurance policies trap you into mandatory annual fixed premium payments for a pre-decided life cover, in this product policyholder can benefit from increasing life coverage as and when they desire or has the means.

Conclusion

As discussed above, each of the product above breaks the barriers of conventional products available today to offer products which aim to cater to customized need of the end user. The products are to be offered on trial basis for a limited period only. The approvals state that the products can be sold to a maximum of 10,000 customers. The pricing will be determined by insurers. Insurers will, however, have to make it clear to policyholders that these products will come with a limited tenure and are not renewable for life, unlike regular health policies. The regulator could grant an extension if the insurer can provide justifiable reasons, along with a performance analysis of the proposal. Once the extension period ends, the product will be back in the regulator's court, which will then determine the further course of action.

Time will only tell how these products fare in a market like India where insurance penetration is very low compared to global average and Insurance companies are trying to take additional risks to foray into unkown waters to tap the growth potential by appealing to varied customer base. The above article on products approved under Sandbox Regulations is based on information gathered from sources available in public domain with the aim to provide an insight into what Insurance Industry has in offer for future for customers and the author does not undertake any liability regarding availability of product and exact features of proposed products under each approval described above. Customers desirous of opting for above mentioned product would have to wait the commercial launch for exact product details, coverage's and terms and conditions and exercise due diligence in choosing the product which most suits their set of requirements.

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5. Business website like moneycontrol.com, asiainsurancepost.com etc {Eg article Proposed Innovations In Insurance Promise to Spice Up your cover available at https://www.tomorrowmakers.com/insurance-basics/proposed-innovations-insurance-promise-spice-your-cover-listicle}

Optional Income Tax Regime – Pull or a Push for Insurance Industry?

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Introduction

Insurance industry is no exception to the changes that New Digital technology is bringing to the world. Insurance Industry is about to change as well. Many **web aggregators In India** have also started selling insurance policies online, unlike the old method of only an agent selling insurance policy to friends & family. As per insurance information institute, In USA 1 of 3 attempted or purchased life insurance online in 2018. Indian insurance Industry is ready for the change but how and when is the bigger question right now. The biggest challenge is the lack of awareness and simplicity of the insurance products offered.

As per IBEF Dec 2019 Update[1], Insurance industry in India is expected to reach US$ 280 billion by 2020, driven by increased awareness, innovative products & more distribution channels. In India, penetration levels are still low at 3.69 % in 2017 as quoted by the same report. Technology is the only means to increase the penetration. Machine learning and AI along with the other technological innovations will bring disruption in the industry. The impact can be felt in the distribution partners as well along with the insurance companies with increasing number of sales happening online. As per as study done by google[2], **almost 75% of the insurance policies will be sold online by 2020.** The digital adoption will result in cost saving of almost 15% – 20 % showing the path of profitability to insurance companies.

For the sustainable growth of the industry, Government role is indispensable. Government can provide the right eco system for the industry to grow and support the economy. The Recent **Budget 2020** was looked upon by the industry with great hope this time as well., however along with the features of increased capital infusion and decreased cess on import of health care machinery, optional Income tax exemption become a point of discussion among the industry.

Insurance industry has always been a push business in India and making underwriting profits remains the utmost aim for most of the insurance companies today. Income tax exemption for Health & Life insurance policies was always a biggest sales pitch for all both private & public sector insurers. In fact, **for years the last quarter (JFM) sales of Health & life insurance policies were highest because of the tax filling deadlines of 31st March.** Long queues of people at private insurers during the month of March for buying insurance policies was not uncommon. online traffic is also maximum during this time. Under section 80C & 80D Premium paid for insurance up to maximum of Rs. 1.5 lakh & Rs.1 lakh for life & health insurance respectively was available for tax deduction so far.

Making the Income tax exemption optional in the budget 2020 in Feb 20 raised a strong point of discussion among the industry. Result of this study also shows varied opinions on the same. The impact is sure to be felt but for good or bad is the bigger question that remain unanswered. Right now, the impact can be transitory, but the companies must plan and make **alternate strategies** combat the change.

Government of India is no doubt taking measures to strengthen the industry. Making Income tax exemption optional, might be a long-term strategy For the Government, as Finance minister also quoted in Budget 2020 that Insurance cannot be looked only a tax saving tool, rather it should be looked as risk transfer tool. The Industry might take a while to adjust to the changes, but the long-term impact is what one should look forward to. **LIC IPO, merger of Public General insurers, increased FDI in intermediaries** together will have a bigger impact than the optional tax regime to the insurance industry in India.

This study helps capture the expectations of the industry and support required from the government policies in the context of optional tax regime. Study also attempts to find the direct effect of the changes proposed in tax exemption regime to the industry. Primarily the main intention of the government & Insurance industry remains the same, i.e to have a long sustaining growth with value proposition to the customer. It is equally important to have industry ready for the changes and government ready to extend the helping hand wherever required. Eventually the changes should push the industry to become an inseparable part of the growing Indian economy.

Review of Literature

(Vogel, 1980) As per the study, with tax subsidies it results in the purchase of more comprehensive health insurance among the public. Without subsidies also the sale of health insurance will continue, however the policies demanded would be not so comprehensive. one insight clearly mentioned in the study tells the

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direct influence of subsidies and the type of health insurance policies demanded in general.

(H.Weinberg*, 1987) In this study, it is estimated that if complete elimination of the favourable tax treatment of employer contribution to health insurance would reduce the demand for employer sponsored health insurance by 16-27% and overall demand for medical services less than 10%. This study also shows that subsidy provided on the employer sponsored health insurance promotes over insurance, excess demand for healthcare and exponential growth in medical care sector.

(Newman, 2002) Study discusses the difference in the subsidy provided to various income groups and how the treatment of subsidy is different for a employed person from a self employed person. This study brings a very important element of the actual impact of the subsidies in various income groups. Subsidies should bring quality healthcare for all the people irrespective of the employment status.

(Gruber, 2001) In this study a point that increased tax subsidy increases private insurance coverages more than the public insurance is brought out. One more important point brought in the study mentions higher subsidies should be provided to the uninsured than the already insured person.

(Jr., 2000). the author emphasises that the intention of government providing tax concession is promote some activities like insurance, in India where penetration is so low for insurance, Tax exemption is a clear push from the government, however it is also mentioned that subsidies can lead to increased national savings and savings in turn can be utilised for better resource allocation by private sector and in turn results in economic growth.

(Gladys Matundura Oyaro, 2008) This study emphasised the effect of capital budgeting in decision-making process. The capital budgeting will result in generation of more capital needed for company operations in the form of retained earnings, which will consequently be led to the pouring in of additional capital investments from new investors. Insight one can draw from this study is that a positive rating gives investors' confidence in company's ability to manage operations and pay claims with ease.

(Mathauer, 2016) In this study, author emphasises on the vulnerable groups of the society. It is also found that in all countries vulnerable groups are fully exempted from paying contributions. But this also highlights another important point, that the long run profitability of industry is badly hit if complete contribution is exempted from vulnerable groups.

(Groot, 2019) This study mentions if number of tailored policies is increased, it would in turn increase the positive perception, awareness of National Health Insurance schemes. In catastrophic cases, reduced number of enrolments would increase the coverage and reduced out of pocket expense. This study relates to the relevance of customization of insurance products available in the current market.

(Sampath Sanjeewa Weedige1, 2019) finding of this study is very interesting, it says that perception of insured and uninsured about insurance are significantly different. It may be in terms of Insurance awareness, trust and value of insurance. Study also underlines that difficulty in getting an uninsured person are more than cross selling an existing insured person.

Research Methodology

For the purpose of the study, quantitively method was used to collect the data. Primary data was collected with a help of questionnaire. Questionnaire consisted of both multiple choice and descriptive question. Multiple questions were rated using Likert scale. Sample selected were industry experts from insurance industry with average experience of more than 10 years in the industry. Survey responses were collected from experts of private & public insurance companies, TPA, brokers & insurance analyst's along with retired insurance professionals. Out of 250 people contacted 36 responses were collected successfully.

The results of the Survey were then analysed with the help of Chi Square test of independence. The Test was conducted to find the similarity between industry opinion on New Income tax regime. And it was found that calculated value is less than critical test value, null hypothesis is accepted. We conclude that there is a significant difference in the opinion about new Tax regime and different players of insurance sector.

HO: There is no difference in the opinion about new tax regime amongst players of Insurance Industry.

Industry Players	**Observed -change is favourable**	**Observed -change is not favourable**	**Observed - Total**	**Expected-change is favourable**	**Expected-change is not favourable**	**Chi-square calculation**	
Agents, Brokers and TPA	5	3	8	3.53	4.94	0.61	0.76
Industry veteran and trainers	5	8	11	4.85	6.79	0.00	0.21
Insurance Company	5	10	15	6.62	9.26	0.40	0.06
Grand Total	**15**	**21**	**34**	**15**	**21**	**1.01**	**1.03**
Degree of freedom:					2.00		**2.05**
Level of significance:					0.95		
Calculated value:							**5.99**

Findings of the study

One of the open-ended questions in the survey asked from the experts was "What should companies do to reduce the gap between industry offering and customer expectation in the industry." The responses received depicted emphasis on GST, Health regulations, IRDAI Role, Advanced technology, Reduced Premium etc. as the game changers to reduce the gap between the customer expectation & industry offering. The image shows the common keywords in recommendation provided by experts.

Less than half of the surveyed industry leaders think that the budget need not be relooked upon. This percentage of industry experts from insurance companies inclined towards the modification in the current fiscal policies is found to be highest. As depicted in figure 1. below for Third Party Administrators, 100% of the surveyed sample voted for the revised tax regime.

The last quarter sales the so called JFM (Jan, Feb & March) for the insurance industry is the most important quarter before the year end closure. Impact of the new Regime on the industry has received a mixed reaction with almost 50 % voting in favour (as shown in figure 2). But other half is of the opinion that effect will not reduce the number of policies sold but the Coverages demanded will have an impact. Fig.3 shows the reaction of the experts on the fact that industry has to resort to new and alternate means to combat the revised tax regime. A whooping 78% agree to this.

Travel & health & Home Insurance business remains unaffected even after the tax Regime is what the industry feels (Although 25 % of the surveyed members were neutral to the fact, however more than 50% of the surveyed experts believe that the business for other general insurance sector remains unchanged.

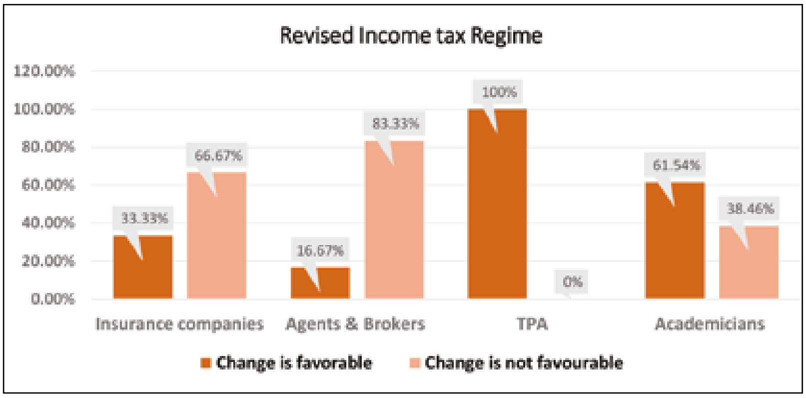

Figure 1 (Source – Primary Data)

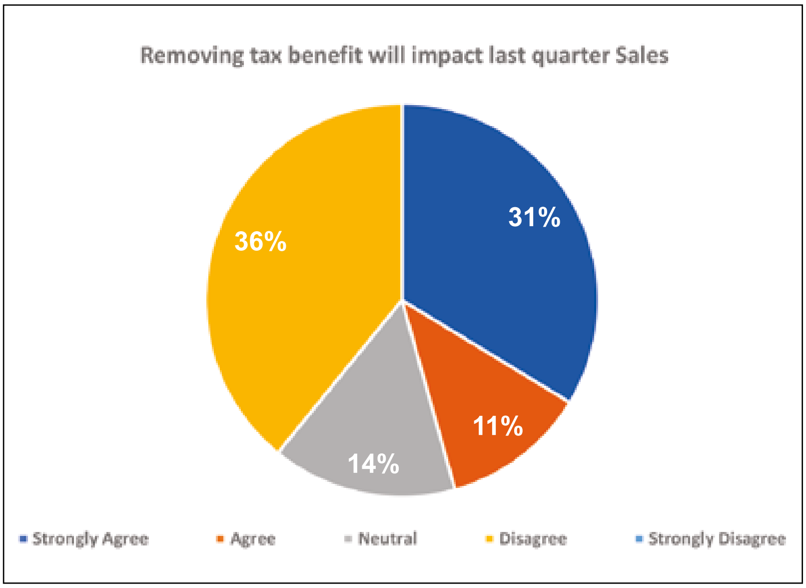

Figure 2 (Source – Primary Data)

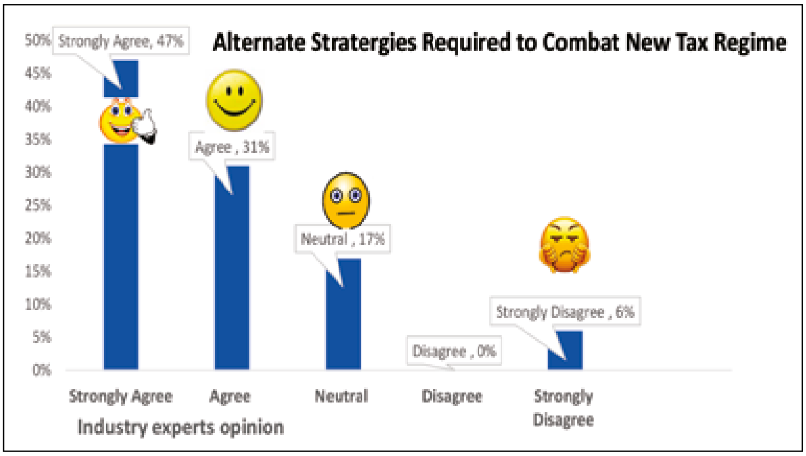

Figure 3 (Source – Primary Data)

Developing Road Map – Areas to Focus

Findings of the survey brought lot of recommendations from the insurance experts, few of the most common ones are brought down and mentioned below:

1. GST removal
2. IRDAI Role
3. Increased awareness
4. Long term policies
5. Tax break to continue with increased exemption under 80 C & 80 D.
6. Special treatment to Senior citizen

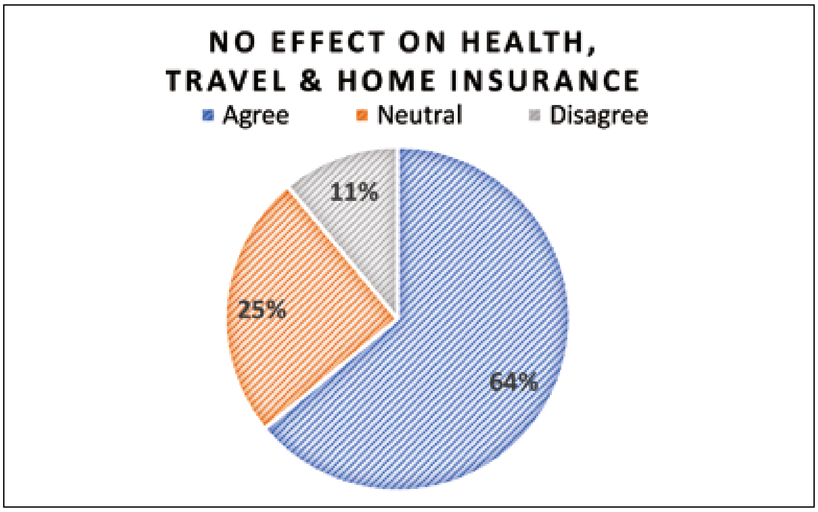

Figure 4 (Source - primary data)

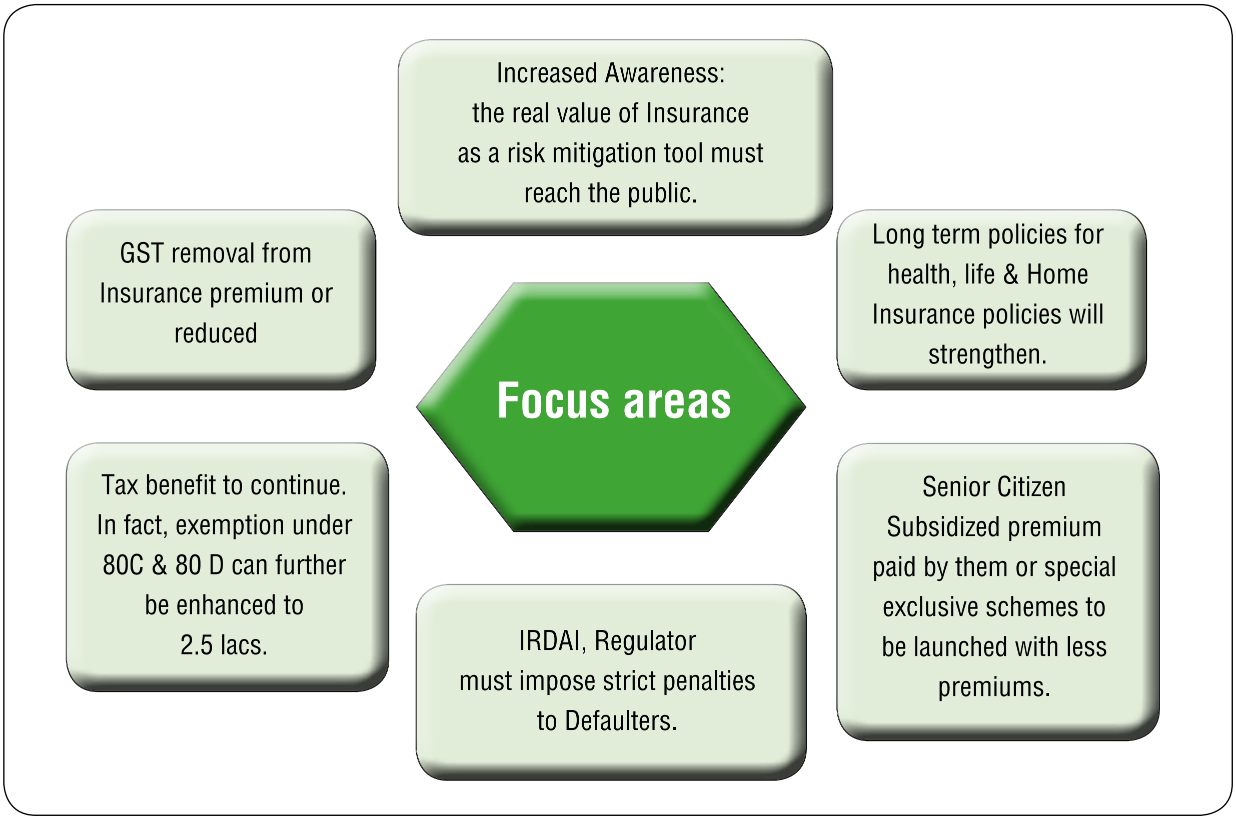

Figure 5 (Source - primary data)

Conclusion

Findings of the study underlines that income tax exemption is a necessary push to increase the penetration of insurance in India. Making tax exemption optional, will impact the last quarter sales for insurance companies on health & life insurance policies adversely. However, other general insurance policies might remain unaffected by the new tax regime. The number of policies might not be drastically affected but the coverages demanded will not be comprehensive.

Few of the important findings of the study concludes that if industry must grow at the required rate, It must accept act on the feedbacks received from the industry experts:

1) Most of the surveyed experts believe that pricing still rules the Indian market. Low Premium products with greater simplicity and transparency with least exclusions needs to become part of the offering. Most of the surveyed experts believe that pricing still rules the Indian market.
2) Increased customer awareness can make the industry from being a push industry to a pull industry.
3) Technology (AI or machine learning, etc) is the only smartest tool to increase the penetration. More than 85% of the experts believe that Health insurance will outshine motor insurance soon.

Recommendation

Based on the responses and comments received, we infer following recommendation to each of the industry Stake holders:

For the Policy holders: Insurance is much beyond being a mere a tax saving tool, its relevance lies in the amount of penetration and the **right amount of sum insured with proper coverages.** Buyers need to understand and discuss well before getting into a contract. It is very easy to buy insurance today but it is more important to buy the right insurance from a right channel. The real value of insurance lies in the right coverages and the right price. Price cannot be the only factor in deciding the cover. Insurance is a tool for Risk Transfer and value is well appreciated by the person who has claimed insurance even once in lifetime. The Right coverage and the right sum insured cannot be ignored in any case.

For the Industry: Product is the king, it needs to be simplified to the extent possible and made accessible like buying any other commodity from a grocery shop. Especially for the health industry the need to have disease specific covers are required. Increased awareness with better advertising strategy just like AFMI industry need to be in place. Improved TAT's and increased use of technology interface like AI & Machine learning at each stage of policy life cycle.

For the Regulator: Real & Stringent penalties for the Defaulters will help restore the trust of the public. Need based product needs to be promoted more. Mis selling must be completely stopped. Hospital network should be under strict audit for better claims management. Collaboration between private & public players should be such that they work together rather than competing. Multiple mandates issuance should be restrained

For the Government: The real outcome of the budget is a farfetched goal, however instead of taking away the entire exemption, it should be balanced by some other moves. Senior citizen premium can be either subsidized or reduced. GST can be either removed from the Insurance premium paid or reduced slab for the premium paid. More focus on vulnerable groups of the society with various scheme. Increasing FDI for the industry will have multiple players compete and bring healthy competition for the end user benefit.

For the Distribution partners: Real value of insurance lies in right consulting, mis selling of insurance must be intentionally restrained. Consultative selling along with pre claims awareness would strengthen the trust of customers. The long-term policies need to be explained well to the public.

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Property Insurance Pricing Model in the Indian Market

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Property insurance is an important component in modern economy which provides home owners and business owners with protection against losses to their buildings and the properties within. Property is valuable assets, built up by businesses and individuals. A lot of resources are utilized in building assets and various assets are put into use for further generation of wealth and other productive uses. The protection of physical assets worldwide is a challenge and particularly for resource starved country like India, this is of paramount importance.

Indian Non Life Insurance Scenario

India presently ranks 15th in the world in terms of non life insurance markets and accounts for only about 1% of the non life insurance premium underwritten globally. The overall insurance penetration levels are significantly low in India particularly in the non life segment. As per the IRDA report (2017-18), the non life insurance penetration is about 0.93% against the global average of about 4%. Thus India is a highly underpenetrated country in terms of insurance and the trend is not different for property and casualty insurance. With the growth of the country, the need for increasing insurance awareness, penetration and ecosystem to support growth of insurance business is becoming an immediate necessity. The growth of housing, construction, infrastructure, agricultural manufacturing, and commercial set up calls for the growth of the property and casualty segments.

India is also exposed to huge variations and vagaries of weather, catastrophic perils, natural disasters, etc. Terrorism is also one of the dangers that India faces.

India has the potential to be one of the major markets for property insurance over time.

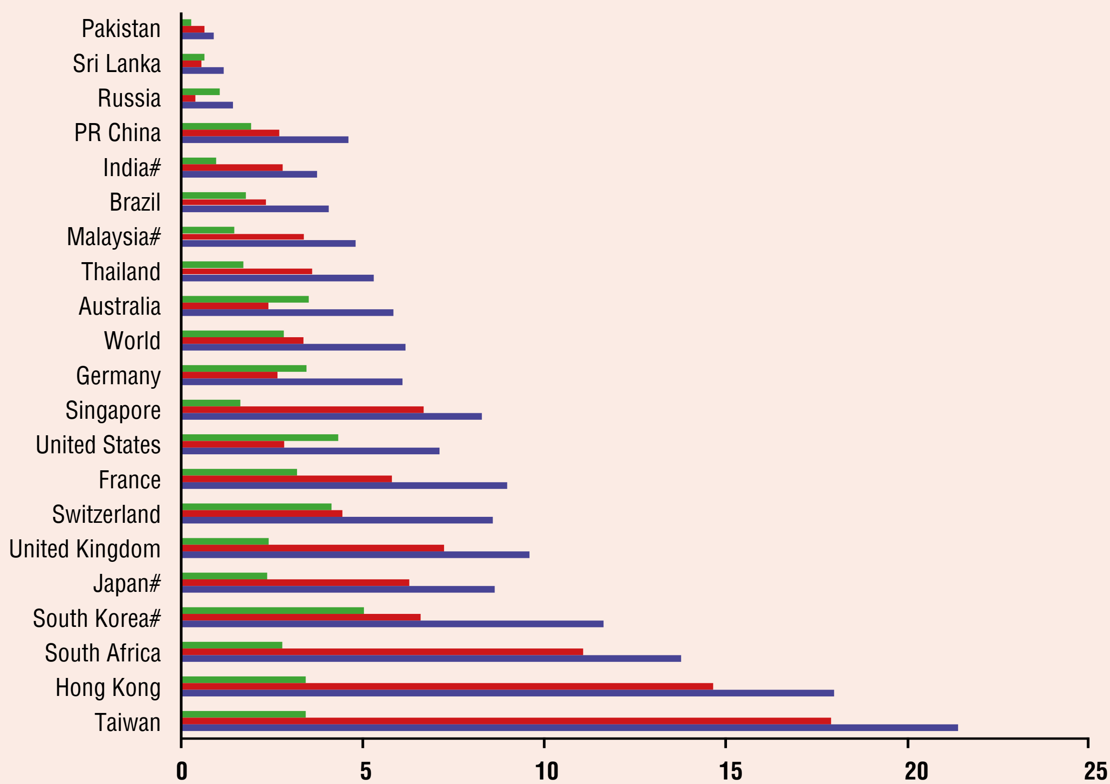
TABLE 1.6 - REGION-WISE LIFE AND NON-LIFE INSURANCE PREMIUM 2017

(Premium in USO Billions)

Region/Country	Life	Non-Life	Total
Advanced markets	2059.48	1760.16	3819.64
	(53.92)	(46.08)	(100.00)
Emerging markets	597.79	474.26	1072.05
	(55.76)	(44.24)	(100.00)
Asia	1043.69	547.00	1590.69
	(65.61)	(34.39)	(100.00)
India	73.24	24.76	98.00
	(74.73)	(25.27)	(100.00)
World	2657.27	2234.42	489 1.69
	(54.32)	(45.68)	(100.00)

Source: Swiss Re, Sigma 3/2018 *Note: Figures in brackets indcate share of the segment in percent.*

CHART I.2: INSURANCE PENETRATION IN SELECT COUNTRIES - 2017



Source: Swiss Re, Sigma No. 3/2018. Date is in Percent.
 # Data relates to Financial Year

Property Insurance Business in India

Around 60% of the Indian subcontinent landmass is vulnerable to earthquakes and other natural catastrophes, and at least 38 Indian cities lie in high-risk seismic zone. Further, most Indian cities are densely populated and do not adhere to best architectural layout standards. Also, a majority of both residential and commercial premises do not comply with earthquake and flood resistance safety guidelines. These aspects make them highly vulnerable to natural and man-made perils.

In India, 7% of the total premium in non life segment is of property insurance. The Indian market is in a very nascent stage in comparison to the global insurance market for property and casualty insurance. Even the top industrialized Indian cities are ranked very down globally and are at the lower end of emerging markets:

Pricing of Operational risks

While we had the tariff for operational risk, the detariffing of Indian insurance market has left the market to rate risks according to the merit of the risk and prudence of the underwriters. Focus on growth by the insurers across the industry led to higher bargaining power of the intermediaries and limited control on the claims cost. This has led to worsening of the profitability of the fire line of business and Reduction in discounting by insurers to improve segment profitability.

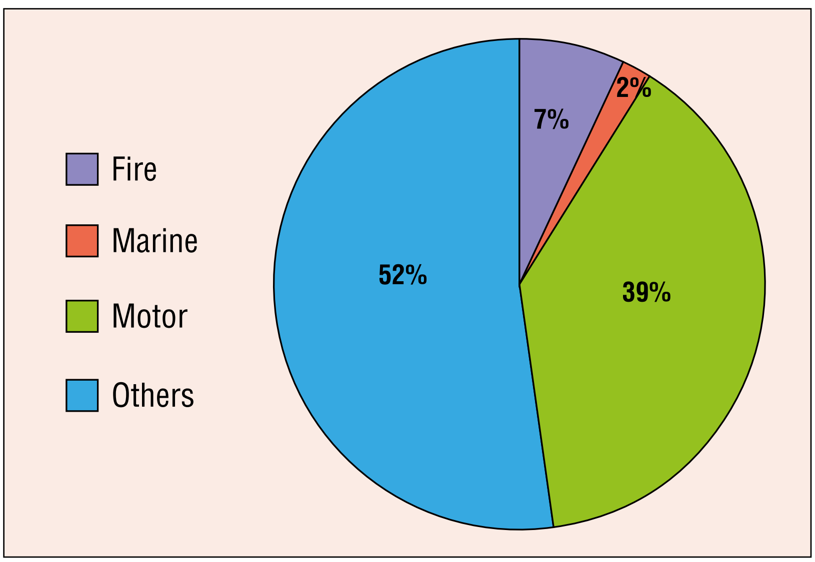
Pricing for Catastrophe Exposure

The CAT losses are rated in India by the Natural Catastrophe (Nat Cat) rates prescribed by market agreement based on the loss experience and seismic, flood mapping and other exposure evaluations.

Terrorism rating

Initiatives by Indian non-life insurers in 2002

- Response to hardening of international market for terrorism cover post 9/11
- Entire terrorism risk on Property Insurance policies written by all Companies is reinsured by all Pool members
- All non-life insurance companies operating in India are members of the Pool. Present strength is 21
- GIC Re is the Manager of Pool
- Terms of cover, premium rates, deductibles are determined by Pool Underwriting Committee



> Around 60% of the Indian subcontinent landmass is vulnerable to earthquakes and other natural catastrophes, and at least 38 Indian cities lie in high-risk seismic zone. Further, most Indian cities are densely populated and do not adhere to best architectural layout standards. Also, a majority of both residential and commercial premises do not comply with earthquake and flood resistance safety guidelines.

International Rating Practices

In property insurance, a contract often provides the policy holder with the protection against damages to the insured properties that arise from a variety of perils. Internationally, the pricing is based on a multivariate framework for pricing property insurance contracts with multi perils coverage in a longitudinal context.

Claims and profitability – India and global experience

P&C profitability typically fluctuates around the cost of capital. Profitability in P&C insurance is dependent on the capital market environment, as investment income continues to account for a much larger portion of overall profit than technical profitability in mature markets. On the other hand, in emerging markets like India, technical profitability accounts for a much higher share of profits.

Price Correction in the Indian Property Insurance Market

Insurance is a service industry. The service has got tangible and intangible aspects and so also does insurance. The tangible aspects here can be considered as explicit factors like Pricing, claim settlement ratio, the GWP of the company, solvency ratio, etc whereas the intangible factors are like brand, market perception, product innovation, competency and skill level of the employees, etc.

Before liberalization of the market, the Indian insurance primarily operated on a monopolistic model. There were insurance companies owned by the Central Government only. The pricing

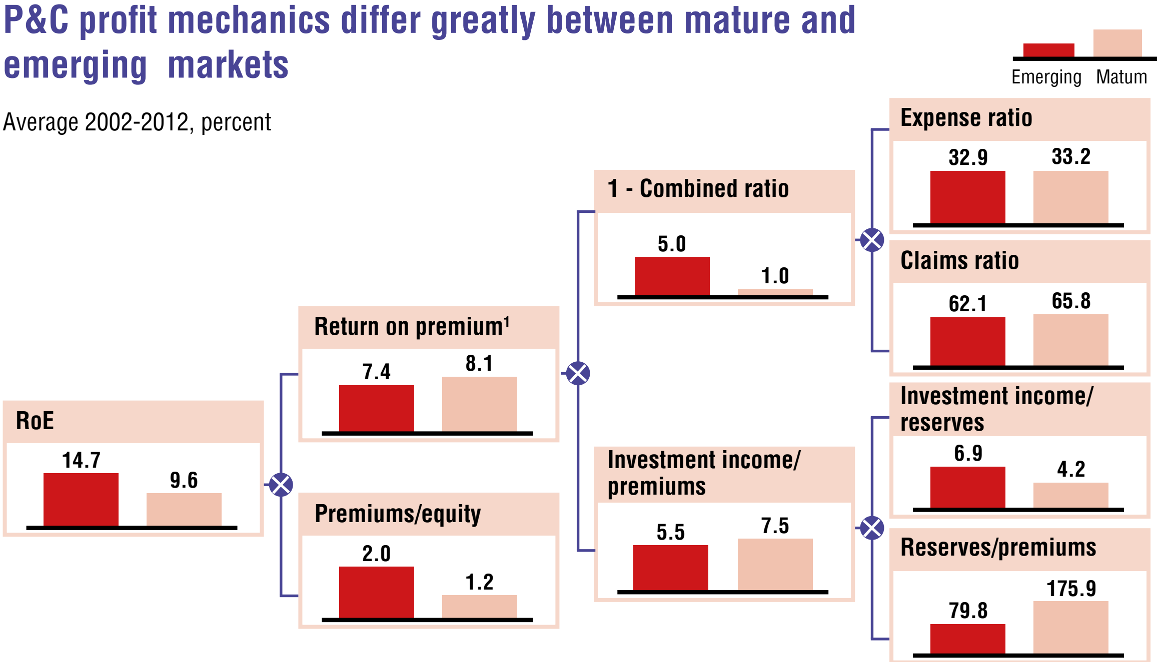
INCURRED CLAIMS RATIO: GENERAL AND HEALTH INSURERS (in percent)

Segment	Public Sector Insurer		Private Sector Insurer		Standalone Health Insurer		Specialised Insurer		Total	
	2016-17	2017-18	2016-17	2017-18	2016-17	2017-18	2016-17	2017-18	2016-17	2017-18
Fire	91.4	91.31	52.37	47.19	NA	NA	NA	NA	84.38	82.35
Health	120.15	109.86	74.7	71.32	56.47	59.58	NA	NA	101.05	92.21
Marine	74.96	64.06	75.01	66.93	NA	NA	NA	NA	74.98	65.30
Motor	93.48	89.48	83.00	77.77	NA	NA	NA	NA	88.17	83.45
Others	67.89	64.65	70.27	76.95	NA	NA	120.22	112.95	81.91	78.90
Total	100.02	93.73	79.1	75.46	56.47	59.58	120.22	112.95	90.91	85.26

Note: Health includes Personal Accident and Travel Insurance NA- Not Applicable
Note: Reclassification/Regrouping in the previous year's figures, if any, by the insurer has not been considered.

P&C profit mechanics differ greatly between mature and emerging markets

Average 2002-2012, percent



1 Discrepancy explained by calculation of expense ratio (expenses/net premiums written).All other ratios are a function of net premiums eamed

SOURCE: McKinsey Global Profit Pools

was regulated as per tariff and there was not much variation on either tangible or intangible aspects.

But after opening of the market to private players and then further detarrification of the market, the monopolistic model broke down. Many private players opened shop and moreover many foreign players peeped in seeing the potential of the huge Indian market. But while it was expected that the opening of such an important industry would increase penetration, product innovation, technological knowhow and above all mass awareness about Insurance in the Indian market, it was found that the desired results were not achieved to that extent except one of a price war and competition among some 25-30 odd players in the Indian General Insurance market which can be considered a natural corollary of a market with a large number of players. Although the gross GWP increased manifold, but the penetration ratio remained at sub 1% level for the General Insurance industry.

However, it has turned out to be good for the customers in some of the segments particularly for the corporate customers. They slowly developed huge bargaining power due to so many players looking to pick up the big size premium of potentially large clients. So the customers in the corporate sector started having a win – win situation on almost all lines of business particularly the Fire or property insurance business. The insurance budget outgo for the corporate clients shrank by astronomical levels. As a result the traditionally profitable line of Property insurance business started becoming loss making for most of the property underwriters. The retail lines which are considered profitable and less price sensitive did not grow that much to offset the losses suffered in the corporate businesses.

In property insurance, pricing can be primarily of three types – Claim based, Risk based and Market based or an optimization of these three types of pricing. But after liberalization, the highly competitive Indian property insurance market primarily turned to Market based pricing. However, it was expected that with passage of time which is now about 20 years since opening of the market, the market would mature and slowly turn to a risk based pricing model with increased product innovation, growing technological prowess, etc. But in reality that never happened. Unfortunately, almost none of the private sector insurers are making underwriting profit even after two decades of opening while there should be some break even happening after 10-15 years as per global trends. Of course there are other factors apart from pricing in the form of leakages like cost of acquisition, brokerage, management expenses, etc. In the insurance industry the fortune of the insurers is inflicted upon the reinsurers also, and hence the reinsurers particularly the sovereign reinsurer General Insurance Corporation of India is sharing the fate of the insurers by making losses in the property line.

Hence, there was no other option but the reinsurer to impose a claim based model of pricing upon the insurers to follow. The presently mandated IIB (Insurance Information Bureau) rates are a step towards that direction of somewhat disciplining the market by bringing in the claim based pricing model. Considering the present immature nature of the Indian property insurance market with prevalent thin pricing, probably this was the only resort for the reinsurers to step in with this pricing mechanism.

Of course this has caused real issue for the corporate clients whose property insurance budget has skyrocketed manifold. So this was nothing but a vicious cycle where losses in one industry particularly the enabling industries like insurance has to be once again passed on to the clients. This is true of the cellular service industry where a tariff war threw the companies out of gear and is calling for consolidation of the industry that would eventually push for fewer players and the price offered to customers may again rise. So, it is a fact of life that is quite true for insurance as well, that is if we do not discipline ourselves, the circumstances would discipline us. There is some balancing to take place somewhere to reach back to the equilibrium. IJ

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Common Service Centres (CSCs) – A Digital Prodigy of Insurance in India

(A Commentary on digital insurance)

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Abstract

The economy is on the verge of a seismic, tech-driven shift. Digitization is new big thing. Digital India is dream project of the Government of India, aiming to deliver digital utility services to the rural areas of the country. The Government has formulated tech driven Common Service Centers (CSCs) to offer assisted access of e-services to citizens with a focus on enhancing e-governance. Apart from delivering essential government and public utility services, CSCs also deliver a range of social welfare schemes, financial services, education and skill development courses, healthcare, agriculture services and digital literacy. CSCs promote rural entrepreneurship and includes plethora of financially inclusive services. Insurance sector has seen a paradigm shift having implemented this new kiosk based sales channel. From motor to rural to health, the service of providing indemnity has reached to the remote zones of our country.

Keywords

Digital India, CSCs, Financial Inclusions, Insurance, Crop Insurance.

Introduction

The insurance industry is on the verge of an accelerated metamorphosis with the growing urge for digitization, pervasiveness of mobile interfaces, increasing digital data and the powerful artificial intelligence. Today, digitization has impregnated every level of the competitive landscape. People's growing reliance on digital technologies is not only reshaping customer expectations but also redefining boundaries across industries. Failing to adapt to the fast pace of digital change presents many risks, including losing ground to more agile players. Customers expect the same spontaneous and streamlined experience from their insurance providers as they do from their favorite app, search engine or online retailer. A successful digital transformation in the insurance market begins with developing a new value proposition that sets high-level aspiration amongst its consumers and targets an end-to-end digitization of the insurance product. The development of a truly customer centric insurance journey can be achieved by integrating with digital technologies and a new digital operating model. Many paths lead toward a digital transformation, but not all are successful, and pursuing all at the same time will be even less likely to succeed. An important component of a structured transformation approach is deciding not only where to implement a new digitized model but also where not to. Insurance companies must have a comprehensive strategy that would allocate right resources and attention to new aspects of the digital transformation.

Digital Insurance 2.0 in India

The reshaping of insurance in India occurred for the oncoming of the digital age bringing along, a wide array of new technologies that are or have disrupted every industry with new opportunities, including insurance. The transformation from Insurance 1.0 to Digital Insurance 2.0 reveals the onset three macro market forces, firstly, the growth of Gen-Z consumers demanding more efficient customer experiences, then comes the tech prone market boundaries to which the insurance carriers need to adapt to and the most epoch-making factor being "Technology" giving birth to new business models and having the potential to reach insurance to the remote areas in the country. Considering these, Government of India introduced its flagship programme "Digital India" with an aim to transmute India into a digital economy by 2020 with a vision to deliver digital interface and platform as a core utility to every citizen.

Common Service Centres- Delivering Kiosk Based e-Services to the rural India

Common Services Centers (CSCs) are the linchpins of the National e-Governance Plan (NeGP) approved by the Government in 2006. These Kiosks have been made instrumental in making available a plethora of G2C services including insurance to the rural and remote area in India. It is a pan-India network that regales to regional, geographic, linguistic and cultural diversity of the country, thus enabling the Government's mandate of a financially and digitally inclusive society. CSCs offer assisted access of e-services to citizens with a focus on enhancing governance, delivering essential government and public utility services, social welfare schemes, financial services, education and skill development courses, health and agriculture services and digital literacy.

In 2015, the Digital India mission aimed at disseminating at least one CSC in each of the 2.5 lakhs Gram Panchayats across the country and is not limited to function as mere service delivery points in rural India. It further aims to be a change maker and promote rural entrepreneurship and building rural capacities and livelihood. A Village Level Entrepreneur (VLE) or CSC operator is the key contributor of CSC scheme. Although content and services are important, it is the VLE's entrepreneurial ability that ensures CSCs sustainability. A good VLE is one who has strong entrepreneurial traits and social commitment, apart from financial stability.

Rural Insurance Mall - CSCs delivering financial inclusive services in India

The IRDAI, in 2013 issued guidelines and gave license for utilizing the CSC network to sell insurance products. CSCs envisaged insurance products, both life and non-life to the rural India marking the birth of a new sales channel aimed at increasing insurance penetration in rural areas. Many insurance companies including the government have launched sale and services through the common service centers (CSC) across India of insurance products. To mention a few, the Government had launched three special insurance and pension schemes for citizens, especially from the unorganized sector and marginalized communities in May 2015. VLEs were eligible for offering the three social security schemes – Pradhan Mantri Suraksha Bima Yojana (PMSBY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Atal Pension Yojana (APY) to the citizens. Non-participating, non linked variable insurance products with regular premium payment and pure

term insurance products with regular premium payment of life insurers have been approved by the IRDA. Like-wise motor insurance, personal accident insurance, cattle/ livestock insurance, farmer's package policy and fire & allied peril dwellings insurance of general insurance have been approved by the Authority too. Also, CSCs have facilitated the instant paperless Aadhar based e-KYC insurance policy generation.

The key aspects of a sustainable CSC framework include adequate and consistent resource distribution. The network of kiosks shall be well distributed and have visibility to the rural mass. All CSCs are equipped with high speed internet and power facilitates sufficient floor area and the use of e-wallets as a mode of payment gateway. For CSCs to be a success, it needs to engage and penetrate to the masses of all ages. The second factor being, simplicity of the functioning of the CSCs and the methodology used to solicit insurance products. Through Rural Authorised Persons (RAPs), acting as insurance agents, the sale and procurement of general insurance products are extended among the vicinity of the village or town that they reside in. All VLEs who qualify as RAP will be provided with a monthly income for their constant engagement regarding product awareness. This income is apart from what they receive as remuneration from selling and managing policies. The move was expected to boost the viability of the CSCs which had been struggling for viability since their inception. The third functionality factor is affordability of insurance policies giving minimum premium rates for personal accidents, two wheeler policies and rural crop policies. To consolidate the three sustainable factors, what is needed is a cluster of trustworthy intermediaries. The dynamics that hinder smooth functioning of a CSC are geographical constraints, demographical barriers and the lack of knowledge about indemnity products.

Crop Insurance Through CSC

The existing platforms, banks, insurance companies and cooperatives are not sufficient for the last mile connectivity to non-loanee farmers. Moreover, banks are not that keen to sell crop insurance policies to non-loanee farmers, while insurance companies and cooperatives have limited reach in villages. So, Government has decided to use CSC infrastructure and post offices. There are 1.75 lakh CSCs which can be used for collection and uploading of crop insurance documents at a nominal rate. IRDA has already given permission to agents and intermediaries to access the CSC portal for crop insurance. CSCs until now were being utilized for booking railway tickets, providing Aadhaar numbers and passport applications. Under the Pradhan Mantri Fasal Bima Yojna (PMFBY), until financial year 2019-2020 it was mandatory for loanee farmers to take the crop insurance policy. The government wants both loanee and non-loanee to take advantage of Pradhan Mantri Fasal Bima Yojana (PMFBY) as well as weather-based crop insurance scheme. The government has decided to use 1.75 lakh Common Service Centers (CSC) and post offices in a big way to encourage more non-loanee farmers to take up crop insurance schemes. CSC is providing Insurance products and services through Authorized Village Level Entrepreneur (VLEs).

Conclusion

Digital India is dream project of the Government of India, aiming to deliver digital utility services to the rural areas of the country. Considering these, Government of India introduced its flagship programme "Digital India" with an aim to transmute India into a digital economy by 2020. The development of a truly customer centric insurance journey can be achieved by integrating with digital technologies and a new digital operating model. Many paths lead toward a digital transformation, but not all are successful. Common Service Centers (CSCs) offers assisted access of e-services to citizens with a focus on enhancing e-governance. The key aspects of a sustainable CSC framework include adequate and consistent resource distribution, which has attained enough success already and shall see further digitization in near future. With amalgamation of social networking modules and existing E-commerce business, the network of kiosks shall see a new paradigm shift having even better resource distributed and visibility to the rural mass .CSCs promote rural entrepreneurship and includes plethora of financially inclusive services. The model has overcome the unwillingness of banks to sell crop insurance policies to non-loanee farmers, while cooperatives have limited reach in villages. So, Government has decided to use CSC infrastructure and post offices. Insurance sector has seen a paradigm shift having implemented this new kiosk based sales channel. IJ

Digital India is dream project of the Government of India, aiming to deliver digital utility services to the rural areas of the country. Considering these, Government of India introduced its flagship programme "Digital India" with an aim to transmute India into a digital economy by 2020. The development of a truly customer centric insurance journey can be achieved by integrating with digital technologies and a new digital operating model. Many paths lead toward a digital transformation, but not all are successful.

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Climate Change and Its Impact on Insurance Sector

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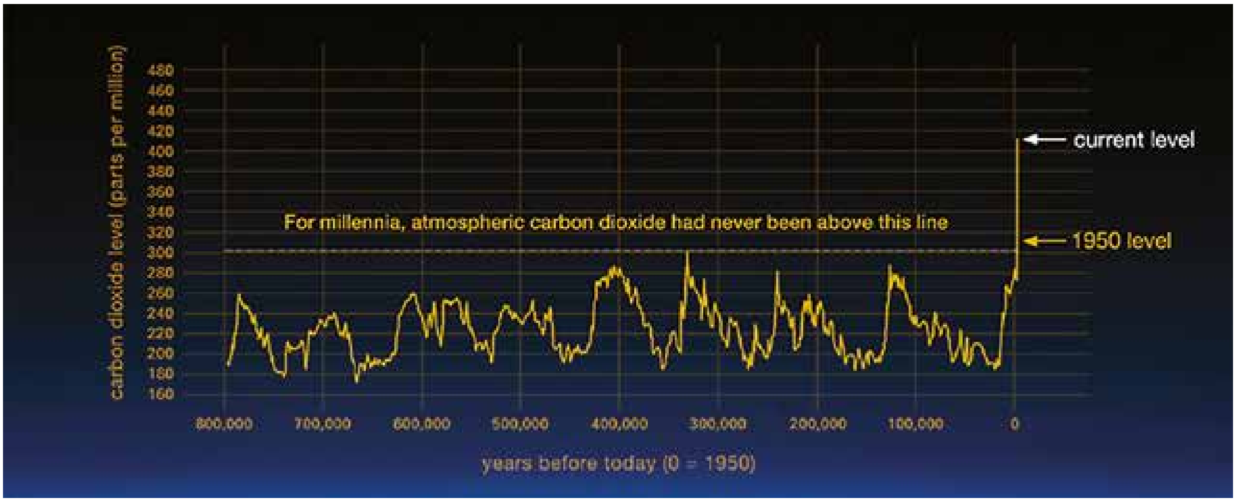
Abstract

The Earth's climate has changed throughout history. The current warming trend is of particular significance because most of it is extremely likely (greater than 95% probability) to be the result of human activity since the mid-20th century and proceeding at a rate that is unprecedented over decades to millennia. The effects of climate change in recent times are:

- Global sea level rose about 8 inches in the last century. The rate in the last two decades, however, is nearly double that of the last century and is accelerating slightly every year.
- The number of record high temperature events all over the World has been increasing, while the number of record low temperature events has been decreasing, since 1950. The whole world has also witnessed increasing numbers of intense rainfall events over the last decade.
- Climate change affects and destroys crops and food production, causes disease and death, destruction and loss of economic livelihoods and migrations of climate refugees.



Climate Change Impact Around the Globe

The year 2017 was the costliest year on record for natural catastrophe events, with $344 billion in global economic loss, of which 97 % was due to weather-related events, while insured loss estimates from natural catastrophes totalled $140 billion in 2017.

A 2018 report from the Intergovernmental Panel on Climate Change estimated that global economic damages by the year 2100 would reach $54 trillion with a 1.5-degrees Celsius of warming of the planet, $69 trillion with 2 degrees Celsius of warming and $551 trillion with 3.7 degrees Celsius of warming.

The worldwide pattern and trends of precipitation change are constructed in the same way as for temperature, although the data are considerably more limited in time and location. The mean precipitation is increased by 5%–20% over much of North America, Europe and Asia, largely increased by 20%–40% over southernmost South America and Australia and decreased by 20%–40% and higher in north and western Africa and the Sahara.

Climate change impact in India

In the last decade alone, India has faced numerous natural disasters. The tropical cyclones which took place once a year escalated to thrice a year. Along with that the country faced a huge floods in its metropolitan areas (Chennai Floods 2015, Kerala floods 2018, Kashmir floods 2014). The most hit sector from the climate change is the agriculture sector. From deficit rains in 2013-2018 to overflowing rivers in 2019, the weather pattern became quite irregular which lead to demand of basic goods to a sky rocketing price.

Since most of the goods and lives are uninsured in India, the food security is intricately linked to its intensifying climate change. The annual losses rose between the figures $9 billion and $10 billion.

In 2018-19, as many as 2,400 Indians lost their lives to extreme weather events such as floods and cyclones, according to the environment ministry. The India Meteorological Department (IMD) says these events are increasing in both frequency and intensity.

According to IMD data released by the statistics ministry, average temperatures have increased by 0.6 degrees Celsius

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(°C) between 1901-10 and 2009-18. The World Bank estimates that, if climate change continues unhindered, then average temperatures in India could reach as high as 29.1° C by the end of the century (up from 25.1° C currently) which would lead to GDP per capita could be shrunk by nearly 10% by 2050.

In industries such as construction, high temperatures can make life miserable for workers and decrease their productivity. According to the International Labour Organization, the loss in productivity by 2030 because of heat stress could be the equivalent of India losing 34 million full-time jobs (up from 15 million in 1995)—the highest among the world's most populous nations.

Claims over unexpected floods in the last decade

NAME OF THE CATASTROPHE	CAUSE OF THE CLAIM	NUMBER OF CLAIMS	CLAIM AMOUNT
Uttarakhand floods 2013	Loss of life, property, hydro energy plants and vehicles	Over 8000	INR 3500 crore
Gujarat floods 2015	Loss of crops and human lives	6.44 lakh	INR 867 crore
Chennai floods 2015	Loss of life, vehicle, property	52000	INR 5500-6000 crore
Brahmaputra floods	Loss of crop and lives	Less than 1000	INR 60 crore
Kerala floods 2018	Loss of life, crop, property, vehicles	Over 11000	INR 3200 crore
India floods 2019 (heavy monsoon)	Loss of life, crop, vehicles	Over 14000	Still processing (approx.. 800 crore & still settling)

Claims over tropical cyclone in the last decade

NAME OF THE FLOOD	AMOUNT OF DESTRUCTION CAUSED	CLAIM AMOUNT
Cyclone PHAILIN (2013)	₹260 billion	INR 4065 crore
Cyclone HUDHUD (2014)	₹219 billion	INR 4000 crore
Cyclone VARDAH (2016)	₹24 billion	INR 300 crore
Cyclone OCKHI (2017)	₹658 billion	INR 2000 crore
Cyclone GAJA (2018)	₹557 billion	INR 3430 crore
Cyclone FANI (2019)	₹241 billion	INR 3500 crore

Drought

Evidence indicates that parts of South Asia have become drier since the 1970s with an increase in the number of droughts.

Droughts have major consequences. Though there haven't been any proper covers against drought in India, prolonged droughts affect cultivation of crops which gets covered under PMFBY. In 1987 and 2002-2003, droughts affected more than half of India's crop area and led to a huge fall in crop production.

In the research conducted by World Bank, droughts could be more prevalent in north-western India which could be set off by the yield of crops dropping significantly in 2040s.

Wildfires

In the year 2019 alone, 10 major wildfires consumed 24 million acres of natural habitat and thousands of animals and humans perished along with numerous properties getting perished. Wildfires are the most deadliest forms of disasters if not contained. Over the past decade, the prevalent of wildfires increased and since its quite risky, there isn't any proper cover for the vegetation lost but the insurance companies of USA and Australia is hard hit by the prevalence of wildfire as those fires not only consumed vegetation, but also over 30000 property perished and over 200 lives claimed in the year 2018-2019.

Existing Policies Under Climate Change

Till today, there isn't any specific cover against climate change.

- Properties lying beneath the sea level and proximal to any water body can be safeguarded by purchasing appropriate property insurance.
- In order to protect oneself from the rising temperature and heat strokes, life and health insurance can be purchased.
- To safeguard the crops, PMFBY is available at nominal rates of a uniform premium of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops. In case of annual commercial and horticultural crops, the premium to be paid by farmers will be only 5% of their capital.
- As motor insurance is compulsory, all vehicles bought have to be covered for Third Party Liability under Motor Vehicles Act of 1988. For Own Damage, vehicle owners can buy appropriate policies.

No more new coal projects can be built if we are to achieve the goals of the Paris Agreement, yet there are currently 1,600 planned globally. If the human race is to safeguard itself, then it has to switch to cleaner energy. Insurance is merely a protection, not a solution.

Why can't insurance sector provide specific cover against catastrophe?

Occurrences of catastrophic events are unpredictable and if the insurance sector covers these risks, it is highly likely for this industry to run into loss. Hence, covers for such kinds of events are not widespread. Instead of creating new policies, the insurers could focus on:

- Fortifying their assessment of climate-related risks while taking long-term actions to alleviate and mitigate such exposures.
- Using a holistic approach toward managing climate-related risks by integrating them as a part of their enterprise risk management efforts.
- Taking steps to better demonstrate their climate readiness to regulators, analysts, and customers.

Conclusion

The insurance industry is a critical part of the solution. It is neither the polluter, nor the climate policy setter, but it plays a critical role as risk manager, underwriter and investor in enabling economic resilience and entrepreneurial pathways for addressing climate change goals and targets. As a good practice, Insurers and reinsurers should be encouraged to invest in low-carbon assets and divest from assets that are contributing to global warming. IJ

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Behaviour-Based-Safety towards Mission of Bharat Bane Surkshit for Corporate India: Is It Possible, How?

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Abstract

This article is based on the industrial sites of the Indian corporates and is an endeavour to address on the possibilities, approach and vision of how an ambitious Indian corporate safety movement namely Bharat Bane Surkshit (BBS) is achievable, through an understanding of a variety of key aspects such as positive outcomes of BBS implementation, Key persons behind companies who implemented BBS, BBS Projects Rating, quality of observations and spot-correction of at-risk behaviours, criteria for selection of BBS observers, dependent safety culture as a huge risk in corporate safety management. Other aspects included are the BBS organizational procedure to behaviouralize ISO 45001, focusing on the margins of implementation of BBS to optimize it, BBS content design for HODs. adopting site BBS Policy. recommendations of the 4th BBS national conference of the Forum of Behavioural Safety, 2020).

Keywords

Implementation, Behaviour based Safety, BBS, Industry, Culture, Corporate.

Introduction and Context

People in industry think that if they have received awards in quality, they are obviously best in environment and safety as well, which is an unsafe mindset, as because all these areas viz. quality, safety and environment, are integrated, yet independent functions of the organization. If not given due attention, would result into incidents leading to manpower and business loss.

BBS is a mechanism to remove unsafe behaviour from our sites and demonstrate to the neighbourhood industry that we can manage our unsafe behaviors and we can also support you do the same. Sudhir Kumar, Head EHS, Jindal Stainless expressed, “over a number of years, safety systems’ efforts tend to produce dramatic reductions in accident rates but still accident happens due to human failure. As per critical disaster happened globally, investigation report reveals, unsafe risk behaviors of workmen was also a major cause of disaster”.

Industry safety leaders must stick to the behavioural safety goals of zero at-risk behavior and prepare their corporate managers and sites/plants observers accordingly. Industry has realized that the BBS implementation is a journey, and undoubtedly the impact and success of BBS has been felt, but the corporate has to be involved a little more to put a thrust on observation and spot-correction procedure that can save from incidents, not only the human life but business as well. Corporate need to push behavioural safety in policies, practices and mindsets.

Behaviour-Based-Safety means safety in action in terms of spot-correction of at-risk behaviors by one and all at site. In BBS culture, not only EHS but everyone connects and implements safety (Geller, 2004). An adoption of an interdependent safety culture by organizations will pave the way towards the safer India or Bharat Bane Surkshit.

Objective of this Research

To initiate, reach and fulfil the mission of BBS - Bharat Bane Surkshit for corporate India towards achieving zero-harm, zero tolerance for zero unsafe behaviours to prevent losses of life and business.

Methodology

This paper is an interdisciplinary intervention of behavioural science, management and industrial safety disciplines which is part of an ongoing national longitudinal action survey in India. Thematic data analysis was used to reflect the findings as mentioned here below. Steps used in analysis were: become familiar with the data, generate themes, review themes, define themes, write-up. reading and re-reading the transcripts is most important in the thematic analysis.

The BBS programme as part of this action survey was implemented in diverse locations in India for employees of multinational companies that were trained as BBS mentors and observers during the years 2018-20. This programme included the concept and process of BBS, plant visits for observation and correction of at-risk behaviours, developing road map for implementation of BBS, developing training module for imparting training to all employees, formation and functions of BBS steering team. More than 3000 training participants included managers, heads of departments, contractors, safety officers and contractors’ staff belonging to the public and private industrial sectors such as chemicals, construction, gas, power, and steel across Indian locations.

Results and Findings

This research article covered the following salient aspects of the BBS implementation for developing an interdependent safety culture at sites.

1. Recommendations of the 4th BBS National Conference
2. Positive Outcomes of BBS implementation
3. Rating BBS Culture
4. Bharat Bane Surkshit (BBS) for Corporate India
5. Key persons behind Some Companies who implemented BBS
6. Conclusions and Implications

1. Recommendations of the 4th BBS National Conference

A national conference (Figure 1) was organized by the Forum of Behavioural Safety at SCOPE Complex, New Delhi (Forum of Behavioural Safety, 2020). Keynote speakers for the program were Dr. S P Garg-Executive Director (GAIL India Ltd.), Mr. Sushil Agrawal, CEO (Sterlite India Ltd.), Mr. S. K Awasthi, Executive Director (IOCL) and Mr. Kishwer Jawed (Tata Projects). some of the main learning points elaborated by the keynote speakers are as given below:

It was voiced that Behaviours Based Safety should be measurement based, planned on continual basis and it should be countable for making it a success in any organization. Companies today are moving towards a common goal to focus on behavior and digitalize BBS.

Mr. S P Garg: He explained that an organisation has to pass from four phases namely Reactive to Dependent to Independent and to finally Interdependent. GAIL started BBS movement in 2013 with only 65% safe behaviour and now they are at 90% safe behaviour.

Mr. S K Awasthi: Emphasize on Samskara as it comes in the children from parents, how children are groomed. Similarly, once, if safety culture is developed and maintained then frequent change in contractor worker will not affect the culture, rather their behaviour will change within no time. Public sectors are having sufficient infrastructure, but all incident reports are remaining on paper only. It has to be engraved in the heart and mind of each and every employee.

Mr. Sushil Agrawal: He has highlighted on some of the important points which are as given below:

- Top management are focusing only on profitability and financial aspects but not paying much attention on safety aspects. According to Poncelet et al (2017). when cost-cutting/profit prevails, safety suffers, people lose their lives.
- Investing in safety will pay in long run and help in improving financial aspects also.
- Reaching a level is simple but sustaining at that position is very difficult. Top Management must spend some time on safety aspect also. he also said quality and safety move together.

Kishwer jawed: He said that a true leader should demonstrate (Monkey See, Monkey Do), he also gave stress on making strong system so that the repeated violation can be addressed differently, like ICU case. He also informed that how better safety data helped Tata Projects while bidding. He proudly said that Pryagraj Airport was developed by Tata projects in record time of 11 month without any causality.

Figure 1: 4th BBS National Conference at Delhi

Speakers from oil and steel sector, construction and gas, chemical and energy segment spoke on how BBS has been implemented in their organizations and what are difficulties faced by them and what innovative steps taken by them to overcome those constraints.

This 4th BBS National Conference at Delhi (Forum of Behavioural Safety, 2020) on 17th January 2020 brought out and concluded the following facts of BBS:

1. There are several positive outcomes of BBS implementation like frequency and severity of incidents are significantly reduced from first aid to fatalities.
2. BBS is a cultural transformation from reactive/dependent to independent/interdependent safety culture.
3. BBS is Measurement of at-risk behaviours at site which indicates directions and goal setting.
4. It's a planned Organizational intervention procedure involving one and all at work areas.
5. Increase in the number of organizations implementing BBS across all sectors in the country.
6. This is the only national conference happening on BBS in the country every year.
7. BBS is one application of behavioural science to safety, there are many applications.
8. BBS is counting behaviors (safe & unsafe) like count of RBC, WBC. If these are reduced or increased significantly, effect is adverse. Similar impact is of unsafe behaviours which is almost 30% at Indian sites (Kaila, 2020).
9. Raise slogan Bharat Bane Surkshit (BBS) every time, a BBS workshop is held at site in order to create a general BBS mindset and the felt culture amongst people.
10. BBS is an ISO-45001 Compliance. Involvement of all top to bottom for daily observation and spot-correction for 5 minutes.

2. Positive Outcomes of BBS implementation

Positive results of BBS are reported below by prestigious organisations (that implemented BBS across India) such as Bilag, GAIL, HPCL, IOCL, L&T, AFCONS, Vedanta, Tata Projects, Sterlite, Privi, HCC, DCM Shriram, Dorf Ketal, Sembcorp, Galaxy Surfactants, SAIL, Jindal, Uflex, TRL, IGL, Agrocel, Torrent, Aarti, Solaris, CFCL, Bayer's CropScience, Oil India, Greentech, Sanofi-Aventis, Sabic, Piramal, Bajaj Auto, Volkswagen, Toyota, etc.

- The lead trainers are now involved in training in addition to HSE staff.
- The frequency of safety meetings has increased.
- The safety awareness and compliances have gone up.
- People are working more safely (safe behaviors increased).
- There is an increased focus on behaviour, and a structured approach is being used.
- There is a distribution of safety ownership. Interdependent Safety culture has evolved.
- Contractor involvement in safety has boosted.
- There is a shift in safety culture from reactive/dependent to independent/ interdependent.
- The frequency and severity of incidents have significantly decreased.
- Behavioural trends on an average across companies is 72% of safe behaviours; at-risk behaviour of 28%% and at-risk behaviours corrected is 2% by each observer.
- The number of safe behaviours increased from 60% to 96% in 6 months of BBS launch.
- The number of observers has also increased every month.
- The number of unsafe conditions and unsafe behaviours has drastically gone down.
- BBS has been recommended to other locations of the company with an introduction of BBS in one location.
- The management commitment for safety has gone up due to involvement.
- Safety has become a real line function due to BBS approach.
- The incident reporting is not there from locations where BBS is implemented.
- There is a significant decline in Near miss and injuries.
- There is an increased reporting of unsafe behaviours.
- Leadership involvement has increased.
- 50% reduction in incidents as depicted by AFCONS (Figure 2).

Ramakrishna Rao GMS, Corporate HSE Strategist at AFCONS emphasized that companies are continuously working striving to find new ways to improve their safety culture and reduce injuries and fatalities. One of such ways is observation-based safety programs which have been utilized for several years in the industries. This form of safety program generally aims to shift organizational safety practices from a traditional reactive, failure-oriented approach (e.g. chastising employees for making mistakes or sustaining injuries) to a proactive, achievement-oriented approach. Behaviour Based Safety is a tool to create strong safety motivation in employees, improve culture of safety, and ultimately reduce incidents and fatalities. "The very words of wisdom from our gurus SHRADHA (Determination) & SABURI (Patience) plays a great role in the sustenance of BBS - holistic approach of injury prevention program".

3. Rating BBS Culture

It is essential to rate and rank the company's ongoing BBS project activities to sustain the safety culture. Make your own review of the BBS

Figure 2: Outcomes of BBS implementation

Changes in Safety Parameters after BBS Implementation			
	Particulars	Befor BBS Training (June 2019)	After BBS Training (December 2019)
1.	Safety Violation	Approx 60 Nos per month	Approx 40 Nos per month
2.	Environmental Incidents	Approx 10 Nos per month	Approx 4 Nos per month
3.	Health and Hygiene	Approx 30 Nos per month	Approx 20 Nos per month
4.	PPE's Compliance	Approx 100 Nos per month	Approx 20 Nos per month
5.	First Aid Cases	Approx 150 Nos per month	Approx 7 Nos per month
6.	Non Conformances by Client	Approx 4 Nos per month	Approx 2 Nos per month
Reduction on an average by 50% after implementation of Behavior Based Safety			

processes for your site as per checklist below. An Example is stated here.

Mark each process below out of 10. Check, what's lacking.

1. Safety cultural shift from reactive/ dependent culture to independent/ interdependent culture (8)
2. Leadership increased involvement (7)
3. Monthly BBS meetings (8)
4. Incidents reduction (9)
5. Behavioral trends improvement (8)
6. Sharing of at-risk behaviours during TBT (7)
7. Motivational reward, recognition for observers, units (7)
8. Managements regular observation rounds (8)
9. Regular repeat BBS awareness sessions for spot-correction (7)
10. Quarterly reviews across units/ sites (8)

Total: 10x10= 100

Average Indian Site BBS Rating Score: 79

BBS Culture Rating Score of 79 means there is a large scope to focus on above areas where score is less. S K Srivastava, Chief Health & Safety Officer- Rajasthan Gas, Cairn Oil & Gas, Vedanta Limited, clarifies, "to sustain the BBS culture - the Safety culture of any organization has to be aligned with zero tolerance behavior towards unsafe acts, however correcting the unsafe behaviours by regular and persistent counselling instead of punishing and exercising consequence management at the incipient stage of unsafe behaviours by workers. To me, Safety is always a Top down approach which in the long run transforms the safety culture of an organization and finally changed to bottom up approach; wherein every employee/worker leads the safe behaviours by their own, without being monitored; thereby emphasizing buddy system and strengthening the concept of Brother to Brother Safety (BBS)".

4. Bharat Bane Surkshit (BBS) for Corporate India

For large multiple-unit organizations, the company needs a strong BBS team for regular training, monitoring and reviewing. This team in principle is a group of lead BBS trainers themselves. And fundamentally, BBS is not a consultant driven or safety department driven process.

The following considerations suggested by the industry experts for the possibility, approach and vision of Bharat Bane Surkshit are as follows:

- Involvement of people and organizations in BBS implementation philosophy
- Demonstrating case studies of successful implementations
- Spread of BBS by leaders from industry
- Making every Indian aware of the Benefits of BBS.
- By training, awareness, motivate safe behaviour and Top management involvement.
- That is the aim of BBS. We all need to add efforts towards the goal.
- Some hard steps are required such as consequences management. It is good to clarify that the BBS implementation does not replace other safety systems. hard step may be taken after a year of BBS implementation until 90% of safe behaviours have been achieved, ensuring people that the company provided enough of positive reinforcement through soft peddling of BBS approach for an year or more.
- Making spot-correction a reality with strategic approach of Top management policy that all we are doing really BBS.
- With PPP model: Public Private Partnerships: Govt institutions shall authorize Private entities in achieving the results.
- Improvement of beliefs and perceptions of BBS at sites: Change in numbers of safe behaviours by observation and spot-correction daily by trained BBS observers help organizations strengthen their understanding and beliefs that safety culture can be transformed so quickly and effectively.

5. Conclusions and Implications

According to KK Sharma, a Director, "We at DCM Shriram, believe that a safe and healthy work environment is a prerequisite for ensuring employee well-being, and adopting best EHS practices bears a direct impact on the Company's overall performance. An Implementation of behavior based safety program has provided positive rewards to change unsafe behavior at workplace, reduce job-related injuries, minimize lost production hours, and improve workplace morale - essential ingredients for creating a strong safety culture. Over the year, we have achieved more than 95% reduction in at-risk behaviours which has resulted in reduced injury incidents and impacted positively on employee behavior with visible change in their actions".

In order to move ahead towards a mission of Bharat Bane Surkshit, companies need to address and adopt the following aspects (Forum of Behavioural Safety, 2018).

a. Margins of implementation of BBS

Sandeep Sharma, Sr. Manager stated, "though it is initial stages of BBS implementation for Uflex Chemicals, but significant improvement was observed in last two years. We are in process of eliminating the unsafe behavior by 100% and promoting proactive reporting as much as possible for making our site one of the safest". Dr U K Chakrabarty, General Manager, Oil & Natural Gas Corporation Ltd. Institute of Petroleum Safety Health and Environment Management narrated his experience, "the Behaviour Based Safety (BBS) movement in industry saw quite encouraging results in terms of management commitment and increasing workers involvement in the process. However, initial euphoria of implementation of BBS programs needs to be maintained and it is a challenging task to sustain such BBS movements so far of achieving desired results of injury reduction in industries".

Organizations need to think on the margins of implementation of BBS to optimize it, and here below are certain points to consider in this direction (Lal, 2020).

- Make a news that zero-harm is achievable, and we together will make it possible;
- Promise that we will make safe working culture in and around my place;
- Encourage safe behaviour each day;
- Assure that I will create observers for spot-correction of at-risk behaviors in my work areas;
- See that BBS award is a guiding force for future reference and development of BBS at other sites
- Ensure that BBS system evolves through continued training, motivation, monitoring and reviewing the BBS implementation at sites.
- Confirm that BBS implementation continues at sites as you reflect in BBS documents.
- Organizational approach is improved to achieve the zero unsafe behaviour
- BBS observers are regularly increasing
- Implementation of BBS observers in the corporate office
- Improve the quality of selection process of observers
- Increase BBS workshops for management
- Implement reward system for observers to appreciate their observations
- Corporates shouldn't increase production with a drop of blood or injury to anyone, rather by increasing significant participation in safe behaviours mobilizing people.

> "We at DCM Shriram, believe that a safe and healthy work environment is a prerequisite for ensuring employee well-being, and adopting best EHS practices bears a direct impact on the Company's overall performance. An Implementation of behavior based safety program has provided positive rewards to change unsafe behavior at workplace, reduce job-related injuries, minimize lost production hours, and improve workplace morale - essential ingredients for creating a strong safety culture.

b. Criteria for selection of BBS observers (as practised at Torrent Power)

Chief Observers:

Steering Team; comprising Senior Management and HODs; they must act as chief observers at site level and must support area observers/ coordinators.

Lead Observers:

Line management; Engineers, Managers from all the departments are lead observers to support and encourage key observers and take feedback from them regularly.

Key Observers:

Ground level personnel; From O&M (Plant Operation and Maintenance) and non-O&M area, covering all type of activities including Horticulture, Housekeeping, Canteen, Transportation/ Drivers, Security etc. for BBS observations, spot correction and communicating feedback including that of observations of at risk activities/ behaviours.

Along with above defined roles, we have encouraged all employees to be observers for a 360⁰ effectiveness in BBS. Since BBS calls for changes in one's behavior pattern itself, there may be difficulty in convincing individuals the need for change as people in general tend to have 'resistance to change'. However, training with case studies and examples do bring in acceptance. This has been our experience. Once people get convinced that the changes, in turn, is to their advantage, the acceptance is quite fast.

c. Quality of observations/Spot-correction important, that element is missing now. May be because all are forced to do, so dedicated team for daily observation and correction is missing, all are only filling their targets set by corporate and each unit. All are fulfilling targets, no one is serious about it. That's most hurting and painful.

d. BBS organizational procedure is to behaviouralize ISO 45001

"Everyone will give 5 minutes Daily Round as a Big Brother of Safety (BBS) to achieve zero-harm targets at every site" Please display this across the board. Observation and spot-correction is the mantra. In words of a CGM (Safety & FS) Bhilai Steel Plant, "considering the present safety environment in the plant, where occurrence of accidents/ incidents has increased significantly and can be reduced only by cultural breakthrough. This is only possible, if and only if, 100% employee is involved in developing safety culture, by changing human behavior, toward safety in the plant. BBS helps comply with ISO 45001 for everyone to manage risk.

e. Dependent safety culture is a huge risk in corporate safety management as HODs don't take ownership of safe behaviours and it is left to safety department.

Ismail et al., (2011) reported that behavioural safety needed effective leadership if it was to be a successful part of the organization's safety management system. Shankar Rajagopalan - Sterling Wilson Solar Head QSHE& PI, who is Driving Change across 3 decades said, "true safety leadership is all about being safe oneself and walking the talk – but also talking the walk by way of being aware that calling out on deviations followed by on the spot corrections is what goes a long way in fixing the foundation and helps shaping the interdependent safety culture".

f. BBS Content Design for HODs (as practised at SEIL for interdependent safety culture)

According to Head HSE – SEIL, "BBS is our flagship programme and we are determined to excel in it". From our safety culture perception survey, we need to work on those 20% employee who still feel that we are in independent safety culture. If we convert them to demonstrate and believe that we are in interdependent safety culture than our major work will be done. Thereafter we must sustain it. BBS hotspots also match with hotspots of near-miss and first-aid. Last year we reduced first aid cases by 45%. This year further 50%.

The Content Design for HODs at SEIL is as below:

- Brief scientific background of BBS to scoring of behaviour checklist
- They should not question the BBS score card as it is being followed at all Oil, steel companies, Tata projects, L&T etc
- HOD to lead to take to next level.
- Analysis of the BBS scores and Hot Spots
- Prepare action plan to address top 3 hot spots.
- Have a monthly meeting with engineers and contractors
- Make daily visit to site, do one observation, talk to workers.
- Address concerns of all HODs
- Share success stories of corporates
- How to move rest of 20% employees from independent to Interdependent Safety Culture
- Why zero harm culture is possible?
- Pledge for involvement and sustaining it
- Daily 10 mins quality BBS round by HODs.
- Daily 10 mins round by everyone in the department.
- Weekly Mass Communication with the department to increase BBS awareness down the level (mentoring of observers).
- 1st week of every month BBS data analysis, HOT SPOT identification and action plan along with HSE representative.

g. Each Company Adopts a BBS Policy

BBS Policy as below was unveiled at Sembcorp Energy India Limited as well as DCM Shriram.

SITE BBS POLICY

BBS - behavior-based safety is a modern safety tool of behavioural science. our site has launched and adopted BBS policy & procedure to ensure zero unsafe behaviours to result into "zero incident, zero harm".

I am pleased to empower and give right to every employee as well as each vendor in our premises to involve and be an active BBS observer for "spot-correction of every small at-risk behaviors of your colleagues around on daily basis and value human life". Spot-correction is your quickest response to any smallest at-risk behavior being done by anyone.

I expect everyone to go back to his/her family without an even a small injury. site performance and wellbeing of individuals are closely connected. Everyone at site will observe for less than 5 minutes daily and spot-correct more than one at-risk behavior of their peers.

BBS is an integral part of our business, performance and EHS policies. Hence, with an immediate effect, Each HOD will take role and responsibility as site BBS implementer for training, implementing, reporting, reviewing, rewarding all employees, workmen till the last person in BBS mission for development of an interdependent safety culture.

All HOD shall sign and display this policy in respective departments.

Signed & Circulated by the Site Head

Dated:

To conclude

The guidelines, narratives, data reports indicate that this mission is possible to achieve, it requires continued efforts of all. The Forum of Behavioural Safety has about 170 life members to support this objective and mission. Moreover, the Forum already conducted 4 national BBS conferences to involve the corporate India towards this goal. This BBS mission has been initiated in Indian industry and getting rooted. The approach is clearer and hence the possibility of Bharat Bane Surkshit is achievable by focusing on the actions recommended in this paper. The latest researches (EHS Today, 2020) indicate that the major reason Behavior Based or Behavioral Safety is so effective, is its scientific base, and it further quotes Professor E. Scott Geller who asked audience members if they had been injured in a workplace incident and then asked, "How many [incidents] were caused by another person? An equipment failure? Your behavior?" When the majority raised their hands when he asked if their behavior caused the incident, he said, 'I rest my case,'" Geller, alumni distinguished professor at Virginia Tech and director of the Center for Applied Behavior Systems in the Department of Psychology, remembers: 'What influences behavior?' It all happens as part of the culture." And the safety culture is transformable with BBS.

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3. The case study should be well documented and well researched and must be realistic in its context and relevance.

4. Sufficient data (primary or secondary) should be incorporated within a case study for discussion and generating alternative solutions and identifying the best possible alternative. Prior approval for disclosure of information (company specific) must be taken by the author wherever applicable.

5. The issues that are raised in the case should be focused and must be effectively presented without any ambiguity or contradictions.

6. All the referenced material should be adequately and accurately cited at the end of the case.

7. Discussion questions can be provided at the end of case (optional).

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

"………."

(Title of the paper), which is our original work and not the intellectual property of any one else. I/we further declare that this paper has been submitted only to the Journal of the Insurance Institute of India and that it has not been previously published nor submitted for publication elsewhere. I/we have duly acknowledged and referenced all the sources used for this paper. I/we further authorize the editors to make necessary changes in this paper to make it suitable for publication.

I/we undertake to accept full responsibility for any misstatement regarding ownership of this article.

……………………… ………………………

(Signature Author I) (Signature author II)

Name: Name:

Date:

Place:

PROGRAM CALENDAR FOR THE PERIOD 2020-2021

SR NO	CODE	SUB CODE	PROGRAM	DATE FROM-TO	FEES FOR RESIDENTS	FEES FOR-NON RESIDENTS	DESIGNED FOR
Training Programs at Mumbai							
July 2020							
1	CP	L3	Strategies for Marketing Heads : Life	1-2 Jul., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Branch Managers / Marketing Unit Heads with 2-3 years' experience
2	CP	B2	Bancassurance	6-7 Jul., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Managers / Executives dealing with Bancassurance in Banks
3	CP	G8	Fire Insurance Claims and Fraud Control	13-14 Jul., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Middle Level Executives of General Insurance Companies
4	IP	G9	Excellence in Insurance Technical - Non Life	27 Jul., - 7 Aug., 2020	$ 1200	_	International Participants - Mid/Junior Executives working in General Insurance Companies and Brokers
August 2020							
5	CP	G10	Crop Insurance	3-4 Aug., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives looking after Rural and Microinsurance in General Insurance Companies, Brokers, Communities, Reinsurers and Banks
6	CP	L4	Finance and Accounts for Non Finance Executives - Life	5-6 Aug., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives working at Senior and Middle Management levels in Non Finance departments in Life Insurance
7	CP	C8	Customer Relationship Management	10-11 Aug., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Insurance Executive and intermediaries
8	CP	G11	Cyber Liability Insurance	11-12 Aug., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Practitioners from Insurance Companies, Brokers, Information Technology Industry and related areas and the insured

SR NO	CODE	SUB CODE	PROGRAM	DATE FROM-TO	FEES FOR RESIDENTS	FEES FOR-NON RESIDENTS	DESIGNED FOR
9	CP	G12	Special Purpose Policies	13-14 Aug., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Insurance officials looking after special purpose Policies/ Miscellaneous policies in Insurance Companies, Brokers, Surveyors
10	CP	G13	International Classification of Diseases and Health Insurance (ICD 10)	17-21 Aug., 2020	₹ 25000 + G.S.T.	₹ 18000 + G.S.T.	Officials of Insurance Companies, TPAs, Brokers
11	CP	G14	International Classification of Diseases and Health Insurance (ICD 10)	19-21 Aug., 2020	₹ 15000 + G.S.T.	₹ 10800 + G.S.T.	Medical Doctors
September 2020							
12	CP	G15	Fire Insurance Underwriting	7-8 Sep., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives from the Underwriting Department of Insurance Companies
13	CP	G16	ERM for Insurance and the role of CROs	10-11 Sep., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Chief Risk Officers, Risk Managers and those handling similar functions in the Insurance Industry
14	CP	G17	Reinsurance Cedant Empowerment Program	14-18 Sep., 2020	₹ 25000 + G.S.T.	₹ 18000 + G.S.T.	Exclusive program for business partners of GIC Re
15	CP	C9	Personal Financial Planning	21-22 Sep., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives of Insurance Companies and financial institutions
October 2020							
16	IP	L5	Excellence in Life Insurance	5-10 Oct., 2020	$ 600	_	Senior/ Middle level Executives working in Life Insurance Companies abroad
17	CP	G18	Comprehensive Port Package Policies	6-7 Oct., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Officials handling Port Policies in Insurance Companies/ Brokers/ Surveyors and various Port Authorities in India and abroad
18	CP	G19	Reinsurance Treaty	12-14 Oct., 2020	₹ 15000 + G.S.T.	₹ 10800 + G.S.T.	Participants presently working in designing or placing treaties with Reinsurance Companies or RI Brokers

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19	CP	C10	Program for Young Leaders	12-14 Oct., 2020	₹ 15000 + G.S.T.	₹ 10800 + G.S.T.	Young Managers / Executives keen to acquire leadership qualities from both General and Life Insurance Companies and intermediaries
November 2020							
20	CP	L6	Strategies for Marketing Heads : Life	2-3 Nov., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Branch Managers / Marketing Unit Heads with 2-3 years' experience
21	CP	G20	Motor Insurance Workshop	3-5 Nov., 2020	₹ 15000 + G.S.T.	₹ 10800 + G.S.T.	Executives from Insurance Companies, Broking firms/ Surveyors/ Motor dealers dealing with Motor OD and TP Insurance
22	CP	C11	Compliance Governance and Risk Management in Insurance	23-25 Nov., 2020	₹ 15000 + G.S.T.	₹ 10800 + G.S.T.	Exclusive Program for those registered for the Compliance Governance and Risk Management Course
23	CP	G21	Engineering Projects Insurance	23-25 Nov., 2020	₹ 15000 + G.S.T.	₹ 10800 + G.S.T.	Middle Level Executives from the Underwriting Department of Insurance Companies Brokers / Customers
24	CP	L7	Insurance Regulations - Life	26-27 Nov., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Officers in Senior Level and Middle Management in Life Insurance Companies
December 2020							
25	CP	G22	Liability Insurance - Financial Lines	1-2 Dec., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives of Insurance Companies, Brokers, Surveyors, Customers
26	CP	B3	Programme for Principal Officers	3-4 Dec., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Principal officers of Corporate Agents including Banks
27	CP	G23	Emerging trends in Motor Insurance Claims	4 Dec., 2020	₹ 5000 + G.S.T.	₹ 3600 + G.S.T.	Professional working in Insurance companies/ Brokers/Surveyors/Claims and Fraud depts./Motor dealers/Vehicle manufactures
28	CP	C12	Happy Retirement	7-8 Dec., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Retiring Executives of Insurance Companies
29	CP	G24	Health Insurance	8-10 Dec., 2020	₹ 15000 + G.S.T.	₹ 10800 + G.S.T.	Middle Level Executives of Third Party Administrators, Insurance Companies, Broking Firms and Hospitals

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30	CP	C13	Certified Insurance Anti Fraud Professional	15-17 Dec., 2020	₹ 15000 + G.S.T.	₹ 10800 + G.S.T.	Exclusive program for those registered for 'Certified Insurance Anti-Fraud Professional' Course
January 2021							
31	CP	G25	Marine Cargo Insurance	11-13 Jan., 2021	₹ 15000 + G.S.T.	₹ 10800 + G.S.T.	Executives dealing with Marine Cargo in Insurance Companies, Brokers and Surveyors and Insureds
32	CP	G26	Excellence in Insurance Technical - Non Life	11-22 Jan., 2021	$ 1200	_	International Participants - Mid/ Junior level Executives working in General Insurance Companies and Brokers
33	CP	L8	Finance and Accounts for Non Finance Executives - Life	18-19 Jan., 2021	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives working at Senior and Middle Management levels in Non Finance departments of Life Insurance Companies
February 2021							
34	IP	L9	Excellence in Insurance - Technical - Life	8-19 Feb., 2021	$ 1200	_	Senior and Middle level Executives of the International Life Insurance Industry
35	CP	G27	Reinsurance Cedant Empowerment Program	15-19 Feb., 2021	₹ 25000 + G.S.T.	₹ 18000 + G.S.T.	Exclusive program for business partners of GIC Re
Training Programs at Kolkata							
July 2020							
1	CP	G5	Empowering Women Executives	13-14 Jul., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Women Executives from Insurance Companies, other Government and PSU Companies
August 2020							
2	CP	G6	Management of Engineering Insurance- Focus on Project and Machinery Insurance including Business Interruption	03-04 Aug., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives from Insurance Companies, Brokers, IMF, Surveyors and Customers
3	CP	G7	Managing Grievances, RTI, Consumer and Ombudsman Cases	24-25 Aug., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives from Insurance Companies

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September 2020							
4	CP	G8	Liability Insurance, focus: Statutory and financial lines	07-08 Sep., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives from Insurance Companies, Brokers, IMFs, Surveyors and Customers
November 2020							
5	CP	G9	Managing Motor TP claims and Frauds	12-13 Oct., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives from Insurance Companies, Brokers, Surveyors, Investigators dealing with Motor TP claims
December 2020							
6	CP	G10	Managing Marine Cargo Underwriting and Claim	14-15 Dec., 2020	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives from Insurance Companies, Brokers ,IMF, Surveyors and Customers
January 2021							
7	CP	G11	Aviation Insurance	11-12 Jan., 2021	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives from Insurance Companies, Brokers, IMFs and Customers
February 2021							
8	CP	G12	Motor Own Damage Claims workshop	15-16 Feb., 2021	₹ 10000 + G.S.T.	₹ 7200 + G.S.T.	Executives from Insurance Companies, Brokers, IMFs, Surveyors dealing with Motor OD claims

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Form IV (Rule 8)

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I, Sneha Vikas Pednekar, hereby declare that the particulars given above are true to the best of my knowledge and belief.

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Sd/-
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