



Institute of Actuaries of India

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the Actuary INDIA

THE MAGAZINE OF THE INSTITUTE OF ACTUARIES OF INDIA

March 2018 Issue

Vol. X - Issue 03

Pages 56 • ₹ 20

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"A noble man's thoughts will never go in vain. - Mahatma Gandhi."

"I hold every person a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amends to help and ornament thereunto - Francis Bacon"

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Printed and Published monthly by Vinod Kumar Kuttierath, Head of the Education and Training, Institute of Actuaries of India at PRINT VISION, 75/77, 1st floor, Punjani Ind. Estate, Near Abhishek Hotel, Khopat, Thane (W) 400 601, for Institute of Actuaries of India I & T Seawoods Ltd., Plot No. R-1, Tower II, Wing F, Level 2, Unit 206, Sector 40, Seawoods Railway Station, Navi Mumbai 400 706
Email: library@actuariesindia.org. Web: www.actuariesindia.org

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ANNOUNCEMENT



29th India Fellowship Seminar

Date: 1st & 2nd June, 2018 (Friday, Saturday) | Reporting: 9:00 am on 1st June, 2018, Friday

Venue: Hotel Sea Princess, Plot No. 969, Juhu Tara Road, Near Juhu Beach, Santa Cruz West, Mumbai, Maharashtra 400049.

Phone: 022 2646 9500

Programme Type: Non-Residential

CPD Credit: 12 hours (Professional), as per APS 9 Ver 2

Participation Fee: ₹10,000 + 18 % GST (Indian Rupees Ten Thousand Only) for all members.

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Participants: The programme is open to:

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- 2) Student & Associate Members who have passed all the examinations or are close to qualifying as FIAI for fulfilling requirement for admission as FIAI.
- 3) Affiliate Members as a requirement for admission as FIAI.

Registration and Conditions: Login to your account on IAI website and Register latest by 17 April, 2018. On successful completion of registration you will receive a Receipt from Noreply@actuariesindia.org. In view of the fact that all participating students, associates & affiliates have to be assigned topics for presentation, the registration will close by 17 April, 2018 (for Students, Associates & Affiliates).

Though the registration fellow members will remain open till 25 May, 2018.

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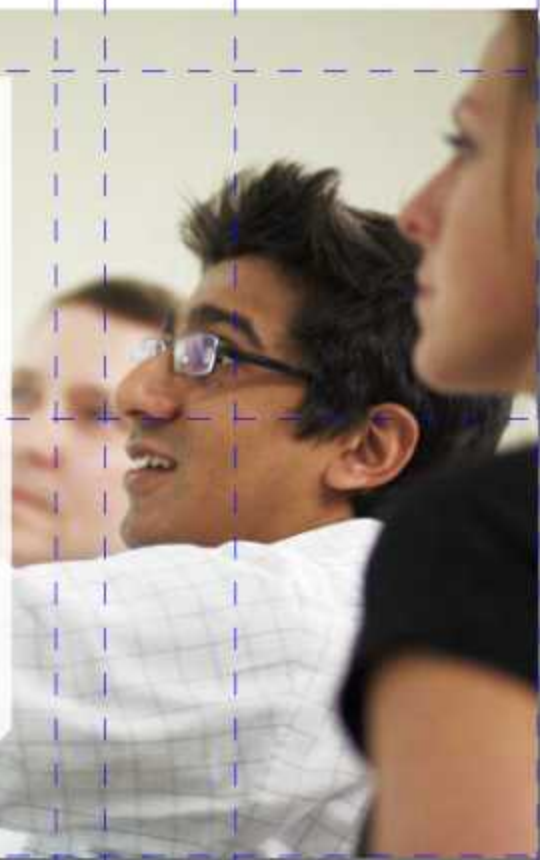
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Current issue of actuary consist of coverage of 19th GCA from our young editorial team supporting 'the Actuary India'. I must take this opportunity to thank each and every one of you who has put efforts to make the coverage of the 19th GCA in Actuary India so lively. The write up is so apt that even people who could not attend the session can get full glimpse of the event just by reading current issue of Actuary India. Inaugural and Opening ceremony has been very well penned by **Ms. Vandana Baluni**. Further, **Ms. Shivanjali Mittal** and **Ms. Kruti Malde** jointly covered all Plenary Sessions during two days. Gala Function proceedings of the eve of 1st day of GCA was covered by **Ms. Mansi Kukreja** and **Mr. Gopalakrishna Joshi**.

Various concurrent session of the GCA have been penned down by **Ms.**

Rasi Manek, Ms. Jasika Singh, Ms. Shubhanjali Gupta, Mr. Kartik Chaabra, Ms. Gayathri Khanna and Mr. Rudresh Pandit. I must thank you all for your efforts to for making contents so vivacious. We at Actuary India editorial team look forward to continued support from all writers.

From my perspective, the event was spread over a large number of topics of interest to almost everybody. There are certain topics where our budding actuaries may like to explore more are digital transformation of Insurance, role of actuaries in climate change, Credit based behavioural index, Artificial Intelligence and Analytics in Insurance.

By the time this issue of Actuary India reaches many of students will already be busy with actuarial Examinations. As you get time,

would encourage students to go through the Education curriculum for 2019 and see how it affects you. It can be noted that curriculum 2019 is meant to prepare students for opportunities available in traditional as well as wider areas of actuarial profession. There is going to be more emphasis on computer based exams along with current 3 hour paper based examinations. There will be requirement to complete the Personal and professional development apart from examinations.

This is busy season for actuaries and actuarial students being close to the end of the financial year. I wish all the best for your examination and happy year end closing.



KEYNOTE ADDRESS

19th GCA Keynote Address Chairman, IRDAI - T. S. Vijayan



Inaugurating the 19th Global Conference of Actuaries at Mumbai on 30th Jan 2018, **Mr. T S Vijayan**, Chairman, Insurance Regulatory and Development Authority of India (IRDAI) delivered the Keynote Address. A Gist of his address is published hereunder.

The significance of this professional conference is that it brings together a global network of Actuaries and as such contribute to the thinking of the industry and of the profession. Usually, Companies like to keep secrets to themselves, if possible patent them, copyright them too. So, they wouldn't like to open up with competitors. But when professionals come together like this, they freely contribute to the knowledge base and betterment of the industry. Thus, these conferences are usually the platforms where new ideas and initiatives emerge.

Faster changes taking place in the world of technology and emerging new capital standards are going to

be major challenges for the insurance industry going forward. Thus, the ideas that float with government, industry and professional communities on these challenges should be taken forward by these conferences. Further, it is not just within insurance industry but what is the impact of this profession on whole society that is what needs to be discussed.

In this two day conference, sufficient focus is given to general insurance. Currently, penetration of general insurance in India is just around 0.77% of the gross domestic product. Today, compared to many other countries, although our penetration as well as growth is good, we need to remember that a lot more needs to be covered, especially in the general insurance sphere. Given the scope and opportunities that exist in our country, the penetration can be much higher than the current level.

The Theme of the conference, is **"Actuaries, through crystal ball"**.

Astrology in India is seen as a science, which means analysing the data in a scientific manner and drawing conclusions based on such data. Similarly, Actuarial science deals with the analysis of current data and presents projections into future in a scientific manner ultimately resulting in properly assessing risks underwritten by insurers.

M/S K A Pandit & co. deserves commendation for completing 75 years in the Industry and also for completing more than 75 years in India. Industry itself has gone through several phases during this period. In 1956 upon nationalising the Life Insurance sector, Life Insurance Corporation of India came into existence. The Life Insurance Corporation of India (LIC) absorbed 245 Indian and foreign insurers in all. In 1972 the General Insurance business was nationalized. So, 75 years means pre nationalization, nationalization and opening up again with the ultimate aim being policyholder welfare as well as

growth and deeper penetration of insurance in the country.

Insurance industry in India is quiet substantial, especially life insurance. This year, insurance industry may have almost ₹ 35 lakh crore assets with around ₹ 6 lakh crore premium being collected. Considering there is less than 4% penetration in India it further indicates a huge potential for Indian insurance industry in the coming years.

The Parliament amended the Insurance Act allowing the branches of reinsurance companies to be established in India and, in line with the mandate given by Parliament, the IRDAI has granted registration to nine foreign reinsurance companies for opening branches in India. With foreign reinsurers setting up branches in India and IFSC-Gift city throwing open offshore opportunities, India would soon become a reinsurance hub.

However, protection gap is a barrier, and this gap has to be filled up by appropriate insurance products with appropriate premiums and improving overall confidence in people. Protection gap is a challenge for everyone in the industry including actuaries. When the Government announced Prime Minister's Fasal Bima Yojana, the pioneer crop insurance scheme, and 2 other insurance schemes (Prime Minister's Jeevan Jyoti Bima Yojana and Prime Minister's Suraksha Bima Yojana), the response of the people is very encouraging. On motor insurance front, we see that there are more than 50% uninsured vehicles. Even Supreme Court has taken cognizance of this. These indicate towards the protection gap which is both a challenge and an opportunity for the Industry.

Another challenging feature that is coming up in India and also globally

is that financial services are getting bundled up more and more. Pure insurance, pure banking, pure mutual funds - these things are getting changed. It is good that products are made available in tailor-made fashion to the customers. However, it is to be ensured that insurance has to stand on its own feet when it comes to charging commensurate premiums for the risk that is underwritten. It shouldn't happen that huge subsidies are given to derive short-term gains as it is not good for industry in the long run. So the challenge for the actuarial profession and industry is how to balance the situation. We need to support competition and reduction in costs but we also need to make insurance self-sustainable in long-run. This will be a challenge for the industry in future and we would depend on actuaries for efficient underwriting of risks and maintaining financial stability of insurance firms.

IRDAI has mandated that the financial stability of an insurer is to be certified by the appointed actuaries. However, even after 5, 7, 10 years, many companies are making losses and shareholders' funds are getting depleted. So, if the company is not viable even after 10 years of its operations, there is something wrong with that company. Actuaries should really sit down and some introspection should be really done by insurance industry to reduce costs and management expenses such that insurers become viable. This task is more important because, in insurance, failure of any one company will reflect on the overall well-being of the whole industry. Thus, the main duty of an actuary is to ensure maintenance of solvency of the insurer at all times within the domestic and international standards.

Currently, world over, insurance industry is engaged with adoption

of new reporting standards, International Financial Reporting Standards, IFRS-17. India has also committed to align with the same from 2021 and for that we have to do necessary impact study and analysis. This is the next challenge that is standing before the industry. Secondly, IRDAI is also in the process of mandating risk based capital regime. Risk based capital, Risk based supervision, IFRS, IAIS New Insurance core principles are some of the changes that are underway and contribution of actuaries along with other professionals like chartered accounts need not be emphasised in implementation of these reforms. Along with the Regulator, corporate and government bodies, actuaries will also have to work together not only to develop the new standards but also in their effective implementation.

Finance technologies and Insurance technologies have great role to play in the distribution of insurance products as well. They smoothen underwriting, claims, processing payments etc.,

Digitization is changing a number of things including how we look at risk, how we assess the risk. The challenge for the insurance profession would be to quickly adapt to the changes in the technological environment, in analysis of huge databases and in underwriting and claim management. I am sure, the Actuarial Institute and this conference will focus on all these aspects. I hope combined discussions of this conference will contribute to the betterment of the industry and well-being of the profession.



Organized by: Institute of Actuaries of India
Venue: Renaissance Mumbai Convention Centre Hotel, Mumbai
Date: 30th January 2018

They say how you start your day will determine your mood for the rest of the day. Quite aptly so, the addresses made by a number of eminent industry personalities at the Inaugural Session of the 19th Global Conference of Actuaries set the right tone for the entire conference.

Address by

Mr. Dilip Chakraborty, Chairperson - External Affairs & Research Committee, Institute of Actuaries of India;
Mr. Kailash Mittal, Chairperson - 19th GCA Organizing Group, Institute of Actuaries of India;
Mr. K. S. Gopalakrishnan, Chief Executive Officer - RGA India;
Mr. V. K. Sharma, Chairman - Life Insurance Corporation of India;
Mr. Sanjeeb Kumar, President, Institute of Actuaries of India;
Mr. T. S. Vijayan, Chairman - Insurance Regulatory and Development Authority of India;
Mr. R. Arunachalam, Vice President, Institute of Actuaries of India



At the inauguration, **Mr. Dilip Chakraborty** cordially welcomed the participants of the 19th GCA and steered the session by introducing the eminent guests on the dais. Welcome address was delivered by **Mr. Kailash Mittal**, where he touched upon the theme of the GCA "Actuaries, through the crystal ball".

This was followed by three very well-articulated addresses by **Mr. K. S. Gopalakrishnan**, **Mr. V. K. Sharma** and **Mr. Sanjeeb Kumar**. While all of them talked about the areas associated with insurance industry, the common theme was certainly to highlight the importance of actuaries and the profession in this ever-changing socio-economic environment.

Subsequent to this, the keynote address was delivered by **Mr. T. S. Vijayan**, where he stressed upon the challenges for the actuaries and the insurance industry to contribute towards the society by bridging the protection gap.

The session was concluded by **Mr. R. Arunachalam** who presented the vote of thanks.



Session Highlights

In his welcome address, **Mr. Kailash Mittal** talked about the theme of the conference which not only addressed the values created by the actuaries, but also touched upon staying relevant in current course of action. He then laid out the agenda for the two days, where the participants will witness a series of sessions focusing on diverse cutting-edge topics. He specifically mentioned about few such topics like digital transformation in insurance industry; making actuaries relevant to the society and IFRS 17. In addition to these, he pointed out to couple of Panel Discussions - one on how general insurance can be used as a tool to enhance social security and the other on mergers and acquisitions. Various changes done on the program schedule this time around were also highlighted which includes a shift from concurrent sessions to dedicated thematic discussions on various topics like data science for data driven decision making, risk management and technology disruptions. He proudly mentioned about the record number of 780 participants from different countries to make the conference really big and global, including 75 speakers and chairpersons. He ended his welcome address by thanking all the partners, the organising committee and various other key stakeholders involved in staging this prestigious event.

Mr. K. S. Gopalakrishnan started by expressing his gratitude towards the

respected industry figures on stage and at the audience. He structured his speech in two parts - first one being the close association between RGA and the Institute of Actuaries of India, while the second part was related to personal views about the changes around the world of actuaries. While speaking about long standing association with the IAI, he briefed the audience about RGA's commitment to grow the insurance business in India using the vast experience across the globe and very unique ability to offer solutions utilising data driven digital transformation efforts initiated by them. During the second part of his address, he recognised the efforts by the IRDAI in getting the growth back in life insurance industry which is visible through the growing awareness and the increased sale of protection products. According to him, the actuaries and underwriters will continue to play very important roles in the already changed digital world. He emphasised on the fact that a lot of scope for the profession will emerge in risk assessment due to the widespread applicability of digital transformations in India. He concluded with expressing his bullishness on the future full of opportunities for actuarial profession and underwriting community in India as long as they can think differently.

This was followed by a very well-presented address by **Mr. V. K. Sharma**, who started his speech in a lighter vein by appreciating the skills shown by some of the participants in

the cultural events the day before, when people usually associate actuaries with the financial and insurance sectors only. At the beginning of his speech, he drew a reference from one Sanskrit couplet to emphasise on the role of actuaries in trying to make sense of future at the dark time of uncertainty and volatility in economic conditions. It is the actuaries, who can think about the future by making sense of all the variables and still try to tell the society that stability, prosperity and future are probably lying in one particular direction. He talked about the huge potential and future of the actuarial profession along with the insurance industry in India. While doing so, he drew our attention to the pre-nationalisation days when around 245 insurance companies were present at a point in time when the population was hardly 36 Crores. He went on expressing his satisfaction through association with insurance industry where we got opportunity to serve the society and the nation, according to him, this very unique ability of the industry to sustain various stages of changes eventually strengthened the trust of the society in it. Mr. Sharma then shared the satisfactory experience of the LIC in contributing to the overall growth of the Indian economy. Even though the insurance industry has seen many ups and down, his address gave a strong feeling about the future journey of actuaries with full of hope and excitement. At the same time, he also highlighted the importance of acquiring entire range of new skill sets for the actuaries, the precious

resources of insurance industry to remain relevant and able to connect to the society in changing times. While mentioning about the shortage of actuaries within India, he also acknowledged the support and initiatives from the IAI as well as the IRDAI in developing the industry further. He concluded his address by thanking the IAI for inviting him in this forum.

The next to address the gathering was **Mr. Sanjeeb Kumar**, who extended warm welcome to the distinguished guests, dignitaries and delegates on behalf of the Institute of Actuaries of India. He expressed satisfaction in the level of participation from global actuarial community, which only re-affirmed the confidence and faith the global industry has on India. Diversity in the profile of speakers, delegates, practicing areas also found place in his speech. Addressing especially the young actuaries, he referred to the theme of the conference which aptly covers the opportunities that lie ahead. He then briefed the audience about the Institute by sharing some statistics on the membership at different categories. He went on highlighting the Institute as a net exporter of actuarial services as over 20% of the actuarial work force in India is currently working exclusively for overseas clients. Mr. Sanjeeb also spoke about the various initiatives taken by the IAI on regulatory and professional development front. He mentioned about the newly introduced Actuarial Practice Standard 33 in General and Health Insurance, and the existing APS 27 which has been strengthened further. While stressing on the Institute's commitment and priority on developing students and young actuaries, he spoke about other key initiatives like revised CoP guidelines, seminars and capacity building programs, skill development programs and coaching classes for the students. In his closing remark, he thanked the volunteers from the profession to support such initiatives.

The keynote address was delivered by **Mr. T. S. Vijayan**. He started by speaking on the significance of such conference to the actuarial profession, where he emphasised on how the collaboration, sharing of knowledge can all contribute towards development of the society and the nation. At the very beginning of his speech, he expressed his views on the insurance penetration in India and especially highlighted the importance of growth in the general insurance sphere. In similar line with Mr. V. K. Sharma, Mr. Vijayan also took us through the several phases through which the Indian insurance industry has gone in past 75 years - pre-nationalisation, nationalisation and finally opening up the insurance sector. According to him, the contribution of the actuarial profession to the industry in all these phases should be worth mentioning. He also added that the Government announced Crop insurance, Pradhan Mantri Fasal Bima Yojana and Pradhan Mantri Jeevan Jyoti Yojana are all showing that there is demand for insurance and right products like this should contribute to the growth of the sector. In order to further boost the insurance sector, the Parliament amended the Insurance Act to allow foreign reinsurers in India.

He drew everyone's attention to fill the considerable protection gap in India through appropriate insurance product and that is the challenge the actuarial profession is facing now. Talking about the other upcoming challenges for the industry, Mr. Vijayan also pointed out to the shift towards the new International Financial Reporting Standard (IFRS 17) and technological disruptions that could bring about sweeping changes to the industry which the industry should be equipped to deal

with it. Envisaging the various changes in future, he urged the actuaries to develop the right standard, take right approach which should be facilitated by the Institute. While concluding, he left us with a very pertinent thought to ponder in changing environment, whether we are satisfied with the usual conservatism or we adopt the new changes and move to future in order to contribute to the well-being of the industry, well-being of the society.

At the end of the session, **Mr. R. Arunachalam** presented the vote of thanks expressing gratitude to the speakers, delegates and sponsors of the conference.

Summary of Session

All the addresses delivered by the speakers at the inaugural session left the audience with longing for more. The speakers not only touched upon the importance of actuarial profession in India, but more importantly how they can shape up the profession for future. It is imperative for the profession to change the approach to suit the changing environment - this aspect got captured in the speeches.

Digitisation, technological disruptions are making rapid changes in our world surrounding - the actuaries need to steer their way through these changes to remain relevant and contribute to the development of the insurance industry, which in turn will contribute in the development of the society.

All the speakers made the audience well aware of the transforming insurance world so that we imbibe enough view-points to take the right step in moving towards right direction in future.

About the Author

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“Vandana Baluni is a Fellow member of the Institute of Actuaries of India. She is working with Aditya Birla Sun Life Insurance Co. Ltd as Head the Statutory Valuation and Reinsurance team of ABSLL”





Organized by: Institute of Actuaries of India
Venue: Renaissance Mumbai Convention Centre Hotel, Mumbai
Date: 30th & 31st January 2018

Session P1: Digital transformation of insurance experience

Chairperson: Ms. Marjorie Ngwenya, President, IFoA.

Presented by: Mr. Georgio Mosis, Head of Innovation Management - Asia RGAX

transforming the way insurance products and solutions are sold and bought. It focuses on three aspects - segmentation, targeting and positioning. To elaborate, segmentation can be enhanced using refined underwriting solutions and more inclusions such as impairments. Techniques such as

lifestyle data. This data can be used by the insurers while offering quotes on insurance products.

He then presented an example of an electronic toothbrush that monitors a person's brushing habits and which can be used as a rating factor for generating quotes for dental insurance. Similarly, a life or health insurer can use fitness tracker to monitor the customer's activity and provide rewards in the form of discounts on the insurance premium that the customer has to pay.

He also spoke on process innovation, which includes application of Artificial Intelligence and Machine Learning to remove frictions. The insurers can use technology to improve the claim verification and fraud detection process. For example, the medical records of a customer can be stored in an application which could include details on the number of visits to doctor or any past ailments. This can be used to verify the authenticity of the claim raised by the customer. He briefly covered the use of "Sense.ly", "Shift technology" and "Omniscience".

To conclude his session, he covered the key trends in technology which will be the way ahead for insurers worldwide such as Data and Analytics; Machine Learning; Artificial Intelligence; and Blockchain and touched upon the guidance that RGAX provides to its partners through the joint venture.



Ms. Marjorie Ngwenya initiated the session by introducing the presenter to the audience and gave a brief on the session to be covered.

Mr. Georgio Mosis started with talking about the journey through the innovations at the intersection of health, well-being, insurance and technology. The presentation mainly dealt with three areas of the emerging transformation / innovation - marketing, product and process.

Marketing innovation refers to

Micro-targeting, Cross selling, Up selling and O2O (Online to Offline) platform can be used for targeting. Positioning can be achieved by providing a holistic solution, O2O platform, and better products which will place a company in a better position against the competitor. Product innovation will enable insurers to provide a novel insurance experience to customers.

He also mentioned that data and analytics platform provide support to technology enabled services and emphasized on the use of collecting

Session P2: Becoming relevant in public interests!

Chairperson: Ms. Pournima Gupte, Member (Actuary), IRDAI.

Topic: Environmental & Climate Changes - Role of Actuaries

Presented by: Ms. Louise Pryor, Director, Callund Consulting.

Topic: Can health micro-insurance be financially sustainable?

Presented by: Mr. David Dror, Chairman & Managing Director, Micro Insurance Academy.

With the increasing climate-related risks, the Institute and Faculty of Actuaries (IFOA) has taken actions such as issuing "Risk Alert" which states that actuaries should ensure that they understand, and are clear in communicating, the extent to which they have taken account of climate-related risks in any relevant decisions, calculations or advice.

She then described the concept of Sustainable Development Goals and raised the question as to how insurers can support resilience to environmental risks. Some of the levers suggested by her were

sustainability of the health micro-insurance serving rural poor population.

Firstly, he identified the key challenges of micro-insurance that are - most farmers and most risks are uninsured notwithstanding mandating and subsidies, and negligible voluntary uptake of micro-insurance.

He then stated that many Organisation for Economic Co-operation and Development (OECD) countries have adopted the strategies of mandating and subsidizing to reach Universal Health Cover (UHC). In most other countries, these two strategies are not implemented effectively and systematically. He also highlighted that the governments cannot reach people in settings of poverty and informality, hence, there was no option other than to rely on voluntary and contributory enrolment. And, this requires creating conditions to catalyse both the demand and supply of health insurance.

He also spoke at length about Community Based Health Insurance (CBHI) and their scale and sustainability. Health insurance can be offered through bottom-up initiatives such as Mutuals, Cooperatives and Community-based Organizations. At present CBHIs are by-and-large small organizations and are usually in rural and poor areas in South Asia and Sub-Saharan Africa. The ultimate objective is voluntary and contributory uptake and the indicators could be high renewal rates, more women, more marginalized, cumulative claims ratios, among other. He then touched upon the ground structure of CBHI which includes a federation / field partner supported by co-ordination committees and claims committees.

He then emphasized on the financial sustainability of the scheme, income and expenditure of operations, operating costs and reasons for the failing. He explained that initial



Ms. Pournima Gupte introduced the speakers for the session and handed over to Ms. Louise Pryor to speak on the role of actuaries in environmental and climate changes.

Ms. Louise Pryor opened the session by listing the various global risks such as extreme weather events, cyber-attacks, terrorist attacks and unmanageable inflation.

She classified the top ten risks in terms of likelihood as well as impact and highlighted that looking at the trend of natural disasters caused by meteorological, hydrological or climatological changes it can be seen that there can be more disasters than there were in the 80s. This trend is also observable in the actuarial climate index based on the weather conditions in USA and Canada combined.

investment portfolios, financial markets, underwriting, marketing, expertise, among others. She also presented how these levers support resilience. The insurers could invest in assets that directly enhance resilience, invest in corporates whose business is to enhance resilience, use innovative funding mechanism such as Green bonds, Forest-Resilience Impact Bonds etc. The insurers may also evaluate if resilience is reflected in the premium or if lower premiums provide incentive for investment.

She concluded that environmental and climate change risks are serious and have significant long term financial implications and urged the actuaries to treat them in the same way as other risks.

After Ms. Louise Pryor, Mr. David Dror spoke on financial

years have high per capita operating cost, no contingency reserve for fluctuating claims ratio and slow enrolments which could lead to a failure of the scheme. He also showcased a prototype and gave a brief on the sustainability parameters.

In closing, he mentioned the amount of seed capital CBHIs plan to borrow, the premium income that could be mobilized for every unit of capital borrowed at inception and illustrated a robust business case for operating CBHI plans, given certain conditions.

Session P3: IFRS 17 - Implementation and challenges

Chairperson: Mr. Nishit Majmudar, CEO, Aviva.

Presented by: Mr. Andrew Rallis, MetLife Global Chief Actuary (Life side), GOSC MetLife.

was published in 2005, which is expected to be replaced by the new standard IFRS 17 from January 1, 2021.

IFRS 17 deviates from locking of assumptions prescribed by U.S. GAAP and provides current measurement of the insurance obligations. This means that the assumptions are expected to change at each reporting, especially interest rate. The standard has also redefined revenue recognition in the financial statements and profit will be recognized over the coverage period in line with delivery of insurance service.

He then elaborated the three approaches available for liability measurement, namely, General Model also known as Building Block Approach (BBA), Premium Allocation Approach (PAA) and Variable Fee Approach (VFA) which is a modification to the General Model.

contract inception for profitable contracts and amortized into the company's earning over the policy duration. The acquisition costs are part of fulfilment cash-flows and hence the CSM is computed after allowing for acquisition expenses and implicitly the acquisition costs are deferred. There will be no negative CSM for loss making contracts and any losses will be recognized immediately.

He explained that the revenue will now primarily comprise of release of CSM and release in liability held towards expected cash-flows for the period. It will no longer comprise of premiums or fees collected from policyholders.

He then stressed on the added complexity in the computation of the liability and revenue as per the IFRS 17 standard. He also presented the key observations of impact studies conducted by MetLife on their two subsidiaries - Greece and Columbia.



Mr. Nishit Majmudar began the session by introducing the presenter to the audience and talked about the developing interest of the topic in hand.

Mr. Andrew Rallis began by highlighting the importance of the actuarial profession for the society.

He stated that the project for arriving at the unified framework of accounting for insurance contracts had been started 20 years ago by the International Accounting Standards Board. An interim standard, IFRS 4,

He looked into the components of the liability under the General Model. The liability of an insurance contract will be broken down into two main components - Fulfilment cash-flows and Contractual Service Margin (CSM). The fulfilment cash-flows will be made up of unbiased estimates of future cash-flows, without margin for conservatism. These will be adjusted for time value of money and a layer of risk adjustment. The second component of liability i.e. CSM, represents the built-in profits of the insurance contracts. It will be established at

In his engaging talk, he mentioned that IFRS 17 is simply an accounting basis and it is not going to tell the amount of capital needed by the company. There will still be a need to have a solvency regulation such as Solvency II. Though, these different standards could converge to have an effective reporting.

He concluded the session by sharing his thoughts on the implementation approach taken by MetLife and key lessons learnt as part of their impact studies. He stressed on the need for a Single Repository for all finance data

including policy data, accounting data and investment data, with automated data controls and feeds to Common Modelling Platform. He highlighted that the implementation of IFRS 17 will require more granular and voluminous data. Also, the historical data will have to be archived for frequent referencing. Actuarial systems will have to be linked to the financial systems as not only liability but revenue will also be based on actuarial calculation. He pointed out that there is notable growth in membership of actuaries worldwide, especially in Asia where the growth has been 10% in past few years. Out of their top 10 exam centres, 5 are Asian cities and 16% of SOA's members are from Asia.

Session P4: General Insurance - Tool for social security

Moderator: Mr. Anurag Rastogi, Chief Actuary & Head of Retail underwriting & claims, crop, Marine & MSME, HDFC ERGO

Panel members:

Mr. B N Narasimhan, General Manager, GIC Re.

Mr. Bhargav Dasgupta, MD & CEO, ICICI Lombard General Insurance Co. Ltd.

Ms. Kalpana Sampat, CEO, Swiss Re.

Mr. Krishnamoorthy Rao, MD & CEO, Future Generali India Life Insurance Co.

Mr. R Chandrasekaran, Secretary General, General Insurance Council.

Mr. Anurag Rastogi kicked off the session by introducing the panel members and then put forth the question regarding the recent four fold growth in crop insurance business and whether the runaway growth can be seen as a runaway risk and if we are sitting on a huge risk today.

Mr. Bhargav Dasgupta then explained that the previous scheme in place was only a claim subsidy scheme whereas the Pradhan Mantri Fasal Bima Yojana (PMFBY) is a real risk transfer and has new elements of cover. The design of the scheme is to ensure that industry charges actual price of the risk cover written. He added that the risk has increased, but whether the risk has been adequately priced can be debated upon and experience will have to be studied over the coming years to decide this.

Mr. Anurag Rastogi then continued the discussion with the question that how would one compare which scheme is better from farmer's perspective - yield based scheme or weather index based scheme.

Mr. Krishnamoorthy Rao replied that farmer should evaluate which scheme provides value. Though, a possible problem could be that the scheme has not been explained appropriately to the farmer and hence, there could be instances under both the schemes that claims are under paid or over paid.

Therefore, more than the scheme it is the implementation that is crucial i.e. making the farmer aware of when and what will be paid upon the contingent event. Once this is in place, and the claim gets paid in a reasonable time frame, farmers may be satisfied.

Mr. Anurag Rastogi then requested the panel members to comment on the inefficiencies in the crop cutting measurement as PMFBY being yield based insurance would require the insurer to assess the yield of each insured farmer.

Mr. Bhargav Dasgupta responded that measurement is air surveillance based and not a physical verification as there is an operational challenge in that. If there is any disagreement between the satellite image and the real assessment for any farmer, then the company may conduct a local assessment. Effectively, the company has to agree on the merits and demerits of technology. **Mr. B N Narasimhan** also emphasized that where there is a human factor involved there will be subjectivity in the assessment. Hence, the industry should agree upon a methodology such as a sampling method and use actuarial and underwriting skills for the data cleansing process. In his opinion, using technology is the way forward and the most scientific way of assessment.

Mr. Anurag Rastogi also pointed out



the recent development of the industry being in news which states that the companies make profits whereas farmers are not even able to recover the money for their losses.

Mr. R Chandrasekaran sharing his thoughts on this stated that for crop insurance one should look at long term exposure and not the exposure of one or two seasons. Currently, there is noise about the short term premium which is collected through PMFBY. He highlighted that this point was also raised at the GST council for tax exemption. Ms. Kalpana Sampat provided further information that the year in which the high profits were seen was a bumper crop year and a wrong perception has been created.

The panel also discussed about the dependency on reinsurance especially on foreign insurers and the fact that this is being criticized.

Ms. Kalpana Sampat explained that this dependency is a good thing. Since crop insurance is heavily in the hands of the nature, if the risk is covered by national reinsurers there could be concentration of risk. Whereas through foreign reinsurers the risk is shared internationally and no single country takes a major hit and the concept of insurance works beautifully.

The panel members also touched upon topics such as premium rates being charged, the spread between the rates across states and quality of the historical data available based on which the premium rates have been derived.

Before concluding, they also touched upon the areas of Government subsidies, penetration of the industry and the need to simplify products and processes.

Session P5: M&A and IPOs in the Indian insurance

Moderator: Mr. Heerak Basu, Chief Actuary, Tata AIA Life Insurance Co. Ltd., India

Panel members:

Mr. Sandeep Bakshi, MD & CEO, ICICI Prudential Life Ins. Co.

Mr. Deepak Mittal, MD & CEO, Edelweiss Tokio Life Ins. Co.

Mr. Gopal Balachandran, CFO, ICICI Lombard General Ins. Co.

Mr. Srinivasan Parthasarathy, Chief & Appointed Actuary, HDFC Life.

Mr. Sachin Wagle, MD, Head of India Financials and India Capital markets, Morgan Stanley.

listing and hence, there has been no significant change in terms of disclosure. He also stressed that listing has not affected their strategy of long term value creation and focus on customer. As per Mr. Gopal Balachandran communicating with the new stakeholders i.e. the shareholders is the key thing now. He also expressed gratitude to the regulator in providing great support in the listing process by bringing out the required guidelines which worked out as a core input for analysts later. He briefly pointed out that there is a new asset class now for the investors.

Mr. Srinivasan Parthasarathy discussed that from business perspective there may not be a



Mr. Heerak Basu started the session by complimenting the Chairperson of the Organizing Committee of the GCA for arranging the galaxy of talent and subsequently introduced the panel members.

He then requested the panel members belonging to or connected with recently listed insurance companies to comment on how things have changed post listing for them.

Mr. Sandeep Bakshi stated the discussion by stating that ICICI Prudential Life Insurance was already complying with all the guidelines that were required post

significant change, however, from an actuarial perspective, there is lot more number crunching due to more disclosures, focus has increased on analysis and the introduction of a review process from external consultants has made things more hectic. He touched upon the fact that post listing a habit of checking stock prices more often has also been developed amongst the employees.

Mr. Sachin Wagle praised the companies for their quality standard in disclosures and stated there is high degree of satisfaction. He then discussed that monitoring a long term business like insurance on a quarterly basis is unfair on part of

the investors and companies should keep their long term vision intact. He added that teams working behind will finally start seeing the value of their ESOPs on the exchange. On a lighter note, he requested the actuarial fraternity to make understanding of the actuarial concepts simpler.

Mr. Deepak Mittal then commented on how has the environment of having listed competitors affected things for his company. He first stated the fact that even though Edelweiss Tokio Life Insurance is unlisted, it is still a part of a large listed group. He then expressed that post listing, concept of Embedded Value (EV) has gained popularity including multiple of EV, and there is curiosity for understanding Value of New Business (VNB). Listing has created some amount of external perspective. From competition point of view, he stated, there is no difference and stressed that not being pushed too much by analyst community has its advantages. He emphasized that the accounting profit and loss account hides more

than it reveals and that embedded value is definitely a better value to look at.

Mr. Heerak Basu along with the panel members then discussed on the different models used for placing a price on a stock, ways to accelerate the growth of the sector and how players can enhance margins.

Mr. Sachin Wagle spoke at length about the fact that investors do differentiate between companies and multiple of EV are reflective of the underlying performance. He highlighted that growth and projected margin are the key metrics for investors and the statement "will the company stand beyond you" must be given a thought.

Mr. Sandeep Bakshi talked about the competitive elements for the two distinct businesses - savings and protection; vastness of the opportunity for life insurance and the fact that retail distribution of life insurance far exceeds that of mutual funds. He urged that the

insurance products have to be from the customer point. He also highlighted the fact that growth is defined by each one of us. Mr. Deepak Mittal also emphasized on the importance of simplicity of the proposition and simple onboarding. Mr. Gopal Balachandran gave a quick insight on the initiatives taken by the Government including the National Health Insurance Policy. He also pointed out the scope in the penetration of property insurance.

Mr. Srinivasan Parthasarathy described the stigma attached to traditional products and stressed on the fact that product categories such as participating and annuity could also catch up. He also pointed out that non-participating savings products with embedded guarantees have a huge potential. A possible constraint could be Asset Liability Management of these products which will have to be managed.

In the end, Mr. Heerak Basu thanked the panel members for sharing their views.

Session P6: Thoughts by Mr. Hemant G Contractor, PFRDA Chairman

Chairperson: Mr. Sanjeeb Kumar, President, IAI

Speaker: Mr. Hemant G Contractor, Chairman, PFRDA.



Mr. Sanjeeb Kumar expressed his pleasure of having **Mr. Hemant Contractor** as a speaker at GCA and welcomed him to

speak about pension being a tool for social security.

Mr. Hemant Contractor started his presentation with the definition of social security and the contingencies covered under it, as identified by International Labour Organisation (ILO).

He listed out the salient features of social security which are a. mandatory or non-optional; b. Government or employer provided; c. configured through law or tax payer funded or contribution funded or employer funded or a combination of these.

He took the audience through the current principal social security laws and programs in India which are divided by the organised sector and the unorganised sector. The organised sector included "The Employees' State Insurance Act, 1948", "The Employees' Compensation Act, 1923", "Pension Fund Regulatory and Development Authority Act, 2013" etc. The unorganised sector covered programs such as National Social Assistance Program, NPS Swavalamban and Atal Pension Yojana. He also gave a brief to the gathering on the various social security schemes in India with examples and eligibility.

He spoke about the Indian pension system which is based on a multi-pillar model comprising of four pillars. Pillar 0 covers social security grant, Pillar 1 covers Government

sector employees, Pillar 2 covers occupational sector and lastly Pillar 3 covers the private sector. He gave a description of the schemes available under each pillar and their respective coverage, participation, nature of contribution, benefits, funding and governance.

He also shared the number of beneficiaries / subscribers and the Assets under Management (AUM) / expenditure on pension pillar-wise. He highlighted that 13.86% of the working population have subscribed for various pension schemes and 8.98% of the GDP is the expenditure on pension in India.

He demonstrated the structural demographic transition in India since 1971 with the help of a graph along with the projected demographic pattern up to 2050. It was to be noted that the proportion of population with age above 60 is expected to increase resulting in higher dependency on the pension income.

The challenges in providing social security were also discussed by him. These include prevalence of a huge informal sector; lack of universal social security systems; barriers to access financial services and low financial education. The challenges in providing pensions to informal sector were also touched upon. The risks involved in direct contribution (DC) pension system and risks in pension in Pay-out phase were also covered.

He concluded his talk by highlighting how PFRDA addresses pension risks i.e. by adopting an unbundled architecture, through rigorous selection of professional fund managers to tackle investment risk, by considering annuities issued by empanelled insurance companies to tackle longevity risk, and reduces reinvestment risk by allowing the withdrawal of non-annuity component in a phased manner.

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WELCOME!



WELCOME!

Ms. Jyoti Dubey has joined on 22-Feb-2018 as Examination-Executive. She is Graduate in Physics and carries 4.8 years of experience. Her hobbies are Listening Music, Learning New thing related to Excel. We welcome Jyoti to the family of Institute of Actuaries of India. She can be reached at +91 22 39686063 or jyoti@actuariesindia.org



Like each year, this year also the 2018 Actuarial Gala Function and Awards event happened on the evening of January 30, 2018 was a grand success. It was organized by the IAI in collaboration with K A Pandit and Edelweiss Tokio Life Insurance Corporation. This evening is for celebrating the growing actuarial profession and recognizing the academic achievements and qualification milestones in the field of Actuarial Science.



The event was graciously hosted by **Ms. Kashyata Bhatia** and the program started with the inaugural address by **Mr. Sanjeeb Kumar**, President, IAI. This was followed by the first vibrant cultural performance of the evening by the **Magnimus Dance Group**. They performed beautifully on the tunes of '**Ganesh Vandana**' and as Lord Ganesha is widely revered as Lord of Beginnings, a patron of arts and sciences, and the Deva of intellect and wisdom, this performance gave a perfect and auspicious start to the evening.

Post this performance, Mr. D.K. Pandit from K.A. Pandit, Consultants and Actuaries firm was invited on to the stage for a speech.



K.A. Pandit, Consultants and Actuaries is a leading and oldest actuarial consultancy firm in India. The firm completed its 75 years of operation on 1st February 2018. On this wonderful occasion of firm's Platinum Jubilee, they announced the launch of their book '**Vintage is our Vantage**' in the presence of senior Actuaries Mr. M G Diwan, Mr. P I Mujumdar, Mr. N K Parikh along with Mr. Sanjeeb Kumar, President, IAI and Marjorie Ngwenya President IFoA, UK



This was followed by a skit by students of the 'Maths Stars' project. This project is in its 8th year of operation and has been successful in providing basic education and inculcating the importance of mathematics in lives of over 2000 students belonging to economically weaker section of society. They presented a fabulous play on history of zero - 'Sunya Ki Shakti' and in this skit they emphasized on the contribution of two Indians - Aryabhata and Brahmagupta in the field of mathematics. Aryabhata is the inventor of the digit zero and Brahmagupta developed a symbol for zero. The students also reflected on the central role of zero in the field of mathematics and computer science.



This was followed by the first award segment of the evening. The first category of award was for the 19th GCA theme contest and out of the 72 entries received for this contest; **Mr. Tushar Chatterjee** won this award for suggesting the theme '**Actuaries, through the crystal ball**'.

BEST ARTICLES & REPORTAGE AWARDS FOR THE YEAR 2017

1st BEST ARTICLE AWARD
Implementing an internal model for Economic Capital
- Nasrat Kamal

2nd BEST ARTICLE AWARD
A Valuable Proposition
- Jyoti Buckle and Neha Taneja

1st BEST REPORTAGE AWARD
28th India Fellowship Seminar
- V Subbulakshmi

2nd BEST REPORTAGE AWARD
10th Seminar on Current Issues on Health Insurance
- Manish Singh

The next category of awards was for Best Article and Best Reportage in 'the Actuary India' magazine for the year 2017 (Jan - Dec). The 1st prize for best article was given to **Mr. Nasrat Kamal** for his article titled '**Implementing an Internal Model for Economic Capital**' appeared in October 2017 Actuary India issue and 2nd prize for best article was given jointly to **Ms. Jyoti Buckle** and **Ms. Neha Taneja** for their collective efforts on presenting an article titled '**A Valuable Proposition**' in September 2017 Actuary India issue. The 1st prize for best reportage in Actuary India magazine was awarded to **Ms. V. Subbulakshmi** for her reportage on '**28th Indian Fellowship Seminar**' and 2nd prize was given to **Mr. Manish Singh** for his reportage on '**10th Seminar on Current Issues in Health Insurance**'.

This was followed by another delightful cultural performance of the evening. The group performed on four different dance forms and showed how India's dance differs from place to place within the country.



The next in line was the awards for individuals scoring highest marks in Actuarial Common Entrance (ACET) held in April 2017, June 2017 and January 2018.

Then was the time for presenting academic excellence award for students securing highest marks in both the examination diet of year 2017.



As the Fellows and Associates waited for their turn to receive the certificates, it was time for last dance performance of the evening. The group gave a power packed performance on the 'Bollywood' numbers.

It was followed by Award of Certificates to Associates admitted during Feb 2017 to Jan 2018 by **Mr. R Arunachalam**, Vice President, IAI. It was an honor to witness the felicitation of **Mr. Liyaquat Khan**, Past President, IAI for completing 75 years and his exemplary contribution to the profession. This was followed by the awards to the 'Math Star' students.



Finally the most awaited award section of the evening happened. Qualifying fellows received certificates from **Mr. Sanjeeb Kumar**, President of the Institute; this is a heartening and a very proud moment for the newly qualified fellows and their families. **Mr. Dinesh Khansili**, Executive Director of IAI gave a brief vote of thanks.

The Gala Evening concluded on a very successful note followed by Cocktail and Dinner.



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 - Financial and capital projections
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**Organized by:** Institute of Actuaries of India**Venue:** Renaissance Mumbai Convention Centre Hotel, Mumbai**Date:** 30th & 31st January 2018**Session C1: Risk-aware, outcome-based investments for insurers****Chairperson:** Mr. Bikash Choudhary, AA & CRO, FGLI**Presented by:** Mr. Bruce Porteous, Investment Director - Global Insurance Solutions, Aberdeen Standard Investments

changing regulations and availability of assets via the following discussions:

- Global Insurance Regulatory Change and Modernisation - A survey was conducted in the Asia Pacific to identify and understand the long-term impacts of historically low interest rates and

Consequences

- Solvency Ratios may decrease due to risky assets, asset liability duration mismatches and guarantees.
- Market based accounting will change the shape of profit emergence, exposing loss making business and enhance transparency.



This session was about risk-aware, outcome-based investment opportunities for insurers keeping in mind global insurance regulatory changes and modernisation. There was an introduction given about insurance in Asia Pacific and how there are concerns about change in regulations which in turn affect solvency and the impending adoption of IFRS 17. In this light, it was to be discussed about the sort of investments a company should adopt so that their capital charges pertaining to investment risk decrease. Also it was concluded that actuaries and investment managers of a company have to work closely in the future to gain advantage of the

the modernisation of regulatory regimes for insurers in Asia Pacific.

- Investment implications of regulatory change

- The consequences of investing in risky assets will become transparent as accounting and solvency regimes become more risk sensitive and market based
- The challenge increases when there is a disconnect between accounting and solvency standards: as they transition from book-based to market-based regimes

- Capital, Balance Sheet and P&L

- Impact on Insurers' Investment Processes and how Actuaries will work with Investment Colleagues

- The Solvency II Prudent Person Principle will be applied; which speaks about Identifying, Measuring, Monitoring, Managing, Controlling and Reporting the risk of an asset class.
- This in turn will lead to diversification of asset holdings, restricted use of derivatives, prudent limit for off-market assets and investing with regard to liabilities.

- Real life Case Studies

- Public Credit Capital Optimisation Case Study - Managing Credit in the Context of Solvency II, Liability Aware Credit Investing: ALM considerations and Solvency II optimisation.
- Private Credit Illiquidity Premium Case Study - Private credit and the credit universe schematic, Liability Aware Credit Investing: Cash flow matching and Consistent asset sourcing to support insurer's business plan

➤ Protected Equity Case Study

It was concluded that

- Regulatory change and modernisation is driving risk transparency
- Investment process and decisions now directly impact balance sheet and P & L
 - Leading to:
 - Risk-aware, outcome-based Investment
 - "Solutions"
- Actuaries and investment teams will work together more closely and collaborate
- Insurance asset manager value-add is more than just investment performance
 - Insurance literate
 - Regulatory knowledge
 - Insurer operational capabilities
 - Leading to all round "solutions"

Thereafter there was a discussion about the adoption of RBC in India wherein the chairperson asked for advice and the speaker replied that prudent ALM may help solve investment issues. Also quantitative impact studies could be undertaken to see how Balance Sheets look under RBC and also planning well in advance. For new business, especially wealth management products sustainability and guarantee in the market is the need of the hour.

Session C4: Risk Management for steering business

Chairperson: Dr. K. Sriram, Consulting Actuary

Presented by: Mr. Tushar Chatterjee, Senior Risk Officer - VP, Swiss Re.

Being true to the topic of the session, the speaker started by showing the audience a picture of a chaotic street wherein it was the first day when people were changing from driving on the right side of the road to the left side. It would be



expected that the number of accidents rise due to the chaos and change but instead accidents reduced to 40% because people were aware and conscious. This is a beautiful analogy for Risk Management, as it enables conscious and transparent risk-taking by proactively partnering and constructively challenging stakeholders in order to facilitate business success. The sequence of the events were as under:

- Risk Management Mandate and Mission - Risk Management is a risk controlling function, to ensure that risks are fully understood and appropriately governed, correctly modelled and valued and transparently monitored and controlled. Risk Management enables the right way of risk taking and makes a difference to brand-value and business development.
- Risk Management Tools -
 - Group Risk Policy - Policies and standards in one consistent framework that establishes hierarchy, namely risk management tasks of the BoD, Risk selection criteria, risk tolerance and principles, risk taking oversight throughout the Group and for specific risk categories, method and process documentation.
 - Risk Appetite, Tolerance and Limits - managing risk appetites at all levels of the organisation via risk limits
 - Risk Capital in Business Steering - Risk tolerance

forms the basis of capital management via strategy, target setting, pricing, and planning, monitoring and performance management.

- Risk Reporting - Updates, use of dashboards, registers and reviews enable assessment.
- Risk Matrix - This enables us to understand the most
- material risk. For example the Operational Risk Matrix is used to report the most material operational risks to the EC and BOD. The speaker said that in their organisation risks are being assessed on a "residual" risk impact and an annual probability. The assessment represents the independent view of Risk Management.
- Risk Control Self-Assessment - Risk owners are responsible for development, assessing, maintaining and monitoring controls.
- Key Risk Indicators - Risk issues dictate the control related behaviour
- Key Risk Taker Assessment - Executives in core risk taking positions, who decide on business and people strategies, approve budgets, and can materially influence financial results or expose the firm to significant operational and reputational risks.

This was a very informative session on risks, their identification and management. The key takeaways for a good risk management framework are:

- Strong risk leadership and communication
- Informed risk decision taking
- Clear risk taking accountability and high risk transparency
- Empowered risk management resources and skills

It was apparent that Risk Management, Compliance and Internal Audit functions have to work together by providing questions and

Session C7: RBC and Role of CRO in a VUCA world!

Moderator: Mr. B N Rangarajan, CRO Exide Life.

Panellists: Mr. Pankaj Kumar Tewari, DGM, IRDAI.

Mr. Sunder Krishnan, CRO, Reliance Nippon Life

Mr. Sharad Ramnarayanan, AA, New India

imperative to prepare for a crisis situation. The mantra is to always Pre-Plan.

The panellists felt that RBC is more forward looking and thereby when capital is earning the highest risk adjusted return, it will pave way for an enhanced role to be undertaken by a CRO under RBC. It was the belief that everyone has to think like a risk manager and get things done. When companies get listed RBC would play

different geographies, namely Critical Illness in Hong Kong, Online Insurance in China and Diabetes Products.

The discussion of Critical Illness in Hong Kong started with some background of the market in Hong Kong for critical illness. Critical Illness is a well-established product in Hong Kong - it has been around for 30 years and is typically whole of life coverage with a limited premium payment term (10-20 years) and unlike India, disease definitions are not standardised. Companies in the market compete by adding more diseases, extending coverage for major diseases after the first claim and adding special extra benefits with perceived high customer value. This product allows multiple payments for the same disease. Thereafter a product offered by AIA Hong Kong was discussed, namely "Smart Elite Ultra" and the cover it provides, and for example, Recurring Cancer Coverage pays 100% of Sum Assured on initial diagnosis. At least 3 years after diagnosis, if any cancer is present, 100% of Sum Assured is paid again and covers the same cancer (or metastasis) or a completely unrelated cancer. Thereafter, the risks related to multiple payments for the same diseases were covered and some risk mitigation options such as, reduce premium payment period, especially if waiving premiums, maximum cash amounts for certain diseases (regardless of SA), limit coverage age for example no multiple claims after age 85 and



The session was a panel discussion to talk about Risk Based Capital in light of the impending adoption of the regime in India and the role of a CRO in a VUCA World. Let us now first understand what a VUCA world is. VUCA was an acronym coined by the American Army in Afghanistan to represent an extreme world scenario. VUCA means Vulnerability, Uncertainty, Complexity and Ambiguity. Hence the panel was discussing the fact that the world is changing and technological disruption is a driving factor of this change. Hence there are a lot of risks which will impact insurance companies. This drove the panel to discuss whether all risks can be quantified. If yes, and what are the steps that one can look at and who all in the organisation can contribute. The experienced panellists concluded that a more successful CRO is one who takes help from everybody and mitigates a collated action plan.

It was discussed that behaviour finance theory could be adopted to reduce/eliminate the bad times that a Company might face. It is always

a more important role as many analysts will use this information and share price will be more transparent. There was a consensus that "Not taking a risk is the biggest risk".

Session C11: Product Development Trends In Asia

Chairperson: Mr. GLN Sarma, CEO, Hannover Re.

Presented by: Mr. John Ferguson, Regional Actuary, Gen Re.

This session covered 3 key product development trends in Asia in



impose further conditions.

Online Insurance in China was discussed by stating that the insurance industry has doubled size in 5 years and the online insurance penetration rate increased from 0.2% to 9.2%. Thereafter, Zhong An was discussed, who is the first purely online insurer approved in China with the flagship product being return-delivery insurance on Taobao. There is also a shift in the power balance for online giants wherein Alibaba or WeChat partner with more than one traditional insurance companies to undertake insurance business. Popular online products in China are a short term medical product with a high deductible, Alipay providing free critical illness coverage to whoever qualifies by two clicks in the Alipay app and getting 1-year CI coverage without medical examination and waiting period with easy upgrades, personal accident, shipping returns and flight delay insurance.

Diabetes products are available for even those who are already diabetic with aims to encourage compliance, i.e. to encourage the policyholder to reduce HbA1c level. Thereafter, a product offered by Cigna HK called Cigna HK's Diamedic Plan - Annual Renewable was discussed which covers medical expenses of diabetes or pre-diabetes and also AIA HK's Metro Trio - Annual Renewable was discussed which covers the "three highs" - diabetes, hypertension and hyperlipidaemia. Since policy issuance is complicated and slow due to extra medical underwriting, AllLife developed a solution wherein a person can apply online for a diabetes cover with the rate quoted immediately. Thereafter, proof of HbA1c level needs to be submitted within 3 months. Herein, there is a chance of lower premiums if there is evidence of improved HbA1c.

Session C14: A Method of Calculating the Implied No-recovery Three State Transition Matrix Using Observable Population Mortality and Disability Prevalence Rates

Chairperson: Mr. Mudit Kumar, AA Bharti AXA Life Insurance Co.

Presented by: Mr. Gaurav Khemka, Senior Lecturer, Australian National University.



The motivation for the presentation was pricing and valuation of LTC contracts and aged care needs, longitudinal data and no recovery assumption i.e. once a person gets sick there is no full recovery.

The Three state model active (or healthy) (a), invalid (or disable) (i) and Dead (d) was spoken about along with a discrete time Markov chain and time-homogeneous, and age - specific transition probabilities. Thereafter a method was to be developed to generate the transition matrix using population level age and gender specific i.e. mortality and disability prevalence rates. Thereby a point estimate can be generated using either of the two approaches, extra mortality or least squares procedure. Thereafter the results were applied to Indian population for a Life Care Annuity and Disability Annuity and the actual prices available in the market and the ones thrown by the model have a deviation of about 2-3% which rises

at age 85.

To conclude, it was stated that when a person gets older their chances of dying from the unhealthy state are more than from the healthy state. Also, no recovery means that once a person gets sick and goes to a retirement home, then it is unlikely that they will return to their old life. Pricing annuities based on the research is viable as is illustrated but at older

ages this model tends to underestimate the price, else it is almost always closer to the true price of the annuity to be offered. We can employ boundaries to the model, which can help companies in capital setting.

Session C17: Developing the Indian Actuarial climate index

Chairperson: Mr. C S Kumar, DGM - Actuarial, IRDAI

Presented by: Ms. Shilpi Jain, Actuarial Manager, ICICI Prudential Life Insurance.

The discussion for developing the Indian actuarial climate index started with an overview of climate change, need for a climate change index, potential users of the index, international backdrop, a proposed design for the Indian Actuarial Climate Index (IACI) and further actions.

Global temperatures have increased from 0.65°C to 1.06°C during 1880 to 2012. This has led to increased



water deficit which may reduce wheat and maize harvests, rising sea levels and destruction of homes and cities due to increased natural catastrophes. Hence a climate change index would be needed to increase awareness about climate change, to facilitate pricing and valuation of climate risks, offer better comparability across the globe, tracking changes in the long run, measuring tail risk and a need for a comprehensive index. Such an index when developed will be extremely useful to insurers and reinsurers in developing new insurance products, better pricing of existing products, improving modelling of tail risk. Also, businesses, financial institutions, government and others can use the same to develop new financial instruments, price climate linked instruments, assess own exposure, better preparation for disasters, better budgeting for disasters, monitoring climate change control targets, planning and awareness.

There is a Global Climate Risk Index published annually by German watch, an independent German NGO which analyses to what extent countries have been affected by the impact of weather-related loss events and as per this index, India is the 4th worst affected country in 2015 and 14th worst affected in the period 1996-2015. Also, a Climate Change Performance Index tracks

countries' efforts in combating climate change for which India ranked 20th in 2017. The U.S. Climate Extremes Index is calculated for eight seasons for the contiguous US by NOAA's National Centres for Environmental Information. The index has indicators based on temperature, precipitation, and wind intensity and the final index is an arithmetic average of its indicators. The ETCCDI indices have been computed for a number of global climate models participating in the CMIP3 and CMIP5, and for reanalysis and has defined 27 core indices, which chiefly depend on temperature and precipitation. Climate Indices are available in India as well, namely, Standardised Precipitation Index, Aridity Anomaly Index, UV Index, Air Quality Index and Heat Index. United States and Canada developed the Actuarial Climate Index (ACI) in 2016 and are in the process of developing the Actuarial Climate Risk Index (ACRI). A feasibility study conducted in 2015

concluded that it would be technically feasible to extend the ACI to UK and Europe. The main challenge would be the selection of optimal datasets.

A proposed design for the Indian Actuarial Climate Index (ICAI) includes components such as change in sea-level, rainfall, temperature and extreme wind speeds. Thereafter, for calculating the index, we need to select the reference period, define the components, calculate standardized anomalies and calculate the final index value. Thereafter, the index needs to be updated frequently and hence needs to be broken into climatic zones. The viability of the index will depend on the source of data and its publisher.

Going forward, with sufficient data available in the long run, separate indices can be calculated for a finer climatic zone classification. India has 127 zones and it would be ideal to come up with 12-15 zones and therefore have sufficient data for the law of large numbers to operate. To enable stakeholders to respond more quickly to the changing climate, it can be more frequently updated. Of all the components, rainfall is most significant for India. We should perhaps give it a higher weightage. Publishing different indices for different seasons will perhaps significantly increase utility of the index for crop insurers. Thereafter, a climate risk index and a climate volatility index can be developed.

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As the world of analytics has entered into a new era with big data, machine learning and advancements in predictive analytics reaching new stature, the conference addressed the need for the profession to adapt to the global changes in how information is gathered, stored and analyzed. Speakers from diverse backgrounds and professional expertise shared their views on the vision for Data Analytics in traditional actuarial practices. The summary captures the three parallel sessions on Data Driven Decision Frontiers.

Session C2: Credit-Based Behavioral Index

Chairperson: Mr. Satyan Jambunathan, CFO, ICICI Prudential

Presented by: Mr. Brad Lipic, VP, Data Strategy Global Research & Data Analytics, RGA, Greater St Louis

session, he demonstrated "TrueRisk® Life", a predictive modeling tool that accurately assesses mortality risk using individual credit information. He uncovered the hidden opportunities of better risk management for insurers, leading to increased profitability and higher customer satisfaction. During the presentation, he explained the functionality of the TrueRisk model. It assigns a score to each individual, ranging from 1 to 100, where low scores are proved to represent relatively better mortality and high scores reflect worse mortality.

The speaker emphasized on the credibility of the credit bureau data. TU CIBIL input data is trusted and utilized for predicting delinquency rates by the largest credit institutions in the country. It currently holds 95% of the enquiry market. Insurance applicants generally have credit data available. Hence, Insurance

information. However, the match rate is increasing over time, and is significantly better for channels such as Banca.

The speaker took the group of onlookers through the model development in US. The research involved 44 million lives and >3 million deaths. Starting with 800 variables, significant predictors satisfying model requirements were identified and Logistic Regression technique was used. The model was finalized after rigorous testing and validation using traditional mortality and lapse studies.

It is proved that the TrueRisk® Life score efficiently stratifies mortality risk. The overall mortality of the US population came out as an increasing function of the TRL score. When observed across the US insured lives, Mortality of the 91-100 group is found to be 2.6 times higher than the 1-10 group. A close look at the lapse rate of applicants across the underwriting class revealed that Lapse Rate of the Preferred Nonsmoker 91-100 group is 7 times higher than the 1-10 groups. The behavior is consistent across age and gender groups of applicants. Increasing trend is observed across all product categories.

With evidence of the above statistics, he emphasized on the application of TRL across the insurance value chain. Incorporating the score as an additional piece of evidence can accurately classify risks, reduce mortality and lapse rates, and improve profitability. The efficient risk segmentation can lead to accelerated underwriting and better customer experience.

Enhanced mortality and lapse insight into the existing book of business can help in better enforce policy



As Vice President, Data strategy for RGA's Global Research and Data Analytics function, **Mr. Brad Lipic** helps clients find analytics based solution to key business questions as well as identify and capitalize on opportunities. At the current

industry has great potential to utilize this information to gain insight into the financial status of the individual. Mr. Brad also pointed out that young applicants and few other individuals may not have sufficient credit related

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Suranjan Banerjee



Vamsidhar Ambatipudi



Vartika Gupta



Venkata Shiva Sai Aditya Telikicherla

management. This gives insurance companies the opportunity for targeted marketing, leading to decreased processing times and better cross/up sell opportunities. Also, the direct correlation between the TRL score and repudiation rate places TRL as a potent instrument in Repudiated Claim Detection.

The notable speaker concluded the presentation by establishing "TrueRisk" life as a powerful tool to stay competitive in the new era of accelerated underwriting.

Session C5: Artificial Intelligence- Insights with case studies

Chairperson: Mr. Srinivasa Rao, MD (Life & Health), Munich Re.

Discussed by: Mr. Kaushik Mitra SVP, AXA Business Services,

Mr. Debashish Banerjee, Partner, Deloitte

sudden increase in the variety of both structured and unstructured data. Complex data is leading to complex algorithms that have resulted in finer and accurate results. In his view, the approach has now shifted from being hypothesis driven to data driven. The mindset of addressing problems has changed significantly.

He touched upon the fact that accuracy of models is notably increasing. Variables that were previously considered non-explanatory are turning out to be significant predictors.

Describing the advancements in the field of AI, Mr. Mitra focused on how analytically advanced models and effective utilization of data is capable of generating insights about the modeling strategy and product development, thus improving the current traditional practices. He highlighted the

Fascinating used cases are seen across the retail industry including facial recognition to analyze what product a customer is likely to buy, automated check-outs etc leading to improved customer satisfaction.

In Mr. Kaushik's opinion, AI and machine learning are significantly impacting the Insurance industry. Effective utilization of data and analytically advanced models are leading to better customer experience, application of block chain, faster claim settlement and on demand insurance generation. Telematics is another area being explored to identify distracted driving. It is leading to seamless underwriting.

He also touched upon some of the products developed by AXA including the research being conducted on telematics data, model accuracy for fraud detection and anti money laundering.

The speaker discussed two significant used cases. The first was a model for anti money laundering. The challenge here was the rare event modeling as only 10 out of a million transactions are identified as being fraudulent. With the help of advanced neural networks, the model was able to achieve a precision of 2%. Another used case was robotic process automation. This model addressed the biggest challenge of uncertainty of hailstorms. Many cars get damaged during this time, generating large number of claims. Automating the entire claim settlement process has significantly reduced the time from 7 days to 20 minutes. This has largely improved customer experience.

Taking the exchange forward, Mr. Debashish shared his experience on the application of Artificial Intelligence and machine learning to generate effective business insights. He believes that customer segmentation is something that has



Having experience of working at the intersection of technology, analytics and marketing globally for 25 years, learned speaker Mr. Kaushik Mitra highlighted the ongoing trends and developments in the area of artificial intelligence.

He perceives data as the biggest asset of the economy. In addition to the volume of data which is increasing exponentially, there is a

ongoing key researches in the field of artificial intelligence. Looking at the size of the model, number of used cases that are coming and the willingness of the investors, banking and insurance industry see major applications, other than public sector and automation. A wide range of work is being done across the public domain in cyber and public safety, fraud detection and anti money laundering.

been carried out for a long time. What is changing is that machines are making the decisions now. A lot of thought process is going on whether machines can do the actuarial processes. He firmly believes that the final judgment of an actuary is the most important. However, looking at the advancements in the Banking sector, where ATMs are capable to do all the tasks that earlier required human intervention, he moved the audience to think about the extent of work and prototypes that are being developed in the industry.

He addressed the need of the hour for the insurance industry to stay abreast with the advancements. As an example, he highlighted the shift that we observe in the way policies are bought now. Earlier it was the agent who was talking to the people in person, and could get some insight into their behavior. But, as the world is moving into digitization, it will be apps or websites doing this job. We then need to understand how to look at web behavior, how to analyze the tone and pitch of the voice to understand customer behavior. Today, machines are capable of understanding the digital persona of a customer.

Before opening the house to questions, Mr. Banerjee also touched upon the advancements in the drone and satellite imaging and how it is proved to be beneficial for the crop insurance industry. Looking at the satellite images, it is possible to predict the yield for a farm.

With this level of research being done across industries, he moved the audience to recalibrate their views as to the future of artificial intelligence.

Session C8: Strategy and Analytics in Insurance

Chairperson: Mr. G N Agarwal, Consulting Actuary

Presented by: Ms. Archana Wadhwa MD, Analytics Saves at Work

Mr. Devangere V Mahidhara, MD, Pramatha Investment Partners.

planning and investing in that direction.

Her presentation focused on the need to sharpen social listening abilities. Ms. Wadhwa placed social media analytics as a potent instrument to understand the attitudes and preferences of customers across a myriad of online sources and underlined on how businesses today are increasingly



With the experience of working in the financial industry as Chief Data Officer and Head of Analytics at HSBC, **Ms. Archana Wadhwa** started working closely with the insurance companies in her start-up. Her discussion revolved around market trends and the impact on insurance industry.

Her presentation started with highlighting the fact that by 2025, 75% of the workforce will be Gen Y, which will imply a digital world. The customer will seek for agility, convenience and personalization. That is where the future landscape of the insurance industry is heading towards. She addressed the concern if the insurance companies are geared up to that. She observes that 75% of the insurance companies today are investing in technology, but she called for the rest 25% which need to start

taking help of tools to gain insight into the psyche of their consumers through social media. There is a flood of information that is available to us through various online platforms and with the help of analytics these can be channeled into action based strategies.

The speaker uncovered the business potential linked to social media in the insurance industry. She shared some notable implementations in the insurance sectors that have saved the insurance companies a lot of money. Social Media Analytical tools allow companies to see a bigger part of the whole picture. Investing in this customer data and analyzing consumer behavior not only helps enterprises improve their reputation, communication and targeting, but also their profits. Knowing customers better can help the insurers to effectively capture risks and evaluate the costs

associated with them. This would help in account validation and would hence, decrease the risk of fraud.

The speaker did agree that the use of analytics to assess and guide social media strategy is still not as rampant as it should be and there are challenges pertaining to data quality, reliability and applicability. Be that as it may, she concluded with strengthening the notion of building a streamlined process for analyzing social media data and utilizing it for making strategic or tactical decisions.

Taking the discussion forward, **Mr. Mahidhara** talked about application of social media data for understanding stock market movements. Calling data as the new oil, he believes that there are large data pools that can be brought together and analyzed to discern patterns and make better decisions.

He started with raising a question about the application of actuarial profession outside the insurance industry. He points out the fact that

actuaries have been data refiners for the past 300 years. Actuaries can give detailed perspective to data science through their ability of hypothesizing and modeling.

Focusing on social media data, he shared an interesting video clip that captured the relevance of social media data to traders. The research mathematically proved a strong correlation between social media and the stock markets. Market sentiment moves through a cycle which can be identified by means such as social media. What distinguishes social media from the other means is the fact that it is a primary source of information, making it free and unbiased.

He highlighted the impact of twitter feeds to get insight into the moods and sentiments of people. In

particular, twitter represents a gigantic source of information that, with the appropriate tools can be used to infer the general sentiment around specific topic of interest. The algorithm that works behind is Bayesian statistics which is a part of the CT-6 course module. He strongly believes that the actuarial profession is well equipped with the skill set required to understand the statistical implications of these algorithms.

He concluded the session by pointing out that text analytics, sentiment analysis and artificial intelligence, all have actuarial science at the core. Actuaries are structured to play with any type of data and this is their biggest asset. With this skill set in hand, actuaries can broaden their area of work and become well rounded professionals.

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The font size of the article ought to be 9.5. Also request you to mark one or two sentences that represents **gist of the article**. We will place it as 'break-out' box as it will improve readability. Also it will be great help if you can suggest some **pictures that can be used with the article, just to make it attractive**. Articles should be original and not previously published. All the articles published in the magazine are guided by **EDITORIAL POLICY of the Institute**. The guidelines and cut-off date for submitting the articles are available at http://actuariesindia.org.in/subMenu.aspx?id=106&val=submit_article

**Session C3: Leading in the Vortex of Change****Chairperson:** Mr. R Arunachalam, Vice President, IAI**Presented by:** Mr. Tan Suee Chieh, Council member, IFoA**Brief about the session**

The session opened with the moderator introducing **Mr. R Arunachalam**. **Mr. Tan Suee Chieh** then started the session and introduced the topic. He elaborated what he wanted to cover in his presentation and then gave his views on the impact of changing technologies on the profession.

After he concluded the presentation Mr Arunachalam extended his questions to him and then opened the session for questions. Various questions were asked and two outstanding questions were given a prize by the IAI.

Session Highlights

Mr Tan Suee Chieh started the presentation by advising that he would cover mainly three assertions in his talk. These were:

1. We are going through a huge change which is very different from the previous revolutions our industry has seen. With this change

almost all white collar profession are facing a risk of technological unemployment

2. We need to be an 'Agent of change' rather than a recipient of change

3. We as actuaries have important strengths but some of our strengths

are misses in the world of innovation. But as we go forward we can be resourceful and pivot our energy to acquire a new mind-set and competencies.

Commenting on where we stand currently, Mr. Tan Suee Chieh notes that an actuary's role has declined in its influence due to our complacent nature. The role now has become more technical, more functional and more analytical. We are not part of the leadership teams and the decisions they make, we are less senior in our positions and less influential in the company. We are analysing and are advising but with less authority to shape the decisions. We have become a recipient of change and not an agent of change.

However, the industry is currently in the midst of a rapid technological disruption. It is now everywhere. Networks, machines, connectivity operate across many domains and are multiplying. The Profession is protected by regulations and laws but this will disappear as the society transforms to an internet society.

We are at a stage of digital transformation which is essentially a convergence of multiple technology & innovations enabled by connectivity. Of these, the most relevant are big data, computing, social media platforms, and connected devices, internet of things, block chain and virtual reality.

We talk about making our products offerings technology friendly but don't really talk about automation of actuarial work, use of unstructured data, changing risk types, dynamic pricing and use of block chain to understand the customer. Although utilising these is difficult, it can still be done. However, this requires vision, speed, and experimentation and these are skills that we need to develop within ourselves and encourage within the younger students of the profession.

It is imperative that we do bring about these skill sets as we are already looking at disruptions across various industries. Payments and money transmission in the banking systems has already been disrupted. The greatest game changer will be digital ecosystems on our business models; the likes of Alibaba, Facebook, Amazon & Google. They are proof that we are fast approaching the system of vortex of insurance and actuarial services as well.

So how are actuaries going to change? Are we ready to position ourselves as part of the solution or will we be a part of the problem? Will we be recipients to change or will we be agents of it?

Drawing from the book 'The Future of Professions' by Richard & Daniel Susskind, Mr Tan Suee Chieh stresses that decades from now the

profession will cease to exist as increasingly capable machines and devices – and an increased human connectivity will make white collar professions less and irrelevant. And hence any actuary below the age of 35 who thinks they can do the same type of work until they retire is wrong.

We have various skills including specialised maths knowledge, keen analytical capabilities, good business sense, solid communication skills and high level of computer skills. But we need to develop and do more. We need to stop avoiding challenges but embrace them, we need to persist in obstacles, learn from criticism and be inspired by success.

Drawing a comparison from history and to highlight the impact of change, he says that only a few years ago in 1996 the Law Society of England and Wales forbade its members to use Emails on the grounds of confidentiality and today our insurance companies forbid the use of Social media as a method of communication. But the newer generation utilises social media as a part and parcel of their everyday lives and not using it, is something that is not possible for them. Change will happen and we need to develop with it.

Summary of Session

We can and must learn new skills and train and pivot our mind-sets to these new competencies that technology is bringing. The IFoA and the SOA are already making moves into data science but we need to do much more. It will be strategic for us to go beyond our comforts and boundaries and to open our minds to new skills so that we can continue to grow in our roles as business advisors, leaders and agents of change. It is time for actuaries to venture into non-conventional areas like advertising, marketing, leading and strategic decision making. The future is for us to create.

Session C6: Shaping future with Digitisation!

Chairperson: Mr. Varun Gupta, Senior VP, Chief Actuary, DHFL Pramerica Life Insurance Co.

Presented by: Ms. Jiong Du, Chief Pricing Actuary, SCOR Global Life Asia Pacific



Brief about the session

Mr. Varun Gupta opened the session and gave an introduction to the session by highlighting how the banking industry has already been disrupted by the use of net banking, ATMs etc. He also spoke around how life insurance can be developed in India by say developing an app. This app would cater to the need of protecting our children and will provide parents all information for their children say schools, tuitions, extracurricular classes and along with all this sell insurance as well. He then introduced the speaker of the session, Ms. Jiong Du.

Ms. Jiong Du elaborated that she wanted to talk about the impact of technology on Health Insurance in China and how it has changed the environment there. After she concluded the presentation on how technology can help the health insurance industry, Mr. Varun Gupta opened the session for questions. Various questions were asked and two outstanding questions were given a prize by the IAI.

Session Highlights

Ms. Jiong Du started the session by stressing that technology is very

important, but at the end of the day, like a car is a car, be it driverless or not, Insurance will always be a promise to pay a defined benefit under pre-defined conditions.

She first gave an overview of the health insurance eco-system in China and the current status of the traditional health insurance. The

expenditure on health insurance in China has been increasing year on year. The proportion of the expenditure is quite high relative to income, making medical expenses too expensive for low income earners.

Looking into the supply and demand for hospitals in China, there are three types of hospitals: Tier 1, Tier 2 and Tier 3. Tier 1 is the community hospital for basic care like the family doctor. Tier 2 is the country/district hospital which can provide certain kinds of emergency care. Tier 3 is the teaching hospital which provides the best care, best services and provides education and carries researches. Ideally people with minor conditions should go to Tier 1, ones with medium conditions should go to Tier 2 and major illnesses should go to Tier 3. However in reality most people just go to the Tier 3 hospitals for the best treatment. Further, there is also a level of difference in facilities in public and private hospitals. There are huge queues for registration at public hospitals while private hospitals provide a luxury treatment.

Talking about the management of health system in China there is a health department (National Health

and Family planning commission) and then there is a Social Health Insurance (SHI) department (HR and Social security). The Health department mainly focuses on the rural residences while the SHI looks mainly at the Urban residences and employees. These actually merge and there is a high level of complexity depending on one's place of residence and employment.

The SHI is funded by the active employee contribution. The number of employees are decreasing year by year leading to a dropping Active/Retiree ratio. This in turn increases the burden on the SHI fund. This situation is expected to get worse before it gets better.

The coverage for SHIP includes 50-60% of medical expenditure. It covers qualified medical providers but excludes private hospitals. It only cover a part of diseases for OP. It excludes accidental and medical treatments for a few cities. There is also a lower reimbursement ratio for non-local treatment. Due to this the growth rate for health insurance is even higher than life insurance in China. Covers have been introduced with deductibles and a limited coverage and at a very cheap premium. This is targeted at the mass market.

On the other hand there are various issues that Health Insurance in China is also facing. These include high distribution costs, long turnaround times, easily copied products, lack of pricing discipline, ancient life and non-life systems failing to address the need of health insurance and low dimension data resulting in lack of insight to support risk management and product innovation.

Addressing these concerns and answering to the demand for health insurance, new technological players like Zhong An Insurance, WeSure, AntFinance have entered the market. They are selling insurance on the back of mass data and hence have targeted marketing,

risk differentiation (or not) and pre-selection replacing underwriting. There are online portals which are by smaller startups focusing on content driven and scenario based selling and providing end to end service. Further to this, traditional players are also setting up online subsidiaries like Taikang Online and Taiping Technology.

With technology several things are expected to change. Contrasting the traditional insurance and the technological advancement, Ms Jiong Du advises that the current time for manual input is about 3-5 mins per invoice, with labour costs and management issues. With the introduction of technology, this will all be driven by artificial intelligence leading to auto recognition, automatic data segregation and hence will be fast, minimizing errors and maximizing data dimension.

With technology multi-dimensional claims database can be introduced. This could record inpatient/outpatient track record, age, gender, medicine usage, occupation, surgical history etc. It can also record a provider's behavior, for e.g.: referral tendency, inpatient frequency, no. of visits per week, use of antibiotics etc.

The entire eco system of health is based on data, be it automated claims process, improved risk management or risk differentiation which in turn further provide cost control and better pricing. Hence, whoever has data has an edge.

Summary of Session

Health insurance in China is becoming increasingly expensive with the coverage from SHIP being minimal. This leads to the population relying on providing for themselves which increases the demand. Addressing the shortcomings of traditional health insurance, various technology driven providers have entered the

market and are changing the landscape of the industry.

Technology can not only improve the customer journey but also play a role in promoting our customer's better health and wellbeing. It can shorten painful underwriting processes, eliminate invasive screening, ease claims processes, promote health and wellbeing and reward good behaviour.

However, technology without thinking about the customers can be dehumanizing. Technology is not the end. The end is always the customer, the end is always the policy holder.

Session C9: Online Insurance - opportunities and challenges

Chairperson & Moderator: Mr. Nilesh Sathe, Member (Life), IRDAI, India

Panellists: Mr. K. S. Gopalakrishnan, CEO, RGA.

Mr. Vishal Sabharwal, Head - Online & e-commerce, HDFC Life Insurance Co. Ltd.

Ms. Santosh Agarwal, Business Head Life Insurance, Policybazaar.com

Brief about the Session

Mr. Nilesh Sathe, opened the session and gave an introduction of the panel. The panel included Mr. K S Gopalakrishnan, Mr. Vishal Sabharwal and Ms. Santosh Aggarwal.

Mr. Nilesh Sathe then gave his views on the topic for the session explaining why online insurance is important. Each speaker then took the stage and gave their view on the online insurance in India. After the panel concluded the discussion Mr Nilesh Sathe opened the session for questions. Various questions were asked and two outstanding questions were given a prize by the IAI.



Session Highlights

Mr. Nilesh Sathe opened the session with his comments on how digitization is affecting India. He mentioned that Digitalization has affected almost all retail industries and insurance is just one of these. There is an advent of digital boom in insurance as well with the reason being partly due to a large base of phone users in India and partly due to a change in mindset. Digital speed which was limited to metros and Tier-1 cities has broken that barrier and is now in Tier 2 and Tier 3 cities and towns as well. The government's efforts to increase the use of digitalization across the country have begun to pay dividends for better penetration. Those who do not want to understand their customers are now thrown out. Digitization presents a growing opportunity to improve the market share and profitability for insurers. It also urges insurers to apply digital technology in new ways and also create tangible value for customers. Digitization is not just selling insurance online. It includes a host of other things, say agents using some digital platform to market insurance. Having understood the changing behaviour of the customer and the increased importance that companies are giving to digital transformation it requires insurance companies to move from traditional marketing to digital marketing. Life insurance which was traditionally sold by agents is now available for online purchase, often for a lower price. The total digital market size for online insurance in 2015 was ₹ 1000 crore which is estimated at ₹

5000 crore today. The online market for the insurance sector, for both life and non-life, is about 1% as of now and is likely to grow 5% in the next 2 to 3 years. The space is growing and is growing fast.

Mr. K S Gopalakrishnan then opened his session by highlighting the two common thoughts about term insurance in India; the first being that nobody in India will buy term insurance because they don't believe themselves to have an immediate mortality and secondly insurance in India is always sold and never bought. Drawing from his own experience he then says that he wanted to test this theory by running a pilot of selling term insurance online and see whether it works. And looking at then to now, it is currently a space where quite a few players have entered. When we speak about online life insurance which he believes will largely be protection business, he feels that the end journey for this in our country is the day when someone can buy life insurance from their mobile phones in a non-intrusive way, in a frictionless manner by just swiping through 3 screens and with an entire time spend of 2-3 minutes. And he believes that this is very much possible in India. This is driven by the fact that half of India is below the age 25. In addition the internet penetration with 4G coming in, is making lives different for people. Furthermore, smartphones have also become affordable now leading to everybody having a high tech device with high speed internet. This leads to a new generation that utilizes the online space very

frequently, say buying goods on Amazon, using Uber for taxis and utilizing Tripadvisor for hotel bookings. And hence the future consumer of India who is used to doing purchases online, would not view life insurance as any different. In addition the new generation comes from a 'sharing economy' world. Giving an example of an American startup 'Rent the Runway' he elaborates how the younger generation is happy to rent and share clothes while the older population is not receptive to this idea. And hence this generation is brand agnostic, is product agnostic and there is no brand loyalty and to attract them our thinking needs to change. We need to take risks, we need to be prepared for small losses and we need to experiment.

Mr. Vishal Sabharwal wanted to provide a view on technology's impact on e-commerce business and what they are doing to implement it currently. He says that 80% of the demographic for online insurance is from the millennial generation. This is because they are brought up in a digital world with no brand affinity. This generation is also heavily influenced not by how insurance companies operate but their experience with Amazon, Google and other online portals. They are very comfortable doing online transactions. However most of these online transactions are of small value which automatically includes the protection element. In addition to the changing generation the other important reason why insurers need to evolve digitally is because of competition. The entry barriers for

online insurance startups are quite low. This leads to an increased supply and hence the pricing and margins fall lower and lower.

Today insurers are able to target a very small niche customer base. The customer doesn't automatically come online. A considerable amount of money has to be spent to set up an online interface and to attract customers. A lot of companies are doing this currently to capture a share of the emerging market. The regulators are also undertaking the need for online insurance and are investing time in setting up regulations for this. This is how the e-commerce market is shaping up now and is still developing.

Ms. Santosh Aggarwal elaborated on Policy bazaar's contribution in the digital growth and also challenged on how as an industry we could grow further. She comments that Digital is for Policy bazaar is survival and is the only way they know. They have developed because they heard what the customers were telling them. When starting Policy bazaar they were constantly questioned with the thought that insurance is not bought, but is sold. How will it be possible for customers to log on to their website to actually purchase insurance?

Giving an example where they went through a problem on motor policies recently she says that when a motor policy expired the renewal had an

inspection process which was tedious and took about 3 days. This led to 50% of the customers actually not purchasing the insurance in the end. To solve this problem policy bazaar decided to introduce a digital inspection. It involved the customer taking a video of their own vehicle and sending it to the insurance company. This reduced the time for the policy issuance from 3 days to 2 hours. It further reduced the costs for the insurance companies and the take up increased as well. She adds that these are the steps that will fuel the digital transformation.

Introducing Life Insurance on their website was much harder. It is extremely hard to make a 40 year commitment on a digital platform. They started with term insurance. What worked is that people started to understand that term insurance is a form of life insurance and traditionally what they were purchasing might not be right for them. This required a lot of marketing and education and it took a few years to turn the mindset. And now they are seeing more and more

growth in the online insurance purchasing.

Summary of Session

With the development of technology in India, the emergence of the younger, technologically driven generation, it is becoming increasingly important for insurers to embrace the digitization. It is time for insurers to evolve, experiment and introduce products and distribution methods that will appeal to this generation. The mindset of the customer is changing and growing with it is the only way insurance companies will also be able to develop. The online insurance market is seeing this development and is growing at a fast pace. There are new players, new products and new thinking processes in traditional insurance companies as well. Both life and non-life sectors are expected to see an increased online presence. These developments are expected to bring benefits to both insurers, with reduced costs and increased reach, and for customers, with an increased convenience.

About the Author

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“Shubhanjali is currently working at Willis Towers Watson looking into quantification of risk for clients and then suggesting appropriate risk management strategies.”

Letter to the Editor

We invite readers to respond briefly to our articles and to suggest new features with letters to the editor. Kindly mail your responses on library@actuariesindia.org with your name & contact details. Appropriate responses will be published in Actuary India magazine with the approval of competent authority.



Session: The IFoA examination framework - setting you up for success in your career of choice!

Presented by: Mr. Derek Cribb - CEO, Institute and Faculty of Actuaries.

Mr. Clifford Friend, Director of Engagement and Learning, Institute and Faculty of Actuaries.

Brief about the session

After an informative introductory round, the session kicked off with **Mr. Derek Cribb** & **Mr. Clifford Friend** highlighting the role of Actuaries in wider market & how a change in curriculum will help the Institute achieve same.

Session Highlights

Mr. Derek Cribb reflected his positive energy onto the audience for his love for Math & how Indian student members are growing in the Actuarial field. Following 3 areas were discussed as a part of change in examination framework:

- Curriculum 2019 - Review of the curriculum to make sure the examination are a fit for Global Membership & aimed at broader international market
- Level of Syllabus - Understand level of skills required by a qualified actuaries so they can work in wider market
- Chartered Actuary (CACT) proposition - Globally recognized name for improving the long-term employability of those who qualify as actuaries through the IFoA



The shift in the approach is to make it more responsive to the changing need of business in the near decade. **Mr. Clifford Friend** further elaborated the change to be more contemporary & also how the profession will shape in the near decade. To be a successful actuary few changes will be introduced by the institute primarily in the following areas - Curriculum update, more coherent method of studying & **Competency-based-assessment**. **Mr. Friend** expounded that the transitional arrangement is in place & can be found on the IFoA's website. The curriculum is built to make sure that the quality of qualified actuaries is based on the core competencies which can be proved valuable in the less established areas. He finally encouraged students to refer to the material which would be available from May of this year, so students can share their feedback.

Summary of Session



Mr. Friend in the end took questions from the students pertaining to exemptions, practice modules for assessments, change in Indian curriculum etc.

The speakers concluded by encouraging students to study the right module for the upcoming assessments. Mr. Cribb challenged the audience

to participate in the competition, which was to be held the following day, to explore variety of ideas related to the application of Actuaries in wider market & get a chance to win **JBL Speaker**!

Session: Curriculum 2019

Presented by: Mr. Nick Foster, Dept. of Mathematics, University of Leicester.

Brief about the session

After an interactive and an insightful session on IFoA examination framework, **Mr. Nick Foster** took the opportunity to describe major reforms which are to be introduced by the Universities in response to the change in Curriculum, starting from 2019.



Session Highlights

During his presentation, **Mr. Foster** proceeded to garnish the way universities have made a recommendation in their Bachelors and Masters Courses in order to make them globally consistent as per IFoAs' new competency based assessments. This included that the new curriculum will have a balance between technical and soft skills along with software applications.

Mr. Foster highlighted that in beginning of 2017, the institute launched their own internal curriculum transformation exercise. These were succeeded by the proposal to IFoA about the change & an approval was received from IFoA with appropriate amendments.

Summary of Session

Mr. Foster stated that the university has developed Bachelors programme, capable of offering exemption as per new module. Soon the Masters programme & Masters Distance Learning programme are to be launched.

Mr. Cribb concluded the session by making a video for their Social handles in which all the members present in the session chanted "I love Math" mantra happily while flashing their "I love Math" badges which were provided by the IFoA.

Session: Careers for actuarial professionals - where are the new opportunities?

Presented by: Mr. Clifford Friend, Director of Engagement and Learning, IFoA

Ms. Sarah Sim, Head of Global Markets Development, IFoA

Brief about the session

As a continuation of IFoAs' previous session, a competition was held on Day 2 of the conference to focus on ideas for new opportunities that can be explored as careers for actuarial professionals. The competition gave a chance to more than 30 participants to share their views, where each one was given up to 60 seconds to explain their idea of the new opportunities that can be used by actuaries.

Session Highlights

Number of participants actively participated in the competition voicing innovative ideas on how the actuarial professionals could use their expertise in variety of fields that are unexplored by the actuarial profession. It was insightful to see many young minds coming up with interesting ideas where the actuarial assumptions and skillset could be used. IFoA panel was really thrilled with the active participation and the response from all the participants and awarded the winner with JBL Speaker who came up with the idea of analysing the traffic pattern, weather conditions and many other parameters to design and build bridges and roads etc.





Session by Mr. M. Karunanidhi

Data visualization is a general term that describes any effort to help people understand the significance of data by placing it in a visual

context. **Mr. Karunanidhi** expressed this very well through the visual aids which he shared in his presentation and highlighted the importance of CAZ exam.

Mr. Karunanidhi defined that primary goal of data visualization is to communicate information clearly and efficiently via statistical graphs, plots & information graphics. Data Visualization is both art & a science, and hence should have a purpose and meaningful principles embedded within them.

He presented some of the best practices which can be used while playing with the data and addressed the common mistakes which generally one make while using data in the PowerPoint presentations.

Summary of session

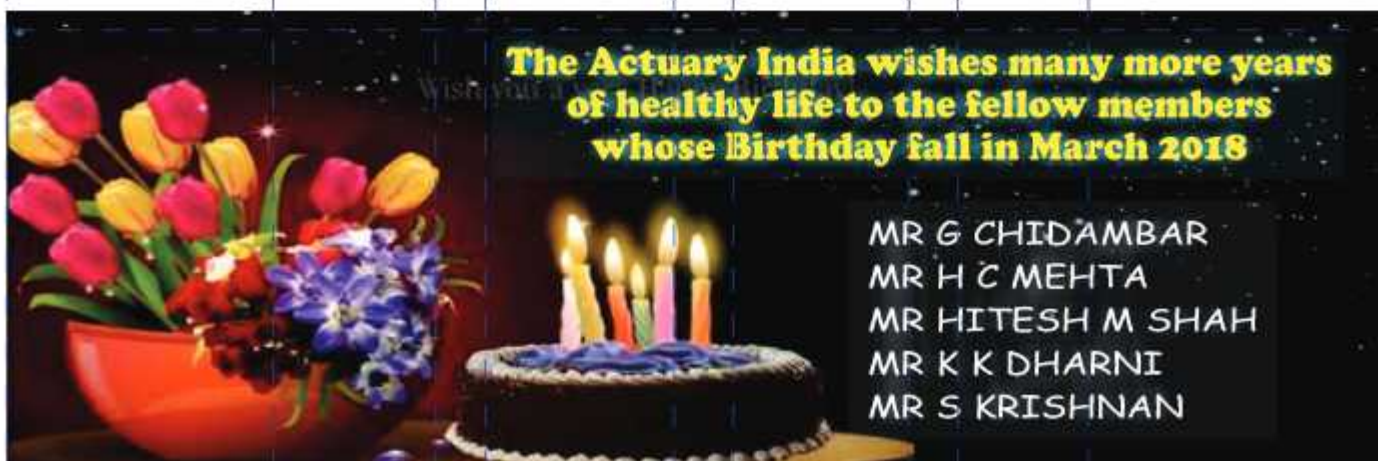
Because of the way the human brain processes information, using charts or graphs to visualize large amounts of complex data is easier than poring over spreadsheets or reports. Data visualization is a quick, easy way to convey concepts in a universal manner - and you can experiment with different scenarios by making slight adjustments.

About the Author

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“Kartik Chhabra is a student member of IAI. He is working as a Manager in Modelling & Financial Reporting Team of AIG L&R Business.”





Session: Exponential Actuary Session

Chairperson: Mr. N M Govardhan, Former Chairman, LICI

Presented by: Mr. Darryl Wagner, FSA MAAA Deloitte Consulting LLP.

Mr. Mahasen Kunapuli, Managing Director, Deloitte Consulting LLP.

Brief about the session

Mr. N M Govardhan introduced the speakers and encouraged both budding and senior actuaries to attend the session, promising a great learning experience for all.

This was followed by Mr. Darryl Wagner and Mr. Mahasen Kunapuli taking the dais and discussing how the future of an actuary looks in light of technological advancements and how an actuary can take advantage and embrace these changes. They also expressed their viewpoint on using technology to add value and enhancing the role of actuaries.

Session Highlights

Mr. Darryl Wagner started the session by drawing attention to the fact that technology is equally impacting both general insurance and life insurance sectors. He emphasized on the need to understand the changes happening in the world of technology, how it impacts the actuarial profession and how to use these changes to perform a more detailed and better analysis of numbers in hand.

Mr. Mahasen continued the session, mentioning how professionals in today's world need to engage in continuous improvement in their



skillsets to handle the diverse requirements of the fast paced economy we live in. He touched upon the increasing demand of technical roles and introduced the concept of hybrid skills - analytical skillsets supplemented by critical thinking, problem solving ability and soft skills.

Mr. Darryl also expressed how technology doesn't threaten jobs but adds value by allowing actuaries to spend more time on analysis, than on mechanical processes. He stressed on not considering these technical advancements as barriers but as leveraging the same to transform the actuarial profession to efficiently serve clients. He presented a video showing how Deloitte has setup various automation tools - with particular emphasis on the data automation processes which allows actuaries to spend more time doing meaningful analysis of numbers. He mentioned how end to end actuarial processes are being automated - right from data till reporting.

He stated the various demands of the actuarial profession which are resulting in a shift towards greater utilization of emerging technologies:

- ▶ Providing a better strategic insight

- Keeping pace with evolving regulations
- Quality and Consistency in work.
- Cost reduction and Competitiveness
- The pain of working on several heavy-excel spreadsheets.
- Model related issues.

During the final segment of the session, he introduced the concept of Robotic Process Automation or RPA - computer coded softwares that are capable of performing rule based tasks. He indicated towards the potential advantages that RPA offers in terms of efficiency and quality, hence allowing better utilization of time towards decision making.

Summary of the session

The session highlighted the importance of understanding the changing role of actuaries in light of growing technology and how we, as professionals need to embrace this change and provide better value addition. While many hold a negative view towards these advancements - be it process automation or artificial intelligence, it is important to realize that such advancements are actually allowing professionals to move away from process based tasks to more analytical tasks which can contribute to a better growth and service to one's company and client base.

The role of the organizations to appropriately train its staff, educate them about the changes that technology brings and engage in workforce management to encourage the employees to indulge in tasks requiring technical skillsets was also suggested.

The questions that concluded the session noted interesting observations on the challenges of adopting the technologies - be it logistic or workforce driven. The role of reverse mentoring to learn and grow was also appreciated.

Session: Role of Actuaries in Investments - Life Insurance

Moderator: Mr. Kailash Mittal, SVP- Actuarial, HDFC Life Insurance Co. Ltd.

Panel Members:
Mr. Sunil Sharma, Chief Actuary and Chief Risk Officer, Kotak Life.

Mr. Dinesh Pant, Appointed Actuary, LIC.

Mr. Abhay Tewari, Appointed Actuary, SUD Life.

Mr. Prashant Sharma, CIO, Aviva Life.

audience about their desire to work on investments side of business, being surprised to find many expressing such interest.

Various panel members then discussed their views on how crucial the role of an Appointed Actuary is in relation to handing investments of the business and how several tactical and strategic asset allocation decisions are taken collectively by the actuary of a company and its investments team. They also expressed their views various aspects of asset liability mismatching in Indian life insurance industry.

Session Highlights

Mr. Dinesh Pant started the panel discussion by expressing his views on the role of an Appointed Actuary in respect of investments, drawing attention to the fact that the Regulations state that it's the responsibility of an Appointed Actuary to provide advice on the investment decisions of an insurer. He appreciated the perspective an actuary is able to bring while making the investment decisions, especially due to a proper understanding of the long-term nature of the business. He emphasized on a collaborative

limited supply of suitable assets and the need of insurers to merge their liability profile to that of assets available to reduce such mismatch.

Mr. Sunil Sharma seconded the view of Mr. Dinesh relating to the importance of an actuary being involved in investment management decisions. Since investments are strongly linked to the nature of liabilities of the insurer and an Appointed Actuary has a comprehensive knowledge of the insurer's liability profile, he believed that the actuary can immensely contribute in choosing the right blend of investments. He laid importance on the Actuary considering risk appetite of the business in setting the strategic asset allocation mix for an insurer.

Mr. Abhay Tewari stressed upon the need to hold a diverse asset profile, due to the nature of products sold in the Indian industry - while unit linked products demand investments in high return securities, saving products sold offer guarantees and hence demand a stable investment. He indicated towards the role of the Appointed Actuary in explaining such nature of liabilities to the investments team to make informed decisions. He expressed his views on



Brief about the session

Mr. Kailash Mittal gave a warm welcome to all panel members and briefly introduced each of them. He started the session by asking the

approach between the actuarial and investments team in making decisions regarding the strategic and tactical asset allocation. He expressed his concern on asset liability mismatching, due to the

the actuary playing a crucial role in setting strategic asset allocation decisions, with tactical decisions under the purview of the investment manager, given his better knowledge of investment markets.

Mr. Prashant Sharma, while being appreciative of the role of an actuary in making investment decisions, also mentioned that the expression of complex actuarial knowledge in layman terms can further supplement these decisions for the investments team. He also mentioned on a lighter note on how actuaries could be more decisive. He highlighted the various asset classes in which insurers could invest and on the need of a more developed derivatives market for better hedging of risks.

Summary of session

All the panelists recognized the importance of an Appointed Actuary in setting investment policies of an insurer and setting rules relating to strategic asset allocation. They recognized the diverse nature of liabilities that Indian insurers hold and hence the demand to hold an appropriate asset portfolio.

The panelists expressed their concerns on the asset liability mismatches and the pressure of the society perceiving the insurers to be the ultimate supporters. They expressed the lack of appropriate assets in the market to match the liabilities by duration, such as limited 40 year bonds available to support the long term business written.

Questions were raised by the audience on the changing role of actuaries with regard to investments in future, due to implementation of RBC regime. The panelists agreed that with increased linkages to the markets and an altogether new system being implemented, role of actuaries shall be crucial in investment management decisions. The audience also wanted to understand how the cyclical relationship between persistency and investment returns could be managed by the insurers. While the panelists at one hand expressed concerns of increased asset liability mismatch due to improving persistency, on the other hand they also mentioned how allowing

withdrawals and drawdowns in pension schemes can be used to actually allow better matching of assets and liabilities.

Session: Review of recent insurance IPOs and role of actuaries

Chairperson: Mr. Pradeep Thapliyal, Vice president & Actuary, Prudential Financial Inc.

Presented by: Mr. Sanket Kawatkar, Principal and Consulting Actuary, Milliman.

Brief about the session

Mr. Pradeep Thapliyal kicked off the session by giving a brief about the presenter and what the session holds for the audience.

Mr. Sanket Kawatkar then shared his personal experience and learning from working on like insurance companies' Initial Public Offerings (IPOs). He further drew attention to the role and responsibilities of an actuary during an IPO, especially in India where an actuarial report is a regulatory requirement in the listing prospectus. Mr. Sanket walked the

industry. He then talked about various regulatory requirements as prescribed in the IRDA (Issuance of Capital by Indian Insurance Companies Transacting Life / Other Than Life insurance Business) Regulations 2015. Apart from IRDA's requirements, other disclosures to Securities and Exchange Board of India (SEBI) as specifies in ICDR regulations and disclosures in red herring prospectus were also mentioned. He talked about APS 10 framework which is used to develop Indian embedded value (IEV), which is broadly similar to its European counterpart MCEV with more detailed disclosures in the former. He mentioned the disclosure of materiality limit, as set by the board which ensures that all immaterial aspects are quantified and sum of them should not exceed the set limit.

Mr. Sanket described the long process which starts with detailed pre-IPO planning and preparation of all risk factors and other disclosures that need to be part of DRHP filing, followed by a roadshow to potential investors and submission to regulators for their feedbacks, which can make this an iterative process. Due to requirement by SEBI stating that financial results should not be more than six months old, the whole



audience through a typical listing process, describing the listing requirements in India and also highlighting issues / aspects to consider in an IPO.

Session Highlights

Mr. Sanket Kawatkar started the session by providing a brief on the recent IPOs in the life insurance

process has to be churned within six months which requires the company to be fully prepared and process automated in order to produce results in time.

From his experience, Mr. Sanket talked about some issues such as lack of robust documentation and placed importance on proper documentation of every aspect of on

IPO work due to huge ethical and legal implications of any scrutiny done post IPO. He noted that due to lack of a deep and liquid market in India, the market consistency aspect might become subjective as many approximations need to be used in the actuarial work. He also mentioned some issues faced in technical aspects such as in calculation of CRNHR and TVFOG due to no descriptive guidelines regarding factors to be used in the calculation.

Mr. Sanket ended with some interesting issues to be considered by the actuarial community and the regulators to look into and also emphasized on the need to bring out clarity on some of the wordings in APS 10 and various disclosures. Some of the other issues mentioned for consideration are:

- Need for regulatory requirements of EV disclosures?
- Need for a standard specified by the IAI (such as APS10)?
- Need for standards for ongoing disclosures?

- Need for independent certification of non-life reserves?
- Implications of risk based capital (RBC) once introduced

Session Summary

While it was established during the session that the Regulator has listed detailed requirements to go forward with an IPO for an insurer, the need to simplify disclosures without compromising the eventual message to be communicated to the public was also recognized. The lack of clarity on certain technical concepts, coupled with the time constraint implied by regulatory guidelines emphasizes on the need for insurers to properly plan its IPO and setup robust processes. The

scope of further refinements in relation to the entire process of IPOs for life insurers is vast and needs to be worked upon.

Questions were raised on volatility in share price observed recently and the surge in share price of some recent insurance companies post opening raising concerns on viability of embedded values and value of new business as metrics to compute price of an insurance company. Mr. Sanket replied that there might not be a direct linkage in market price of share and embedded value calculated as other factors are also at play and it will be now be exciting to see the future movement in embedded value of companies post disclosures and market reactions to the same.

About the Author

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“Gayathri Khanna is working as an Analyst in the Insurance Consulting and Technology team at Willis Towers Watson.”



ANNOUNCEMENT

14th Seminar on Current Issues in Retirement Benefits (14th CIRB)

Advisory Group: Advisory Group on Pension, Other Employee Benefits and Social Security

Date: 10th March, 2018; Saturday || Time: 09:00 am to 06:00 pm || Venue: The Plazzio hotel, Gurugram

Background: APS 27 has been implemented from 01st January 2018. It is expected that various members of the profession would have updated their models / reports / practices to ensure compliance with the new standard.

The Seminar would focus on the following topics:

1. Practitioners talk on Implementation of APS 27
2. A walk through the checklist on APS 27
3. Discussion on treatment of Past Service Cost under various standards (in view of proposed increase in limit to ₹ 20 lacs)
 - AS15
 - Ind AS19 / IAS 19
 - US GAAP
 - Transitioning from AS15 to Ind AS 19

To be discussed in context of private companies, PSUs and government organizations
4. Issues and challenges in complying with DPE guidelines
5. Valuation and disclosure of exempt Provident Fund Trusts as per AS15 and Ind AS19

Who Should Attend?: With large gap in the demand of actuarial services and supply of practitioners in the area of employee benefits, the seminar is useful for not just Fellows/ Associates currently working in the area, but also student actuaries who are looking to develop a career in the area of employee benefits in India.

General Points:

Registration Fees: Students & Associate Members: ₹ 2500/- (+18% GST)

Fellow Members: ₹ 5000/- (+18% GST)

Non Members: ₹ 6000/- (+18% GST)

CPD Credit for IAI members: 6 hrs technical (As per APS 9 – Rev. Ver 2)

Registration last date: 6th March 2018

Register at: <http://www.actuariesindia.org/SeminarRegistration.aspx>

Point of contact: Ambreen@actuariesindia.org





Session C12: How robo-advice is changing behaviour of pension savers & disrupting long established models: a case study

Chairperson: Mr. D. K. Pandit, Partner - M/s K. A. Pandit

Presented by: Dr John Taylor Partner - Hymans Robertson.

Mr. D. K. Pandit commenced the session by introducing the speaker Dr John Taylor who, coincidentally shared the same name with Mr. D. K. Pandit's principal in Wilson College. Dr John Taylor started the session by giving a special mention to M/s K. A. Pandit for completion of 75 years.

He spoke about the degree of technological changes likely to happen in a much more immediate time frame. Before beginning with the presentation, he gave general words of advice in terms of embracing the technological changes. They were as below:

a) Continuously scan for new opportunities - Due to rapidly changing technology, few opportunities would go amiss and hence, it is important to continuously be scanning for new opportunities.

b) Make conscious choices regarding taking up different opportunities - It is no longer good enough to carry on in same trajectory just because it is comfortable to do so or not take it as it is too complex in nature.

c) Act Decisively - We must make sure that we are making the decision in a timely manner before someone else would take up on the opportunity. Dr John compared the lessons with a musical namely Mathilda which is a celebration of



free choice. The case study is about Hymans Robertson changing their story to accommodate the technological changes to enter new markets. To elaborate regarding the technological changes, Dr John gave us few illustrations of few companies in India who have adopted the changes. He spoke about HDFC using actual robots in their branches in India for customer service. He also gave examples of Alipay having the biggest money market fund of over \$200 Billion. He also gave examples of technological disruptions which would be caused due to introduction of driverless cars and working of friendsurance which is a type of an insurance company where in a group is covered and a claim from a person in the group would affect the whole group.

Further, Dr John gave a wonderful quote he had heard from a conference having the topic of "The Future of The Professions" and said it would be a key ingredient of what the actuaries' would need to do. The

quote is "[Professions]...will need to learn to **communicate differently**, to gain **mastery of data** in their disciplines; to establish **new working relationships with their machines**, and to diversify. More generally, there is a catch-all capability that tomorrow's professionals will need to embrace - that of being **flexible**." Susskind & Susskind "The Future of The Professions" Dr Taylor commended new qualifiers for being excited to take a plunge for the new avenues that would open up due to technological advancement.

What is a 'Robo-Advisor (Robo-Adviser)'?

A robo-advisor (robo-adviser) is an online wealth management service that provides automated, algorithm-based portfolio management advice without the use of human financial planners. Robo-advisors use the same software as traditional advisors, but usually only offer portfolio management and do not get involved in more personal aspects of wealth management, such as taxes and retirement or estate planning.

Having explained the definition, he stressed on the fact that it is predicted that by 2025, nearly 10 to 15 % of assets would be managed through Robo-Advise and roughly 40% of millennials today are managing their funds through Robo-Advise.

He spoke about the four underlying drivers of Robo-Advice namely:

- Demand
- Supply
- Consumer Behaviour
- Technological Enablement

Dr Taylor also mentioned about a little bit of involvement for financial management and how it would converge with automated advice. Moving on, he spoke about the Indian market moving towards the fully automated direction by giving examples of existing companies like RoboAdviso, FundsIndia and 5nance.com.

The speaker then moved on to discuss the case study on UK workplace Pensions. He gave a brief overview of the Defined Benefits (DB) Plans and the Defined Contribution (DC) Plans in the UK along with a graphical representation showing the increasing popularity of the DC plans and the decreasing popularity of the DB plans. Having discussed about the DB and DC plans, Dr Taylor spoke about the impact robo-advice would have on the impact margins where the AMC would be £ 0 for Robo Advice compared to some amounts for human advice. Dr Taylor also spoke about the tool (GO) that Hymans Robertson have developed to adapt with the technological changes. The key characteristics of the tool are as below:

- Considering DC as a one-person plan
- Levels of income at retirement are treated as liability
- Economic Scenario Generator and Asset Liability models from DB machinery applied for this tool
- Probability of individual achieving income targets broken down in traffic light system for assistance where red being highly unlikely, amber being moderately likely and green being very likely.

Dr Taylor gave a video demonstration of the features of the tool created by Hymans Robertson. It was observed that the new tool had become quite a hit with the employees wherein

one in five users changed their plans to suit their retirement needs and employees' contribution had an average increase of roughly 3.5%.

Concluding his presentation, Dr Taylor said that he is optimistic about the changes brought about by technology. He also stressed on the fact that if Actuaries be open minded about the changes, we as Actuaries would not only maintain the relevance of Actuarial profession but would in turn extend it in ways never thought possible.

Mr. D. K. Pandit concluded the session by talking about most of share market movements in India being based on algorithm movements and how robotic advice would be a good line for Indian economy.

The question and answer session was very lively with the audience asking multiple questions on the presentation.

Session C15: : Lessons from Takaful and Discretionary Mutuals for traditional insurance model

Chairperson: Mr. Mehul Shah, Appointed Actuary and CRO, Kotak.

Presented by: : Mr. Zainal Kassim, Senior Partner - Actuarial Partners Consulting Pvt Ltd.



Mr. Mehul Shah commenced the session giving a brief introduction of Mr. Zaimal.

Mr. Zaimal started the session by talking about the topics he would cover throughout. The topics are as below:

- Traditional Insurance
- Reasons for mutual insurance to underperform
- Why alternatives have worked

Mr. Zaimal spoke about how Modern Insurance industry has evolved from a Mutual beginning to a profit driven business. He also stated that the business was about making profit from 'fear of others' (e.g.: Fear of flying? Flight Insurance, Afraid of old-age? Long-term Care Insurance, Afraid of Robbery? Home Insurance).

He then spoke about how due to information asymmetry, the insured would not be able to check on the reasonableness of the premium offered and would have to depend on insurance marketplace to check the fairness of the price.

Moving further, he spoke about the challenges faced in Insurance industry, as below:

- Insurance fraud can be prevalent as the insured seeks to profit at the insurers (and indirectly other policyholder) expenses.
- Little incentives for insurers to rein in claims cost as premiums can be adjusted in line with claims inflation and profit is directly correlated to 'top line' when rates are profitable.
- The over dependence on third

party distributors, i.e. agents and banks, can make the insurer hostage to the demands of the distributor e.g. higher commissions and less underwriting.

- Regulatory structures are now more principles based requiring expensive investments in people and systems with more stringent penalties applied on non-compliance.
- High expenses and regulations make it difficult for disruptors to enter market.

After discussing the challenges, Mr. Zaimal spoke about the alternatives to the traditional insurance model. The alternatives discussed were:

i. Takaful which is a hybrid between a Mutual and a Proprietary insurer.

The features and challenges of Takaful are as below:

- The risk fund provides for an experience refund if a surplus arises at the end of the financial year.
- Regulatory Capital for takaful and that for insurance is equivalent.
- The premium received is split into two namely the Wakala Fee which goes into the operator's fund and the remainder goes into Participants fund. This split in premium makes the costs and profit transparent.
- The premium to participants fund is termed as donation. The classification of the risk premium as a donation appeals to the cooperative spirit of the participant.
- Any surplus in the Participant Fund is repaid to the participant as an experience refund. This feature especially appeals to non-Muslims who may not subscribe to the sharia compliant nature of the contract.
- Takaful products and pricing do not differ significantly to that available in insurance as Risk Based Capital solvency requirement for takaful and insurance are similar.
- Major weakness of takaful is the

conflict between shareholders interest (who runs the company) and policyholders' interest. This conflict can be "hidden" unlike insurance where the conflict is more apparent.

ii. Discretionary Mutuals where there is risk sharing among like-minded members.

The features of Discretionary Mutuals are as below:

- Owned by its members
- The mutual retains the primary layer of risk which contains all the working expected losses
- All claims are paid at the discretion of the mutual
- The mutual is run by a board of directors which is elected by the members
- The members therefore have control over the exercise of discretion through their appointments to the board
- Discretionary cover is not classified as insurance
- The effect of discretion is that the company does not have to be capitalised as an insurer does and there are favourable tax advantages to mutual trading
- The mutual will usually require insurance or reinsurance protection - laying off the "unexpected" losses - on both an excess layer and aggregate basis
- With ownership and control of the mutual, comes responsibility of appropriate risk management and risk mitigation and also creation and adoption of shared best practice templates.
- The mutual is a direct beneficiary of improved risk management. The cost of cover equals the cost of claims. To reduce the cost, the risk must be improved.

Having spoken in depth about the two alternatives, Mr. Zaimal concluded the session by talking about the things insurance can learn from the two alternatives i.e. Takaful and Discretionary Mutuals.

- The important takeaway was that insurance can adopt the practice of sharing surpluses with

its participants like the alternatives aligning the interest of all stakeholders which in turn would encourage good behaviour.

- Requiring the insured to follow a mandated risk management process while being insured can reduce claims and thus premiums where currently, post underwriting, the insured has no obligations to the insurer.
- Less reliance on capital can also help reduce premiums. Regulator can reward good behavior by insurers by reducing the required solvency capital.
- More use of Group type insurance through networks can reduce distribution costs. Experience refund for Group insurance allows the Group to reward all its members so that not only those who claim benefits from the cover.

The question and answer session was very lively with the audience asking multiple questions on the presentation.

Session C18: Changing Landscape of Employee Benefits post APS27- A practitioner's view

Chairperson: Mr K Subrahmanyam, Consulting Actuary

Presented by: Mr Khushwant Pahwa, Founder and Principal Consultant, KPAC KP Actuaries and Consultants



Mr. Subrahmanyam commenced the session by giving a brief introduction

of **Mr. Khushwant Pahwa**. Mr. Pahwa commenced the session by giving a brief introduction about APS 27. He spoke about how the current advisory group was constituted in 2014 to revamp the 10 APS and concise them into one single APS. It was decided to have a principles-based standard which would not be too prescriptive.

He stressed on the fact that the new APS 27 applies to all kinds of Actuarial work relating to Employee Benefits. The main objective of introducing the new APS was to enable the user of actuarial work in the area of employee benefits to be able to place a high degree of reliance on the information's relevance, transparency of assumptions, completeness and comprehensibility.

The APS is largely divided into two parts viz General Principles and Technical Application. The Technical Applications Section outlines how some of the principles can be applied in the Indian context, given the nuances of the most prevalent type of employee benefit plans with which the members are involved whereas the General Principles Section does lay down various reporting requirements for Actuaries.

Having given an introduction of APS 27, he moved on to explain what the applicability would mean for the Actuarial Profession. He covered this part of the section by stressing over four main changes that would be observed after the application of APS 27. The changes are as below:

- Enhanced Quality of Reporting
- Better Choice of Assumptions
- Addresses Reputational Risks
- Better Understanding and management of Liabilities

Having explained the above-mentioned changes in detail, Mr. Pahwa moved on to talk about the reasonableness of the assumptions which would attract a lot of talk post implementation of APS 27.

Mr. Pahwa gave through a concised diagram his views on the responsibilities of the parties involved in the valuation process.

The diagram showing the responsibilities of the concerned parties is as below:

Aspect	Actuary	Management	Auditor
Data	Check	Provide	Check
Assumptions	Advise	Decide	Concur
Valuations / Results	Provide	Rely	Rely (Can question)
Disclosures	Provide	Disclose	Concur
Liability Management	Assist	Manage	-

He also spoke about the Company Law, Accounting Standards which would put onus on reporting entity whereas Standards of Auditors (SA 500) which would put onus on the auditors. He discussed key challenges that would arise in implementation of APS 27, as below:

- **Internal vs External** wherein Actuary would face difficulty in setting the right assumption as he would be working as a consultant having limited information regarding the company.
- **Lack of Regulatory Power** wherein Employee Benefits Actuaries would not have enough regulatory power which would enable them for negotiations which Actuaries working for Insurance companies enjoy.
- **Availability of Data** wherein many companies would not be able to share data for some or the other reasons for the purpose of conducting various experience investigations.
- **Time Constraint** wherein most companies treat Employee Benefit Actuarial Valuations as a year-end exercise and do not engage in advance. This would not give actuaries sufficient time to conduct detailed investigation around reasonableness of assumptions.
- **Client to Actuary Ratio** wherein there are more than 20,000 companies for the nearly 100 actuaries in the Employee Benefits side.

All the challenges mentioned above would put the Actuary at risk as Commenting based on incomplete information and in limited time may setup members in direct conflict with the clients and sometimes even with the auditors. Also, there would be times when actuary has, based on his limited understanding, comments on inappropriateness of assumptions chosen whereas the clients and the auditors, with full view of the business, may believe otherwise. Having spoken about the challenges, he raised a few questions with regarding to the way out for these challenges.

Mr. Pahwa concluded the session on a positive note by saying that the introduction of APS 27 would enhance the quality of reporting carried out by practitioners in the area of employee benefits. He was also of the opinion that introduction of APS 27 would improve understand-ability of actuarial reports by non-practitioners, enable the management and auditors to make better decisions about the choice of assumptions and would help the management in understanding as well as managing the liabilities. He also stated that the introduction of the new APS would cause immediate pain to Actuaries but would result in more peace of mind in medium to long-term. He finally concluded the session by saying he would hope for a positive impact of the APS in the next one or two years.

The question and answer session was very lively with the audience asking multiple questions on the presentation.

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"Rudresh is working with M/s. K. A. Pandit as professional actuarial experience in employee benefits for India and Globally."





The Babylonians invented it.
The Greeks abhorred it.
The Hindus worshipped it.
Its roots stretch back to the dawn of time billions of years before the first civilisations.
It is the greatest scientific discovery of all time.
It is **NOTHING** and yet is **EVERYTHING**.
It has powerful mathematical properties and the power to re-define the framework of logic.
It evokes images of a primal void.
It is the number **ZERO**!

LIFE – MATHEMATICS = ZERO

This is an interesting equation that I came across as a child. Mathematics is not just a subject, it is a way of life. Look outside your window- the sun, the moon, and why go so far, the very branches of the trees and the beautiful sunflowers in the fields, or a ripple formed in the puddle as raindrops fall, all of it is governed by this beautiful subject named Mathematics. As Paul Erdős remarked on the beauty of mathematics, "Why are numbers beautiful? It's like asking why is Beethoven's Ninth Symphony beautiful. If you don't see why, someone can't tell you. I know numbers are beautiful. If they aren't beautiful, nothing is"

We (a group of students of the Institute of Actuaries of India) aim to ease such simple mathematical concepts for students from various Schools and Non-Profit Non-Governmental organizations that include Doorstep School, Mukangan, Salaam Baalak, MSWC, Street Children Project. We conduct sessions and tell them stories that astound them and urge them to find the answers to some of their own questions. So often we find that the students we are trying to inspire are the ones that end up inspiring us!

It is during one of these sessions that a student asked how was 'Zero'

originated and why we write it the way it is written today. This very thought inspired us to enact a play at the AGFA: GCA 2018, titled- The Power of Zero



At the GCA 2016, the math stars had put a play that presented snapshots from the life of the man who first questioned infinity and its existence-Srinivas Ramanujan. This was the second consecutive GCA where the math stars put up a phenomenal play that was based on another important discovery in the history of mankind: Zero. The play written in Hindi and directed by Ruchira Pingulkar revolves around the life of a young student named Bhaskar who scores a zero in the school mathematics examination. The mathematics teacher, in an attempt to encourage the students, decides to take them on a time

travel journey to explain the history of zero and that one shouldn't ignore its significance.

The history of zero was shown to date back to the 6th century when Aryabhatta first thought about the concept of zero but was unable to give it a sign. A century later, his student Bhaskaracharya decided to write it round like the Sun which in fact is the meaning of his name- Bhaskar. The play continued to show how Bhaskaracharya wrote zero for the first time at the Chaturbhuj Temple in Gwalior and demonstrated the same by way visual projections.



Centuries later in the year 1679, Gottfried Wilhelm Leibniz documented the modern binary system in his article "Explication de l'Arithmétique Binaire". Leibniz's system used 0 and 1, like the modern binary numeral system. Later in the year 1938 American mathematician and electrical engineer Claude Shannon and a group of scientists implemented Boolean Algebra and Binary Arithmetic using electronic relays and switches for the first time in history. The award-winning paper, "A Symbolic Analysis of Relay and Switching Circuits", went on to revolutionize the study of switches and relays, which in turn form the circuitry behind the binary arithmetic of modern computers. And today, if you look around carefully, you'll see the applications of that number zero everywhere. The audience appreciated and applauded these young artists.

The play brought Aryabhatta and Bhaskaracharya back to life and

they completely stole the show! At the end of the play an interactive section was held with the audience and a fun question was asked by one of the young artists- Name a song in Bollywood that speaks about this amazing contribution of India- Zero, to the world of mathematics? After a few moments of silence, one of the guests at the event stood up and rightly sang Manoj Kumar's tune...and everyone hummed along.

So that's the power of zero, it is supposed to be nothing, but works wonders if on the right side! Kudos to these young artists- **Sanjana Aadhalrao, Pooja Kanojia, Akash Chauhan, Romish Yadav, Anita Rathod, Kush Rathod, Anil Rathod** and the entire team of The Power Of Zero: **Ruchira Pingulakar, Shruti Shetty, Tanuj Mittal, Divya Dadlani, Shantaram Bhagat** (Lights), **Shashikant Sakpal** (Makeup Artist), **Easha Shah, Vishal Narang** and **Siddharth Narayanan**.



In addition to the play, a team of volunteers (**Nikita Prabhu, Om Prabhu, Khushbu Shah, Nrupal Sanil, Supriya, Molly Maheshwari**) had arranged a fun-filled evening for our math stars. They were indulged in a variety of math related games and quizzes. The first round was the **"Kaun Banega 'Maths'pati"** round.

Inspired by the popular television game show, the students were given multiple-choice questions based on Mathematics and General

Knowledge. The students were excited and performed exceptionally well and hence it was a challenge for the organisers to shortlist 10 students for the next round. However, as a rapid-fire round, the students were asked to write the squares of numbers, the top ten students who wrote the maximum squares qualified for the next round. In the next round, the students were given a straw and were asked to pick and drop chocolates (Gems) from one plate to

the other using nothing but the straw.

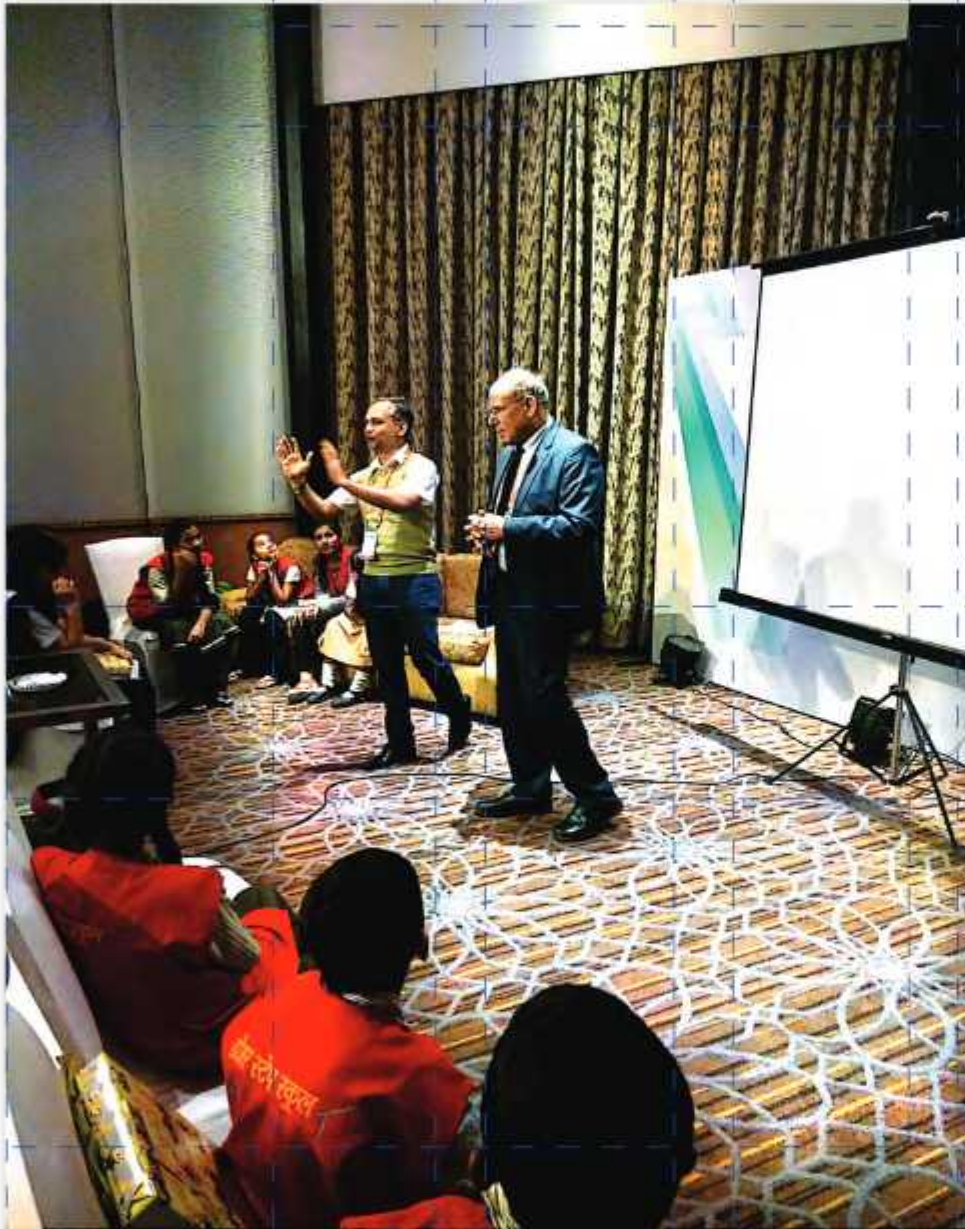
On completion, the kids had to solve a BODMAS equation and use these chocolates to form that number. The kids were delighted by the innovative games and the winners- **Rajan Sharma, Sunil Panad, Shravan Tawde** and **Sakshi Chaudhary** were felicitated at the AGFA by **Mr. Sanjeeb Kumar**, President IAI and **Ms. Marjorie Ngwenya**, President IFoA.



Thereafter there was an interactive session between the math stars and a few guests and dignitaries who were present at the GCA. The students were excited to meet our dear actuaries. **Mr. Dinesh Khansili**, Executive Director of the Institute of Actuaries of India, shared some of his childhood experiences and motivated the kids to focus on their goals. **Mr. Ashish Taneja** shared his views on the play that was presented and how mathematics has played an important role in his life.



Later, **Rajiv Mukherjee** shared interesting insights and stories on this beautiful subject and how mathematical patterns could be located in nature and importantly that one should enjoy learning this subject. Krithika Verma shared her past experiences as a volunteer for the Math Stars event and encouraged the students to carry forward this tradition with the same enthusiasm. **David Dror** spoke on health insurance and its importance today. He shared some of his own life experiences and how he came up with the idea to set up a Micro Insurance Academy in Delhi to help the needy. The students and the volunteers were enthralled by their talks. The kids wished to be like the actuaries they met while the actuaries could see their childhood in these kids. Nostalgia and ambition exchanged glances!



The kids enjoyed watching other cultural programmes and were all inspired as the fellows, associates and various subject toppers were felicitated at the AGFA. Later, they enjoyed a feast before leaving for their respective destinations with a hand full of gifts and goodies from the volunteers. The Institute of Actuaries of India and The Institute and Faculty of Actuaries, UK.

We place our appreciation to Dinesh Khansili, Binita Rautela and the wonderful staff at the Institute of Actuaries Of India for their support. They even helped us in technical matters such as the execution of lights and sound systems as well. Like every year, Mayur Ankolekar contributed to this yearly intervention to invite the math stars and give them a glimpse of the actuarial world. A word of gratitude is due to Liyaquat Khan who first lent support to the idea at the GCA in 2011.

This reminds me of a popular quote by Julia Carney,

***"Little drops of water,
little grains of sand,
make the mighty ocean
and the pleasant land."***

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A new coalition government was announced on 19 October 2017⁽¹⁾. However, most macro-economic policy settings remain unchanged, albeit with more emphasis on helping the lower-paid. Unemployment in December 2017 was the lowest since December 2008⁽²⁾, with inflation running at 1.6% per year⁽³⁾.

Earthquake claims

Seven years after the Christchurch earthquake, here are 3,000 outstanding claims against the Earthquake Commission (EQC) who provide cover for natural disasters. The EQC has provided a guide to help claimants⁽⁴⁾. However, some litigants have attempted to inflate their claims which puts insurers to considerable cost. Fortunately, costs were recently awarded against an insured who claimed for repairs for long-term damage not caused by the insured event⁽⁵⁾.

Conduct Regulation

The Financial Services Legislation Amendment Bill⁽⁶⁾ was introduced by the old Government on 3rd August 2017 and given a first reading under the new government on 7th December 2017. Public submissions close on 23rd February 2018. New Zealand will transition to a new regime where Financial Advice Providers source business through Fied Financial Advice Representatives and Financial Advisers.

The Financial Markets Authority (FMA) believes that customer confidence is critical to a fully functional financial market. The FMA adopts a risk-based approach looking at particular circumstances, using regulation to improve customer outcomes through improved market conduct. The FMA good conduct guide⁽⁷⁾ is designed to

help providers; understand what good outcomes are for customers; deliver such outcomes; serve and balance stakeholder needs; are able to demonstrate balance between customer, business and shareholders; and disclose how good customer obligations and principles are being met. The guide is not an exhaustive check-list.

A draft industry code will promote professionalism and codify good practice by requiring members of the Financial Services Council to:

- carry out business professionally, with due care, competence and skill, and act with integrity;
- Communicate with customers clearly and effectively;
- Make reasonable efforts so customers have sufficient information to make informed decisions;
- Seek and consider customer feedback;
- Design and distribute products responsibly;
- Provide employees and distribution channels with appropriate training;
- Maintain internal processes to explain the risks to a customer of replacing an existing product;
- Manage conflicts of interest fairly and in a way that promotes good customer outcomes;
- Treat customers fairly when they seek payments.

On 15th January 2018, the Financial Markets Authority published frequently asked questions on anti-money laundering⁽⁸⁾, with a non-mandatory code of practice can provide a 'safe harbour'.

IFRS 17

The New Zealand Society of Actuaries established a working

group to look at the transition to implementing IFRS17. The new accounting standard will affect insurers across the world⁽⁹⁾. Some of the issues are yet to be resolved, so the issues identified below are tentative.

Most life insurance written in New Zealand is yearly reviewable term with high up-front commission. Deferred acquisition costs, which can be as high as 200% of the first year's premium, is currently a policy asset recouped over the policy lifetime. A big initial loss will be ensue if the contract boundary is set to one year for reviewable premiums.

New Zealand offers a lot of multi-peril products, where individual benefits have traditionally been grouped separately. However, Under IFRS17 the lowest unit of account will be a policy. Policies will be grouped over a period no longer than one-year. Groupings will remain fixed, but the amalgamation of groups into portfolios can change.

Reinsurance on a contract will be treated as a separate contract which could potentially have a different contract boundary to the underlying insurance contract.

The release of margins could be based on claims, rather than sums insured. This will defer the release of risk margins, even though risk is proportional to expected claims.

New Zealand Society of Actuaries

The Financial Services Forum was held in Auckland on 28th November 2017 covering Mergers and Acquisitions, RBNZ data returns, review of superannuation, review of advice code, Insure tech and IFRS17 update. This was followed by the annual general meeting.

The new Council comprises Andrea Gluyas (President), John Smeed (Vice-President), Ross Simmonds (Secretary), Nick Smart (Treasurer), Richard Beauchamp (Immediate Past President), Adam Follington (Member) and Catherine Johnston (Member).

The Society made submission to Reserve Bank of New Zealand on the audit of insurer returns⁽¹⁰⁾. The regulator has some concerns about quality and comparability of data and cost of an audit on statistical returns could be onerous for smaller insurers.

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“John Smith is the Appointed Actuary of Fidelity Life the largest New Zealand owned Life Insurer.”



ANNOUNCEMENT



Seminar on Current Issues in Life Assurance (13th CILA)

Organized by : Advisory Group on Life Insurance, IAI. || Date : 26-27 March, 2018

The objective of the seminar is to present, discuss and deliberate on the various issues and possible solutions that are of significance today to the Indian Life Insurance Industry. The seminar is a combination of speeches, presentation and panel discussions. The coverage is broad so as to be of interest to a diverse set of participants working in different areas of the life insurance industry. The content, in large parts is non-actuarial, non-technical and hence of relevance to the non-actuarial audience as well. In the past, we have seen a significant part of the audience drawn from very diverse areas of Life Insurance practice.

Who Should Attend? All financial professionals associated with the Life Insurance industry.

General Matters : Registration Fees for Student & Associate members: ₹ 3,750/- (+ 18% GST)

Registration Fees for Other members: ₹ 7,500/- (+ 18% GST)

Registration Fees for Non Members: ₹ 9,000/- (+ 18% GST)

Register Now at : <http://www.actuariesindia.org/seminarregistration.aspx>

CPD Credit for IAI Members : 12 hours – Technical

Point of Contact for any query : ambreen@actuariesindia.org

The word cloud is shaped like a tree, with the canopy at the top and the trunk at the bottom. The words are arranged to resemble the structure of a tree, with the canopy at the top and the trunk at the bottom. The words are in various sizes and orientations, creating a dense and complex visual representation of business concepts.

Key words visible in the word cloud include:

- Employee Talks**
- Risk**
- Capital**
- Profitability**
- Investment**
- Growth**
- Valuation**
- Pension**
- Reserving**
- Insurance**
- Product Design**
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Celebrating



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Since 1943

Your
connected
customers

+

Our
customized
solutions

=

More
moments like this



Swiss Re

All around the world, the protection gap still yawns. There are millions of potential customers out there. But how do you reach them on their terms? What insights do you have about how they behave? And what can you do to increase the chances they'll say yes to life or disability cover? At Swiss Re, we've developed tools that inform, streamline and customise the whole business of underwriting. We'll help you extract actionable insights from ever-growing pools of data, and connect with your customers better by understanding what makes them tick. So you can build confidence in your decisions, build the ideal customer experience and – ultimately – help build better lives. **We're smarter together.**

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