



*The Indian Actuarial Service Delivery -
Evolution of Global Actuarial Functions*

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Evolving Frontiers, Exciting Prospects

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Table of Content

Contents

A. Spectrum of Services

B. Recent Progress

C. Challenges Persist

D. Endeavors to Overcome Challenges

E. The Buzz in Industry

F. Few Examples

G. Emerging Technologies & Trends

- A Boon for Global Actuarial Functions

H. New Ammo For Traditional Areas

- Possible Support Areas For Actuaries

I. Capitalize The Opportunity – How?

J. Benefits for India

Spectrum of Services

Life Insurance

- Data Management
- Statutory reporting and Experience Analysis
- Product pricing
- Testing - Solvency, Profitability
- Sensitivity/Scenario analysis
- Group scheme valuations & price quotes
- Claims/Loss analysis, Reserve study, ranges, A vs. E study
- Valuation – Cash Flow projection
- Underwriting support

Reinsurance

- Data Management
- Catastrophe Modeling
- Ratemaking, Rate filing support, Treaty review renewal support
- Reserve study, ranges, actual vs. budgeted study
- Predictive modeling, time series analysis, multivariate analysis
- Valuation – Cash Flow, Funding/accounting
- Portfolio analysis and transfers/commutation support
- Asset-Liability modeling

Property & Casualty / Health

- Data Management
- Statutory reporting
- Pricing - Ratemaking, Rate filing support, pricing optimization
- Reserve study, Claims/ Loss analysis, IBNR calculations, actual vs. budgeted study
- Predictive modeling, Stochastic projections, multivariate analysis, portfolio analysis
- Fraud and recovery analysis
- Dynamic Financial Analysis (DFA)

Pension & Retirement

- Data Management
- Actuarial & Statutory Reports
- Funding & Post retirement valuation
- Minimum/ Maximum required contribution (MRC) calculations
- Net periodic pensions (NPP) costs
- Benefit calculations
- Reserve study, ranges, actual vs. budgeted study
- Non-discrimination testing
- Asset-Liability modeling

Recent Progress

Global actuarial functions in India are strategically aligned to move up the value chain and provide higher-end services across the spectrum. These initiatives have shown promising results and an upward shift in the traditional service areas in last few years.

THEN

- Resource Support
- Technical Advisor
- Operational KPIs
- Segregated Team
- Hire Talent



NOW / FUTURE

- Functional Ownership
- Regulatory signoffs
- Business KPIs
- Integrated Services/ Center of Excellence
- Develop Talent

Shift towards becoming a Trusted Partner

Challenges Persist...

Reducing Cost Arbitrage

- Reducing cost arbitrage due to wage inflation – depleting margins
- Despite recent progress, momentum to move up the value chain lacks required acceleration, resulting in inability to tap higher cost differentials in complex, higher-end work

Increasing Competition

- Philippines, South Africa, Latin America, and Eastern European countries are fast catching up with India in terms of both cost advantages and growing talent pool
- Clients have an incentive to outsource to newer destinations to manage the supplier concentration risk

Scarcity of Experienced Resources

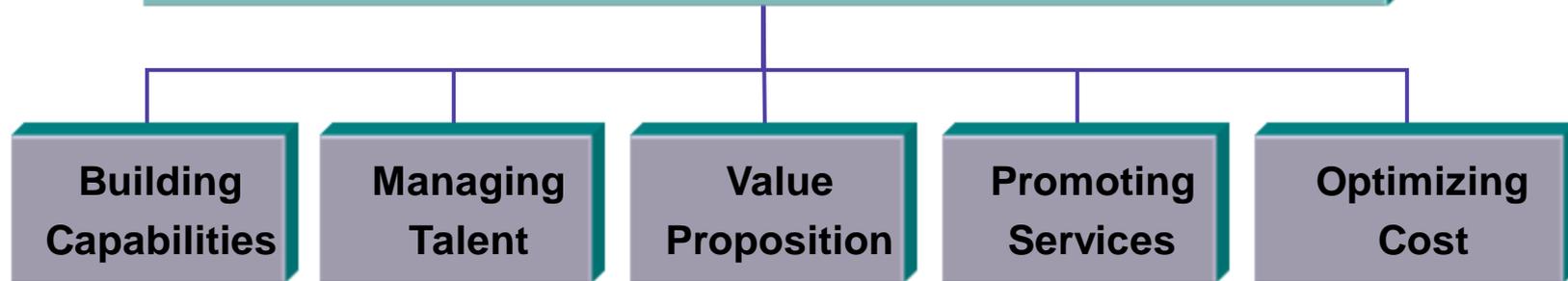
- Scarcity of highly experienced resources to deliver on high-end complex projects
- Employee turnover on higher side compared to matured markets
- Long journey time from student to fellowship

Changing Customer Requirements

- Reducing cost arbitrage due to wage inflation – depleting margins
- Despite recent progress, momentum to move up the value chain lacks required acceleration, resulting in inability to tap higher cost differentials in complex, higher-end work

Endeavors to Overcome Challenges

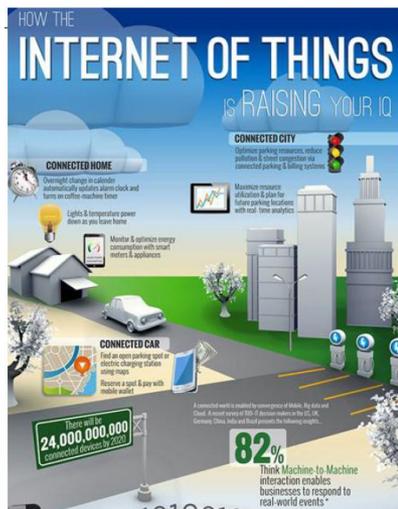
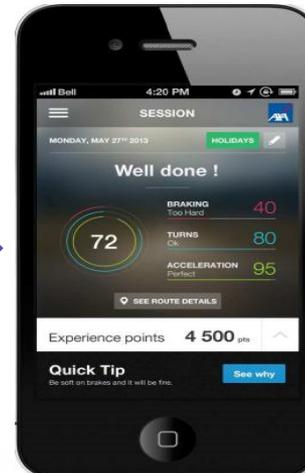
Conventional measures to overcome the challenges



- These measures have yielded positive results; however, a major strategic shift is required to catalyze the growth and fuel this journey further
- Insurance industry across the globe is at a tipping point and is trying to adopt business transformation drivers from other sectors like retail, banking, etc., through dynamic and real-time use of traditional and non-traditional data sources
- Market research indicates these changes can be a critical lever to transform the insurance industry and presents a huge opportunity for us to capitalize on

The Buzz in Industry

The World We Live In Today: Data Super Abundance & Instant Information Access



Empowered Customers are Changing the Rules



The future is already here, it's just not evenly distributed – William Gibson

Few Examples...(1/2)

Telematics Products for Motor

Product Feature						
Product Name	Drive Save	Aviva Drive	Snapshot	OnStar/InDrive/SYN C	Clear Box	Drive Safe
Geography	Ireland	UK	US	US	Italy	UK
Driving Score Range	1 - 100	0 – 10 (10 safest)	Not Mentioned	Not Mentioned	Not Mentioned	0 - 100
Driving Parameters	Geographic position, travelling speed, acceleration and braking severity	Acceleration, Braking and Cornering	Braking, Miles driven, driving between midnight to 4AM,	Miles driven, driving characteristics	Miles driven	Time of day, Speeding, Cornering speed , Braking, Acceleration
Technology	Smart Phone	Smart Phone	OBD II Dongle	Black Box	Black Box	Black Box
Maximum Discount	Upto 30%	10% for premium b/w GBP 200 - 400; 20% for premium > GBP 400	Information not available	Upto 50%	Upto 18% of TP and upto 15% on Comprehensive	Not Mentioned
Real Time Location Access	Yes	No	No	Yes	Yes	Yes
Any Loading due to low Driving Score	No	No	No	No; could be basis miles driven(at renewal)	Not mentioned	Yes
Premium Change interval	4 months	No Information	6 months	6 months	No Information	3 months
GPS Signal Required	Yes	Yes	No	Yes	Yes	Yes

Few Examples...(2/2)

Healthcare Innovations



Propeller Health (Asthmapolis)

- GPS enabled tracker monitors acute and prophylactic inhaler usage by consumers and reports to central database
- Collected usage data combined with GPS/geographic to identify individual, group, and population-based trends
- Personalized treatment plans develop in conjunction with established industry guides



Ginger.io

- New mobile app that gathers continuous active and passive patient data for risk monitoring and tailored care provision
- Health monitor targeted towards consumers streams to physicians / providers in real time
- Collected data applicable to researchers understanding trends in consumer behavior



Rise Health

- Emerging company focused on ACO-enablement and tailored care through automated, value-based software
- Streamlines provider practices while maintaining high quality of care for consumers
- Supports interaction between consumers and physicians with dedicated call centers



Health Decisions

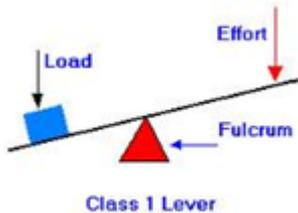
- Biotech support company leveraging information flow and decision-making methods to reduce clinical trial duration, size and costs
- Digital software platforms collect live data from trial sites and applicant pools to streamline trial operations
- Reduce trial duration, cost, and risk of failure

Emerging Technologies & Trends - A Boon for Global Actuarial Functions



Drivers:

- Everyone's experimenting – no one knows all the right answers
- Large dependency on technical & computing know-how & lack of such resources internationally
- Massive investment requirements (especially for IT infrastructure) – could be done centrally



Levers:

- Strong vision to support & invest in innovation will remove entry barriers
- Large talent pool of computing experts with sound technical know-how available in India

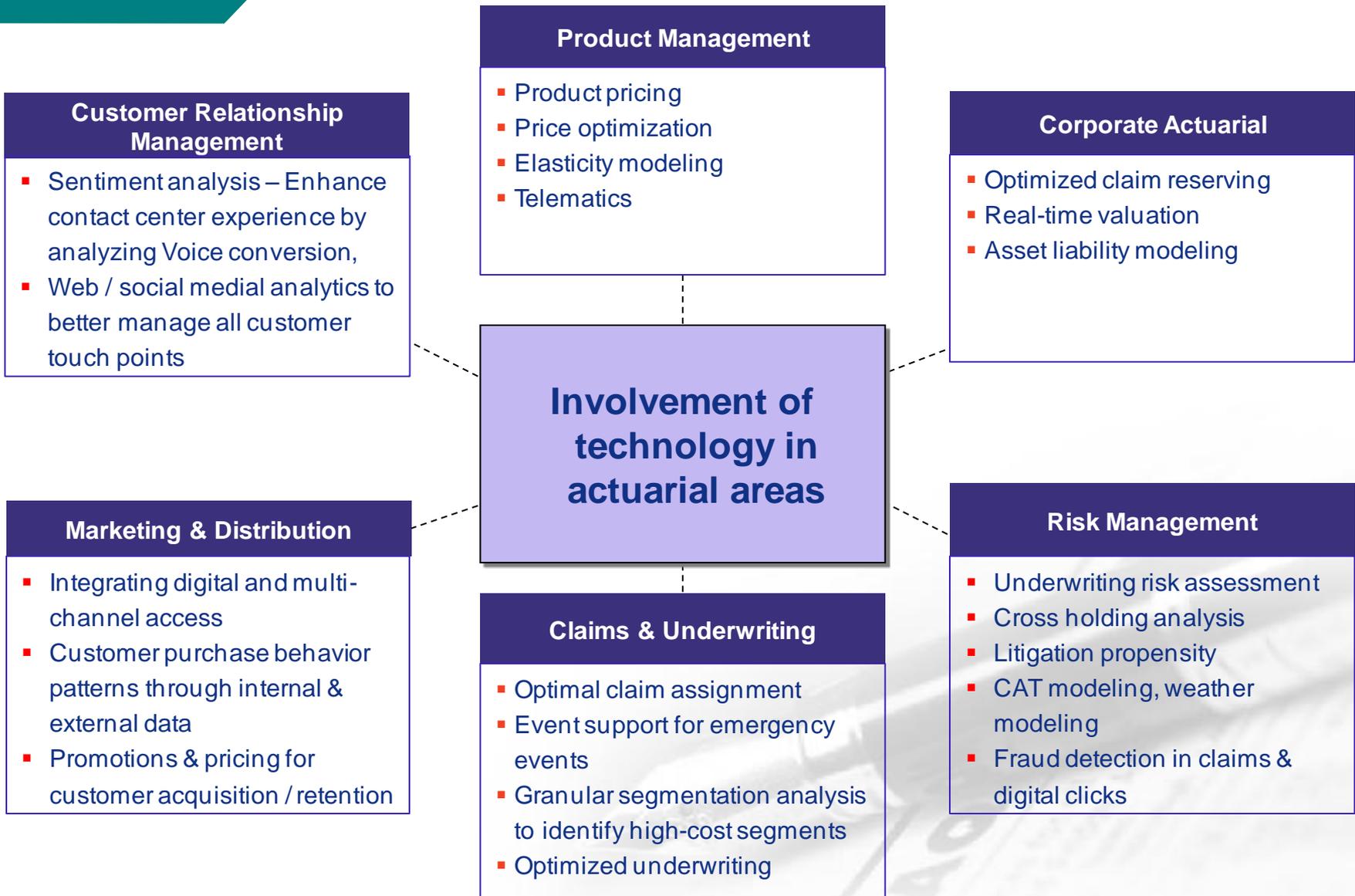


Benefits:

- Opportunity to develop more end-to-end understanding of client's business / processes
- Participation & success on new initiatives / pilots will build confidence and provide more opportunities to support traditional actuarial functions
- Create a talent pool with experience of both emerging technologies & insurance business

New Ammo For Traditional Areas

- Possible Support Areas For Actuaries

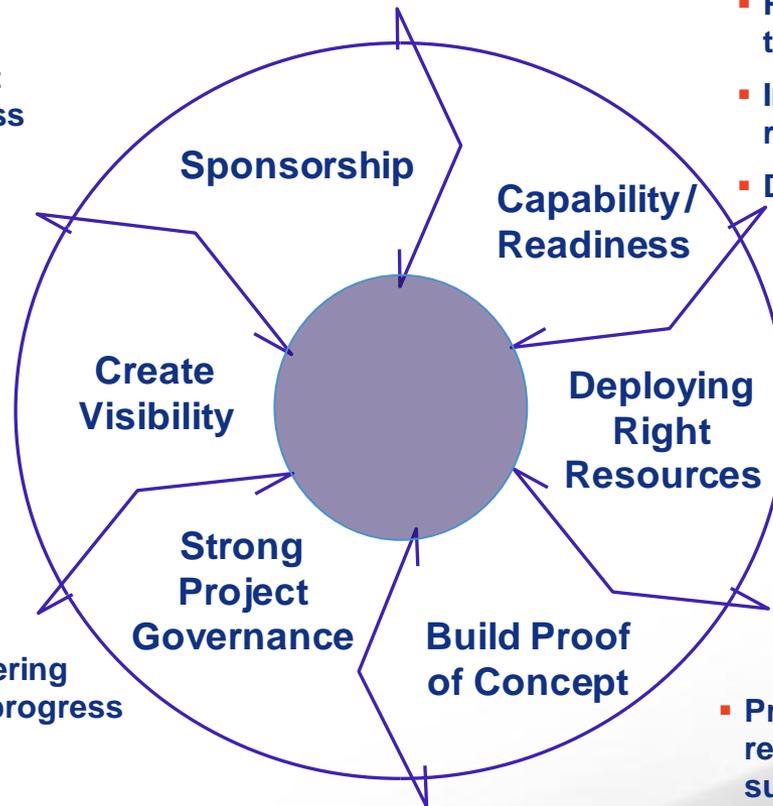


Capitalize The Opportunity – How?

- Leadership buy-in and project sponsorship to ensure success

- Promote capabilities and success stories to create visibility
- Generate engagement opportunities to strengthen footprints

- Regular project reviews & steering committee meetings to track progress and take corrective measures
- Create a framework to ensure adherence to project objectives and provide a culture of continuous learning & development to retain knowledge



- Participation in global events for up-to-date market information
- Invest in R&D and training to up-skill resources
- Develop required IT infrastructure

- Hire specific skillsets for emerging technologies to provide technical know-how for actuarial functions (data scientists, computing experts, big data programmers, etc.)

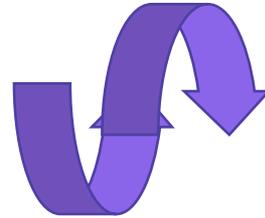
- Provide relevant exposure to resources by participating / supporting in pilot projects and short-term assignments

Emerging trends need to complement the existing framework – so what we need is not an overhaul but to figure out how to plug the pieces

Benefits for India

Indian Insurers

- Opportunity to learn from global innovations and practices and prepare for the challenges of the Indian market
- Availability of trained / experienced resources with exposure of emerging technologies and insurance business solutions
- Ability to make effective use of data & technology to improve profitability and market share



Actuarial Talent

- Increased employment opportunities for Indian actuarial talent in the global functions
- Gain international exposure with opportunities to travel globally for work & training
- Exposure to actuarial roles in broader functions
- Develop understanding of both matured and emerging markets
- Knowledge of regulatory framework in global markets

Question Time?



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