



Institute  
and Faculty  
of Actuaries

# Modelling, Analytics and Insights in Data (MAID) End of term report

Michael Tripp



# Agenda

- Background and original ToR
- Work stream structure and deliverables
- Events held
- The IFoA now
- The future
  - Potential technical developments
  - A MIG? (member interest group)
  - Things we need to do
- Appreciation

# Original ToR

- Rapid changes in technology and computing power
- Websites, social media, big data
- Modern maths, OR, computer science – revolution in predictive analytics
- Data science – Actuary – Quantitative analyst
- 4 work streams

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# Work stream 1 - research

- Undertook member research
- RTALC interface – eg UEA
- <https://www.actuaries.org.uk/documents/foa-member-survey-data-science-universe-results-and-recommendations>

# Work stream 2 – applications to traditional problems

- Reviewed possible areas to consider
- Selected 4
  - Unstructured data and interest rates
  - Marine Hull pricing
  - Supervised learning and exposure management
  - Mortality experience analysis
- Case studies developed and shared
- Paper summarising machine learning, data science and case studies
- Now developing follow up
  - Machine Learning framework for actuaries
  - Validation and the performance of machine learning models
  - 2-3 more case studies

# Work stream 3 – new areas

- Implications from new technology – the potential
  - Machine learning
  - Wearables
  - Genetics and diagnoses
- Need for collaboration
- How are the jobs markets developing
  - Data scientists or actuaries or both?
  - Programming and/or maths skills
  - Value of being in a profession diminishing
  - Commercial skills and attitudes can be lacking in actuaries
  - And yet, actuaries have appetite to broaden
  - Reserved (regulatory) roles need a control mechanism (now the FRC & IFoA)

# Work stream 4 – implications for our profession

- Recruitment and qualification
- CPD and life long learning
- Thought leadership
- Positioning
- Regulatory implications
- Collaboration – map of possibilities
- Member communication and a ‘data science portal’
- Ethics



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## Events held include:

- Initial Working Party meeting – 27 January 2016
- Ongoing Working Party – management and work stream reviews
- Several talks from the various work streams
- Open meetings at Staple Inn – 11 May 2016 and 3 April 2017
- IFoA Council discussions – February 2017, October 2017, January 2018
- IFoA hosted Global Symposium – 12/13 September 2017
- Conference presentations – eg GIRO, Life, Momentum.....

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# IFoA now

- MOOC and exams – Lifelong learning
- Routes to and stages of qualification
- CPD
- Positioning and PR
- International collaboration – SOA/CAS
- Wider collaboration - RSS

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# Potential Technical Developments

- Quantum computing
- Block chain – crypto currency
- Fin Tech and business change
- Cognitive computing
- Artificial Intelligence
- Robotics
- The singularity before 2030 (irrelevance of judgement)

# Consequences

- The way we live and career structures
- Professions automated
- Economic disruption

# A Member Interest Group

- We need some forum
- Ongoing radar and best practice
- Excitement and sharing
- ToR and volunteering – separate item



# Actions outside the MIG

- Collaboration specifics
- Ethics and consideration about data usage
- Regulatory review implications
- Adaptive thinking – faster change cycles
- Identifying our positioning and value in 5 and 10 years time
- PR, image and position
- Support for Lifelong learning initiative
- UK, International and fee variations

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# A MASSIVE THANK YOU

- The staff of the IFoA
- All Working Party Members
- IFoA Council
  
- From 'big background issue' to 'in the bloodstream'



# Questions



# Comments

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