

DATA SCIENCE AND ETHICS IN INSURANCE AND THE ACTUARIAL PROFESSION

The AAE's¹ thinking regarding the implications of Big Data and modern Predictive Analytics to insurance and the actuarial profession is developing. This document illustrates our current views regarding ethics and responsibility. Novel analytics promises great economic and societal benefits. It is in the public interest to harness these benefits so that the approach is balanced in relation to fundamental ethical values.

Modern data science affects insurance in a variety of ways. The AAE's focus is on areas such as reserving or pricing/distribution where data analysis plays a role and where it has the potential to inappropriately affect the balance between the interest of any one insured and the pool of insureds. Certain characteristics (moral hazard, fraud, anti-selection) can prevent insurance from functioning in an unregulated market. It is in the public interest that insurance is effectively regulated (business conduct, especially fairness vis-à-vis the customer, and inclusion) in order to facilitate its existence. Moreover, society might require more or less *solidarity* as an essential component.

Appropriate practice of insurance requires differentiation of risks. This differentiation needs to obey rules concerning avoidance of anti-discrimination. Actuaries can help to explain why a more fundamental discussion on the concept of anti-discrimination in insurance and most probably more widely is needed.

Trust is of utmost importance to insurance. Misuse of novel techniques could adversely impact the insurance industry, both reputationally and financially. It is of utmost importance to the industry that all the professionals using these techniques are doing so in a sensible manner and can communicate the assumptions, consequences and limitations of the techniques used to their stakeholders.

The actuarial profession builds on a common understanding both of how we should fulfil our responsibilities technically and ethically and of what this entails. It rests on a common education system and a common ethical code of conduct. Balancing fairness for the individual and the collective is our guiding principle.

The discussion about trustworthy AI is of utmost importance for our profession. Firstly, because our activities are affected, secondly, because we can enrich the discussion with our long-standing experience, and thirdly, because we provide a professional and conduct framework that can serve society in ensuring that ethical principles are understood and adhered to in all actuarial work in

¹ *The Actuarial Association of Europe (AAE) was established in 1978 under the name Groupe Consultatif to represent actuarial associations in Europe. Its primary purpose is to provide advice and opinions to the various organisations of the European Union - the Commission, the Council of Ministers, the European Parliament, the European Supervisors and their committees – on actuarial issues in European legislation. The AAE currently has 36 member associations in 35 European countries, representing over 25,000 actuaries. Advice and comments provided by the AAE on behalf of the European actuarial profession are totally independent of industry interests.*

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insurance, whether it be performed by actuaries, or by data scientists without full actuarial credentials.

We would welcome the opportunity to discuss our ideas further. Two persons recommended by the AAE will participate in the EIOPA Consultative Expert Group on Digital Ethics in Insurance.

Contact:

Monique Schuilenburg, Executive Assistant, AAE moniques@actuary.eu

Twitter: @InfoAAE

Esko Kivisaari, Chairperson, AAE

esko.kivisaari@financefinland.fi

Twitter: @EskoKivisaari