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The Actuary of the Future: A Look into the Future of the Actuarial Profession

As the insurance market is undergoing significant change, the future is uncertain. In recent years, the actuarial profession has already undergone significant transformation with the advent of new technologies and innovative techniques. Change brings new challenges for actuaries that either can be seen as opportunities or threats. It is important to consider if (and how) actuaries are preparing and responding to these changes. In this article, we explore three trends within the actuarial profession that define the actuary of the future. These trends are identified based on the Global Actuary of the Future survey, which was concluded in 2022 by PwC.

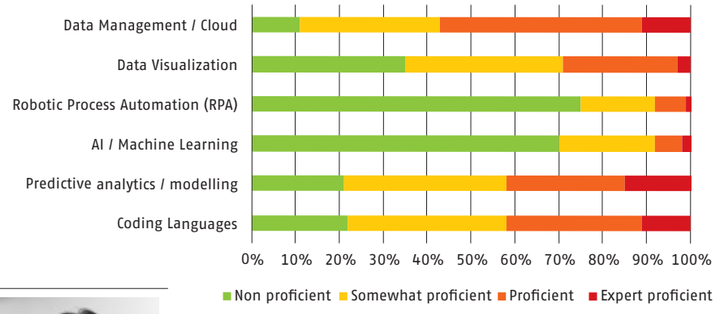
Survey results highlight that most actuaries, especially the young, have a positive and optimistic look on the future. Interestingly, they expect and welcome the new challenges that inevitably follow from the changing landscape of the actuarial profession. They even interpret these changes as opportunities. When comparing this perception to their more experienced and seasoned actuarial colleagues, the latter see things slightly less optimistic. Looking towards the future and seeing both opportunities and threats, what does the future have in store for the actuarial profession?

TREND 1: INCREASING USE OF DATA AND TECHNOLOGY

With the explosion of data and the growth of new technologies such as Artificial Intelligence (AI) and Machine Learning (ML), actuaries are now able to analyze and model data in new and innovative ways. This leads to a greater understanding of more complex risks and the development of new techniques and models to manage them.

The actuary of the future needs to be comfortable with data, technology and be able to work with data scientists and software engineers to develop new and innovative solutions. The requirements of the future actuary further extend to developing and maintaining coding skills, having knowledge on ethics of data usage, to being confident in navigating the current legislation and regulation. For example, we observe a demand from management boards moving from deterministic and predictive modeling "dashboard" to real-time simulation "cockpit" supporting decision-making. The survey finds that more than 80% of the actuaries rank the proficiency in coding languages and predictive analytics or modeling as important. Equally surprising is that more than 50% don't find AI and ML important.

Respondents' perceived level of proficiency for each key emerging technical skills



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TREND 2: INCREASING FOCUS ON RISK MANAGEMENT AND DE-RISKING

Both within the insurance and pension industry and beyond, there is an increasing focus on risk management.

The insurance industry is facing an increase in customer demand for preventing claims, which changes the business model for Non-Life insurers. Instead of managing the claims when they occur, the industry has to focus on preventing them. Insurers as such increasingly use technology to reduce claims: whether this is installing sensors on pipes – tracking their durability – or using AI to track individual driving habits – rewarding safe patterns by a premium reduction. Several Danish insurers apply these preventive measures to prevent incidents.

Furthermore, in life and pension companies effort is made towards preventative actions for disability. Nurses and therapists have been recruited to both offer consultations on how to prevent or manage stress and other mental incidents. Actuaries have made complex models that provide input to these nurses as well as receive information regarding the disease pattern from health care professionals.

With the rise of new unknown and complex risks – like cyber risk – actuaries are being called to provide expert risk management solutions for organizations way beyond their traditional and classical scope. As a result of this, the actuary of the future needs to be familiar with and versatile to new and emerging risks. The ability to design and implement risk management strategies becomes crucial. This way, the non-traditional risks can be handled. Historically, the actuary got part of their power through their title. Currently, the focus is more on added value. Therefore, actuaries need to advertise their skills more within their respective organizations.

Actuaries can stay relevant by being curious and by using their actuarial skills in non-traditional areas such as cyber risk modeling, climate modeling and responsible AI and data ethics. The International Actuarial Association (IAA) is of the same conviction. The IAA has established a Future Actuary Task Force looking into the future domain knowledge and skillset required by actuaries in the future.

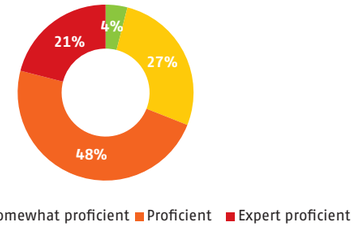
TREND 3: INCREASING INVOLVEMENT IN DECISION-MAKING

With the growing complexity of risks and the increasing importance of data, actuaries are being called to provide insights and recommendations to support decision-making. The disability preventative modeling discussed in the second trend in this article, is an example of Non-life actuarial skills used within the Life and Pension domain.

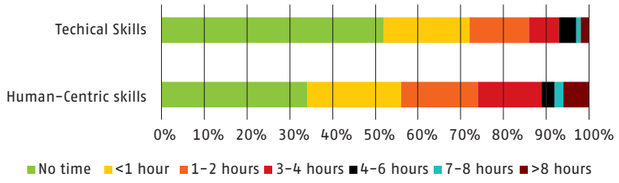
We find it common that actuarial analyses do not reach their full potential due to lack of communication skills and business understanding of actuaries. As such, the actuary of the future needs to display strong communication and interpersonal skills, as well as the ability to understand and articulate complex information.

Surprisingly, more than 30% of the actuaries contributing to the survey report their own skill level as less than proficient regarding human-centric skills, indicating a gap between their current and desired level of these skills. Importantly, more than 30% of actuaries respond they spend no time on upskilling in these areas, an additional 50% of actuaries self-report to spend less than one hour per month on upskilling. So, the ability how will we actuaries prepare for the future by improving our human-centric skills if we do not prioritize it?

Level of proficiency of human-centric skills



Time spent per month, on average, upskilling each of the following skills:



CONCLUSION

Combining the three trends introduced here, we conclude that the actuary of the future is not solely a traditional technical expert. Instead, the role is multi-faceted. The actuary is a key contributor to direct decision-making, based on expert recommendations derived from both deep knowledge of data and methods, and through collaboration with other experts.

Also, the actuary of the future has the ability to adapt to and manage both current and emerging traditional and non-traditional risks. Finally, it is a necessary requirement to be able to communicate findings, recommendations, and concerns to stakeholders of non-technical character to support them in their decision-making process. We, the future actuaries, are expected to continue to add value, leveraging an evolving range of skills and expertise. Not just remain a title rooted in the past. ■