Network for Studies on Pensions, Aging and Retirement

Applied Data Science in the Pension Industry: A Survey and Outlook

"Data science solutions have a lot of potential, if we can demystify their black-box nature"

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The pension sector is increasingly adopting data science and AI-based applications to realise leaner and faster operations or even new value propositions. Machine-learning (ML) techniques could solve many challenges the industry faces, but the sector is hesitant to embrace this dynamic technology due to its perceived black-box nature. Overcoming this hurdle will make it possible to use vast amounts of untapped pension data to identify and tackle a wide variety of issues, such as groups with insufficient pension savings.

Principal Findings

- Most pension-related data science studies have focussed on predictive tasks and chatbot development and less on clustering and gaining insight from texts and social media.
- Collecting high-quality data and integrating this in a standardised manner for use in workflows and analysis is a considerable challenge.

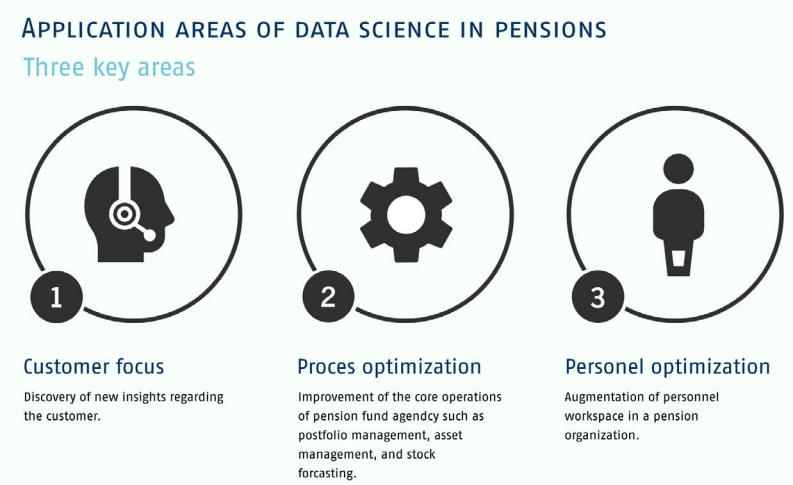

Figure: Key areas where data science is applicable in the pensions industry

- Although big data analyses can achieve a high degree of accuracy, data scientists cannot always unambiguously interpret the results.
- More research is needed into the interpretability of data science techniques (demystifying the black box).

Key Takeaways for the Industry

- The main application areas of data science in the pension sector are customer-focused approach, organisation process optimisation and personnel optimisation.
- Security and privacy issues concerning the use and analysis of pension data must be carefully considered and addressed.

Want to know more? Read the paper
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