

Expert Identification and Calibration for Collective Forecasting Tasks

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Abstract

The widespread use of the Internet and online forecasting systems offer unprecedented opportunities to leverage collective intelligence to produce increasingly accurate forecasts. Forecast support systems also offer the opportunity to address one of the weakest aspects of expert forecasting methods, the identification of experts. In the published literature, significant criticism is addressed to the subjectivity of expert identification methods, as different methods can lead, *mutatis mutandis*, to significantly different results.

This paper introduces an approach to objectively define levels of expertise within large groups in a panel setting. This information is used to fine-tune panel members' contribution to the compound forecast, in the attempt of improving the accurateness of the aggregated forecast. Tested on prospects collected from the UN World Tourism Organization (UNWTO) Panel of Tourism Experts - probably world's most widely used and influential forecasts for the tourism sector - the proposed approach proves efficient in identifying experts within large groups of individuals. Results also indicate that the method is promising in leveraging their collective knowledge to return more accurate forecasts compared to simpler methods.

Keywords: expert forecasting; expert identification; expert calibration; forecast aggregation; dynamic weight system; panel of experts.