

Software takes advantage of collective intelligence to improve decision-making

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Researchers at the Experimental Economics Laboratory in the Universitat Jaume I, coordinated by the lecturer Gerardo Sabater from the Area of Foundations of Economic Analysis, have developed the first Spanish software that leverages the collective intelligence of employees and customers to improve decision-making in the company. The Agora Market platform can implement prediction markets in an enterprise as a tool for improving the efficiency of internal information management and strategic decision-making.

Prediction markets are speculative markets in which anonymous and motivated employees or customers of the company participate, in order to predict future events and probabilities of their occurrence. As Sabater explains, "Individuals buy and sell stocks based on their own predictions of what they think it will work or not, and after that they get real money for the actions that match their predictions. That enables to track real time what an informed group believes that will happen". This technique, which is already applied in large multinationals such as IBM, Google, Eli Lilly and Siemens, has proven more reliable than surveys, expert panels or prediction algorithms. Its effectiveness is based on the hypothesis that aggregate predictions of a motivated group are more accurate than expert opinion that does not risk anything in its response.

The software is now ready for commercialization in medium or large companies, along with a comprehensive implementation service by the hand of researchers at the Laboratory of Experimental Economics that ensures its proper use to achieve reliable and robust predictions to the

customer. The technology can be applied in any business of any economic sector and industrial area. It works on Windows Vista and Windows 7 local network and in Windows Server public network, and the programming languages used are JSP, HTML, CSS, Java and Javascript. Users can access the tool through different terminals (workstations, laptops, tablets or mobile devices).

The tool has also a market maker, which provides the programme with the necessary liquidity making public offers of purchase and sale of any prediction at a given point in time and at a specified price by an algorithm or market scoring rule that enables to calculate purchase and sale prices continuously. The development of this algorithm and software package is essential for the system to be effective. Security and anonymity are achieved by generating pages that users use dynamically, so that the browser does not record any of the requests sent to the database with a particular user name.

Provided by Asociacion RUVID

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