1 > Introduction

Our research presents and compares two original approaches for technology assessment and foresight based on opposite paradigm: a management science approach (Multi-Criteria Decision-Making) versus a Web 2.0 approach (Prediction Market). In order to explore the relevance of the research, we conducted several experiments in real environments. The results demonstrated that the rigor of management science and the participation of the Web 2.0 approach are complementary strengths for technology foresight. Furthermore, a framework has been established to compare the two approaches.

2 > Settings of the Experiments

To explore our approaches for technology foresight, we applied them in the field of mobile payments. Based on previous research (Ondrus and Pigneur 2007), we selected several possible alternatives for future technology developments in the Swiss mobile payments market.

3 > Analysis of the Results

To compare our two approaches, we derived a framework based on the contingency factors developed by Lichtenthaler (2005) and the individual factors affecting technological forecasting from Levary and Han (1995). The resulting framework contains three main components: the organizational factors, the assessment properties, and the data attributes.

4 > Comparison of the two Approaches

To setup an MCDM analysis, a facilitator should be hired to meet each expert individually. Face-to-face meetings are essential to share the results. Prediction markets only need a facilitator who can setup a claim on the platform. Then, traders can play anytime and anywhere using a web browser. The challenge is to gather a motivated crowd, which trades regularly.

The efforts required for the MCDM approach are rewarded with insurance that the set of data collected is valid since the facilitator supervises the whole process. To overcome this issue in prediction markets, the crowd automatically regulates the market. Even if a trader introduces a bias in the market, the crowd would neutralize him/her by doing opposite actions.

MCMD methods are used when experts need to have a precise explanation of the phenomenon. The criteria, weights, and evaluations are useful indicators for unveiling possible weak signals. Prediction markets’ outcome is by nature a consensus. The aggregated results provide a simple but powerful indication of the probability that an event would occur.

5 > Key Success Factors


