Retail Next Best Action from Journey Data

BigR.io's expertise in software engineering, product development, database technologies, cloud engineering, web and mobile applications development has helped us to create some highly specialized solutions for the retail sector. We have experimented with various models and offer a robust & effective practical business solution.

Much of the retail marketing depends on understanding of customer behaviour. Big data technology enables the ability to profile a huge customer base. However, going beyond the usual demographics and psychographics and capturing behaviour patterns is a deeper art, requiring more than simple classification models.

Marketers reach out to prospects with a wide range of messaging touch points, and collect digital signatures whenever a customer interaction occurs. In a typical campaign, a marketing manager is given certain budgets and aims to reach some level of conversion within the campaign period.

Given the diversity of target population and vast number of candidate content, media and messages, subjective determinations of how to reach whom with what and when has always been a hit or miss proposition.

What is the data driven method to achieve the maximum return for one's marketing budget?

It turns out that the **Bayesian camp of statisticians** has an excellent model to answer this question to a surprising level of precision. By combining **Hidden Markov Model** with counter factual calculations, one can pinpoint the exact contribution of each stimulus in moving a single prospect down the sales funnel. And the aggregated summary tells the overall effectiveness of any particular collateral worthy of investment. When automated, the best message can be sent out to each person according to his or her receptivity.

However, mathematics is only half the battle. Any **Bayesian Markov Chain technique** is inherently sequential. A campaign with a list of a million prospects over typical campaign periods can run for weeks to months just for one training session, whereas, the team is waiting for instructions to conduct new campaign activities week by week. A viable solution must finish model training over the weekend with last week's updates.

We have experimented with various techniques to accelerate the computations and algorithms to a viable and practical business solution. From our past experience, we are able to deliver specific solutions to our clients. Our proven competence in this area is well above the existing industry standards.