Doing Customer Intelligence with R

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The goal of customer intelligence (CI) is to transform behavioral and motivational customer data into business insights that can change an organizations marketing strategies and tactics. CI, when done well, delivers improved customer satisfaction and loyalty. CI can only be done well, however, by merging rigorous data techniques with the skills of knowledgeable business analysts — truly is a combination of art and science.

Existing CI analytical tools are designed for the largest businesses. They are pricy and complex requiring significant commitment. Our goal, at Loyalty Matrix, is to deliver the benefits of CI to midsize organizations to enable them to compete with the large enterprises. To achieve our goal, we must be extremely efficient. We achieve efficiency by first standardizing our data housing and analytic techniques and then using tools that are economic and well understood.

Our MatrixOptimizer® platform handles data housing, basic analysis, and client presentation tasks. It is based on standard Microsoft technology: SQL Server, Analysis Services (OLAP) and .Net. What has been missing is strong presentation graphics, exploratory data analysis (EDA), rigorous basic statistics and advanced data mining methods. R promises to fill this gap.

For the last six months, Loyalty Matrix has been using R primarily for EDA, ad hoc project specific statistics and some modeling. We will present the following case studies:

1) Analysis of restaurant visits: visit intervals, travel distance, mapping diner travel patterns, seasonality by region.

2) Automotive purchase patterns: purchase intervals, survey analysis, randomForest modeling of segments, brand loyalty.

3) Retail loyalty survey analysis: visual survey analysis, competitive shopping patterns.

4) Direct marketing campaign design and evaluation: prospect targeting, predicting lift, campaign response evaluation.

Based on these learnings and our past work with numerous clients, our next step is to integrate CI methods written in R into the MatrixOptimizer making rigorous analytics, presentation quality charts, and some data mining methods directly accessible by our business analysts.

At useR! 2004, Loyalty Matrix will announce our sponsorship of an "Open CI" project. We intend to publish one or more packages specifically targeted at CI and, more broadly, at the use of R in quantitative marketing. We see great benefit in making core CI analytics open, peer reviewed, and extensible. We will be encouraging other groups to join us in the project.