True driver analysis

What's really driving your customers' experiences?

Is being helpful more important to customers than being friendly? What drives a customer to switch to another brand? What makes a customer most likely to purchase my vehicles in preference to the competition? Which customer group is most satisfied with our services?

Identifying and analysing the most important things that influence a customer's interaction with your marque – key driver analysis - is of vital importance for planning successful marketing campaigns.

Traditionally market research agencies have used statistical techniques like correlation or regression analysis in order to carry out key driver analysis. These techniques have been the workhorse of the industry for a long time. But both these techniques have accepted and proven weaknesses.

True Driver Analysis (TDA) is a proprietary statistical method developed by Maritz Research for the purpose of identifying the key drivers of customer experience from market research studies. It is academically rigorous; based on published academic work by Theil and Chung (1988), and has been published extensively in academic journals.

Overcoming the challenges of Key Driver Analysis

The challenges of key driver analysis are many – it is vital to be able to compare different attributes so you need to have a stable way to understand relative importance. It is important to be able to compare multiple data types manages missing data, and to use the results in other ways such as in structural path analysis and segmentation modelling. TDA deals with all these challenges – and more!

What is collinearity and why should I care?

Specifically, TDA is designed to eliminate the damaging effect of collinearity.

If your key driver method cannot address the problem of collinear attributes at best your driver results may misleading - at worst they could be wrong. Most surveys are usually administered using rating scales. Attributes in a research survey measured using scales are often inter-related (co-linear) in their influence over measures of customer satisfaction.

For example, if dealership staff are rated as helpful they are also often rated as friendly. This inter-relationship causes problems in key driver analysis when you are trying to establish if being helpful is more important to customers than being friendly. Correlation and regression analysis recognize this problem, but cannot do anything about it. TDA addresses this issue.

The technical bit!

Usually when two or more variables are considered for their explanatory power, a common portion of the variation in the dependent variable is explained by more than one attribute. In the diagram on the next page, the explanatory power of each predictor is depicted by the shaded area.

- The explanatory power of Predictor 1 is depicted by shaded Area A and some of Area C
- The explanatory power of Predictor 2 is depicted by shaded Area B and some of Area C

Area C is shared between Predictor 1 and Predictor 2 and this represents the collinearity. If Area C is large then we have a big problem of collinearity. An example of this might be "Courtesy" and "Helpfulness". Both these attributes measure similar aspects of dealer competence. Therefore they are both likely to 'overlap' in their power to explain customer satisfaction. That is to say they highly likely to be collinear.

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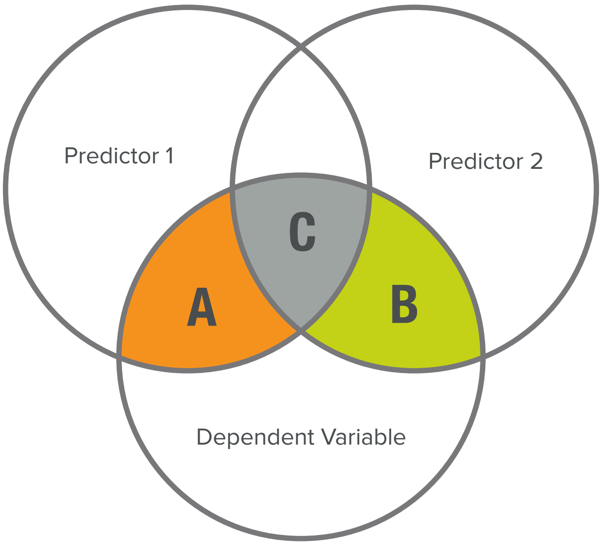

If we are to measure the relative importance of Predictor 1 and Predictor 2 to explain the independent variable then we must identify what proportion of the Area C belongs to Predictor 1 and what proportion belongs to Predictor 2. It is important to measure the relative importance of attributes as this is the key information that allows us to prioritise recommendations.

In correlation analysis both Predictor 1 and Predictor 2 are credited with the total explanatory power of Area C. This means attribute importances appear inflated and we cannot accurately quantify relative importance.

Conversely, traditional regression ignores the overlap between predictors and neither Predicator 1 not Predictor 2 are attributed with Area C. This means attribute importance appears deflated and we cannot quantify relative importance robustly. The bigger the overlap between predictors the less stable the importance measure.

TDA solves the problem differently

TDA creates multiple driver models.Using this example, we create two models: Model 1: we see how important Predictor 1 is first, then we work out how much more explanation of the dependent variable is provided when we add Predictor 2.

Model 2: then we see how important Predictor 2 is. First we work out how much more explanation of the dependent variable is provided when we add Predictor 1.

We then combine the models to measure the overlap between Predictor 1 and Predictor 2. This means we explore the total explanation of the dependent variable provided by both Predictor 1 and Predictor 2 within Area C. This means we can robustly measure the relative importance of Predictor 1 and Predictor 2.

Techniques like ridge regression help to reduce the errors from collinearity by equalizing coefficient variances. However, it does not cope well with missing data (e.g. from skip patterns driven by channel usage). Whilst ridge regression is easy to run and is commonly available in most statistical packages it does not provide a quantifiable and robust relative measures of attribute importance.

Other methods help to manage collinearity but TDA works best

	TDA	Correlation	Ridge Regression
Can be used on multiple question types	✓	✓	✓
Uses all of the data available	✓	✓	
Effective with missing data	✓	✓	
Manages collinear data	✓		✓
Provides quantifiable measures of relative importance	✓		✓

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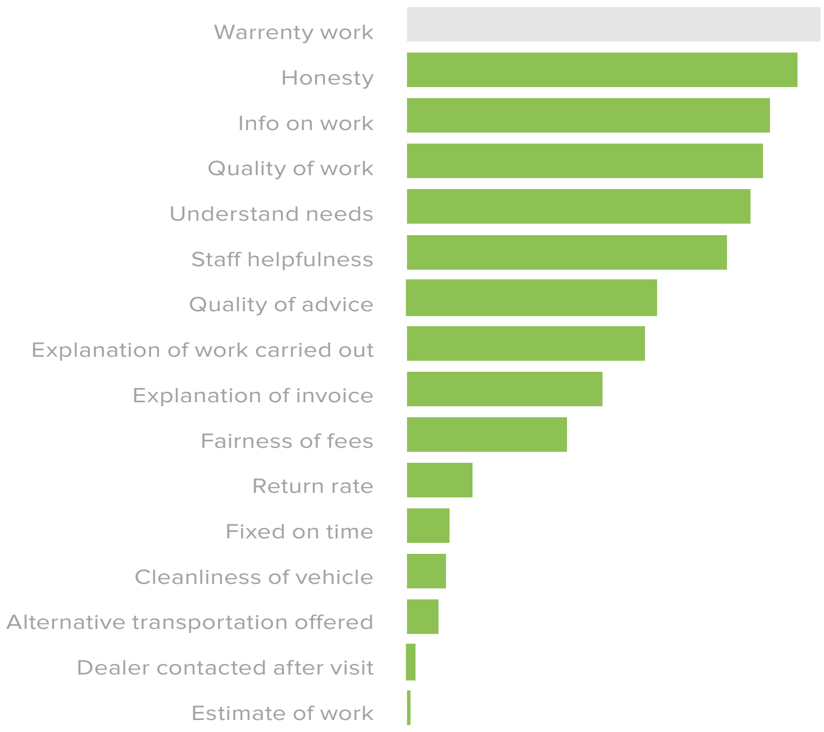
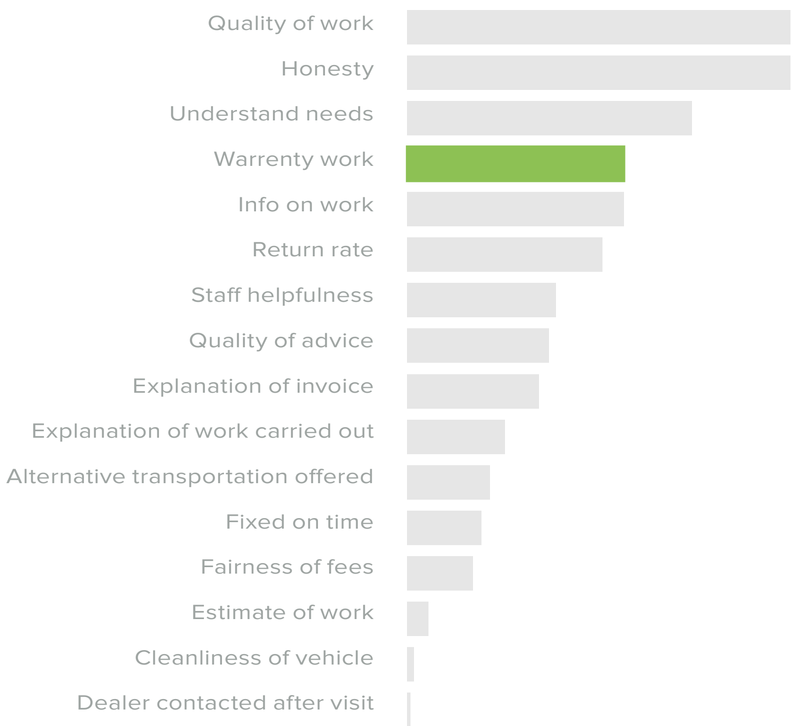
The charts right compare the results for TDA against Ridge Regression for the same data set. The two methods give different results. Importantly the ridge regression results use only a tiny fraction of the available data and hence, in our opinion, are not reliable.

TDA (n= 26,252)



RIDGE REGRESSION (n= 357)



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