

Cognitive confusion - measuring non-conscious effects in buying behaviour - prediction and big data

 By [mike broom](#)

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Ultimately, the goal of marketing research is to be able to predict consumer behaviour. Until the mid-70s, attention was paid primarily to building models that would explain consumer behaviour. It's a matter of record that the most successful of these, with the greatest body of supporting evidence, was the Conversion Model, developed by Jannie Hofmeyr and Butch Rice.



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The Conversion Model was a commitment model that predicted behaviour based on consumer commitment to the brand. The secret of its success lay in the ongoing refinement and calibration of the measurement methodology.

It is no secret that past behaviour is the best predictor of future behaviour, which has been proven time and again (and been exploited) by big data. The weakness of this new wave approach is that these data mining methods provide little to help us understand, much less validate, the why, when, and how – the levers of advertising, promotion, pricing and trade presence that can be managed to optimally drive sales success.

From about the mid-70s, evidence emerged that part of the reason why a basic understanding of consumer behaviour was well-nigh impossible, was because the consumer does not understand their own motivations, even though they might believe that they do! The conundrum of researchers asking people for answers they cannot provide with validity will not provide valid results if the questions are based on the assumption that consumers are rational and understand why they do what they do.



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The impressive thing about the Conversion Model was that it is a beautifully parsimonious specification, which does not make that assumption. All the predictive outputs were based on a handful of questions, which explored how people felt, rather than why they did what did!

This points to the conclusion that valid measurement is essential to provide valid inputs for the modelling of future behaviour and the understanding of motivation.

Sub-conscious, non-conscious, or non-cognitive concepts

Most market research measurement tools were based on the various forms of Thurston scales ranging from numeric through semantic differential, to Smiley scales and all in between. Although widely used and easy to administer, the results have failed dismally to show acceptable correlation with consumer behaviour, in spite of efforts to randomise, control, normalise or otherwise transform or control the data.

The fact that better results are obtained using more primitive measurement metrics, such as ranking, choice and the simplest of all, binary comparison, suggests strongly that the less we ask the consumer to think about the information we are seeking, the better the insights emerging, in line with the findings of Kahneman discussed in his seminal book, *Thinking Fast and Slow*. This discovery of sub-conscious, non-conscious, or non-cognitive concepts and measurement is a major step forward but has implementation difficulties from a practical standpoint.

Work done by Marketing Science in the late 1980s showed that the influence of order of questions, moderator/interviewer and interview environment effects were swamping the measures of what we thought we were measuring. As a consequence, Marketing Science launched the first online consumer panel in 1995, via the company PSA, in order to achieve wide-scale elimination of these effects from the data. In effect, the goal was to make it possible for each person to have a unique questionnaire, tailored to their idiosyncrasies when it comes to the way in which they interpret rating scales, and question-wording.

Portfolio of non-cognitive measurement capabilities

Over the past 13 years PSA (Panel Services Africa) has built up a portfolio of non-cognitive measurement capabilities using the following semi-subliminal, non-cognitive measures:

1. Simple ranking of brands, attributes, concepts, either in the context of a construct (rank brands for 'enjoyment', 'for me', 'for successful people', etc. While this can be a post-processing transformation of a rating matrix, the results of doing this highlights the weakness of presuming rating results can be treated as valid, predictive measurement tools.
2. Discrete choice methods – where a single choice is made from a list. There are a number of different ways that the list can be constructed – best to be done randomly for each respondent.
 - Selection of carefully constructed scenarios, as in Conjoint Analysis, where more than 2 dimensions can be incorporated into a single consumer stimulus, eg price points, brand name, brand formulation.
 - Best and least – also known as Maximum Difference or MaxDiff. This involves the least effort from the respondent, but the maximum number of unique randomisations, creating potentially unique questionnaires. Best to be done online to automate the randomisations. Ideal for attribute/feature, price points, identifying gaps. Used in New product Radar,

the Marketing Science mathematical new product sales forecasting model.

- Binary comparison – which reduces to MaxDiff if the list length is set to be 2 items and one is to be chosen. However, 'pure' Binary comparison is distinguished from the MaxDiff variant in that the full factorial design in possible pairs are included in the design. The major benefit, in this case, is to measure people's intrinsic consistency within a category. Excellent for advertising testing and for target market segmentation, as incorporated into Ad-Audit.

The digital revolution was anticipated 13 years ago and the fruits of the widespread acceptance of Internet connection via mobile are now ready to be harvested across a wide spectrum of applications.

Imminent areas of application of the measurement metrics

Important imminent areas of application of these measurement metrics are emerging in the areas of:

- Tactical pricing modelling, along the lines of recent work published by Erik du Plessis
- Connecting customer satisfaction to operational mandates
- Continuous new product development programmes
- Econometric of modelling of marketing interventions
- HR applications for HR management to be more accurate cost effective

While the concepts outlined above can be translated to big data, they have also been developed to be amenable for fast turnaround, low cost, highly flexible surveys.

Finally, to return to the starting point. marketers should be reconsidering their attitude to believing what researchers say about consumer insights and what they believe their responses should be to them. The evidence suggests that most researchers are naive in interpreting the neurolinguistic feedback from consumers, as well as their answers to questions that appear valid on the surface, but which fail to recognise that we human beings make decisions based on reasons that we don't fully understand ourselves.

Author's note: Thanks to Butch Rice for input on this article. Butch runs Brand Repair Workshop (Brew) – a brand strategy consultancy which utilises PSA's online consumer panel.

ABOUT MIKE BROOM

I have been involved in marketing research for over 40 years, across all spheres. I started Marketing Science in 1992, Infosense (aka Infotools) in 1995 and Panel Services Africa in 2005. For more information on Ad-Audit, please contact me at infoQuest (formerly PSA) on 083 255 2668 or click here to send an email.

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