Consumer Choice Conundrums:
Lifting the Lid on How People Purchase

Gaining or losing market share is clearly a big deal. But do we understand how consumers choose between products? It's a deceptively simple question that is often poorly answered. Why? Because the rules that govern purchasing behaviour are complex and vary by segment. Moreover, most market research only focuses on the final stage of what is typically a multi-stage process.

There is a growing body of academic evidence that can be used to improve our understanding of consumer behaviour. Lab research provides the framework and experimental techniques needed to unpick what's going on and determine how people are making their decisions. We have successfully applied these lessons to the rough and tumble of real world competitive markets. This brief illustrates the implications by looking at two markets--beer and mobile phones.

It's the stuff of marketing legend. The launch of the Chevy Nova in South America, where "no va" means "doesn't go". Tylenol's "Proved Effective" that sounded like "Proved Defective" on the radio. The Scandinavian vacuum cleaner campaign that ran "nothing sucks like an Electrolux" in the US. All classic fumbles in the school of "Dog for sale, eats anything, is fond of children". So let's say, to secure our place in the annals of marketing disasters, we do the following. We launch a product that is clearly inferior to our existing product, but we charge the same price. Surely, we'd be idiots?

Not necessarily, according to the type of research shown[a] in Figure 1. Here "decoys in beer" isn't what Ray Mears eats after an unsuccessful day on the tundra, but rather one of several well-documented biases in consumer product selection. The experiment begins by offering two beers of differing price and quality. 43% of people choose the low-end beer. Then a third beer is added with even lower quality but equal low price, and of course no one wants it. However the original low-end beer is now chosen by 63% of people, a 20% shift. So, without any sales, the third beer has somehow transformed the market[b].

This brief concerns the cognitive processes that underpin such decision-making. The decoy effect shows that these processes are not necessarily intuitive or straightforward. Nevertheless, there are techniques and models available to help understand what's going on. Whilst customer behaviour often seems irrational, it is always rule-based, and knowing these rules is a powerful commercial insight.

Choice Rules

Various rules have been identified that people use when choosing products. We start by characterising some of these and explaining how they can give rise to phenomena like the decoy effect[c]:

- *Satisficing*: You take the first product that exceeds your requirements across the different offer features.
- *Filtering*: You select a subset of products that are best on a key dimension. You repeat this on other features until one product is left.
- *Weighting*: You give importance weights to each product feature and then assess which option is best overall.

Note that these rules, or heuristics, have been arranged in order of cognitive complexity. It is held that the more complex rules lead to better outcomes[d]. Hence which rule a consumer uses is in part driven by how much is at stake, with the more complex rules deployed for the higher-stake decisions. So, we can now provide an explanation for Figure 1. The observed shift could be due to 20% of people filtering out one option at a time, first on quality and then on

Figure 1: Decoys in Beer
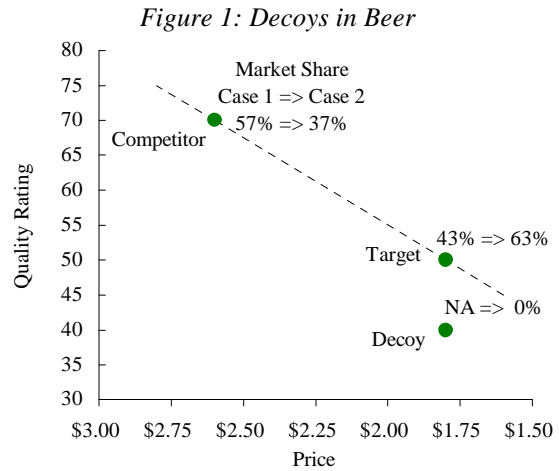
price. Of course, there are other segmentations and rule combinations that can generate the same effect. But by studying variants of the choice task (e.g. with different sets of available beer) these other explanations can be tested. In this way, the consumer choice segments, and the decision rules that they employ, can be determined.

The Anatomy of Purchasing

Choice rules are not generally applied in isolation, but rather form links, or gates, in a longer purchasing process. In this and the next section we use the mobile phone market to illustrate such processes and their commercial implications.

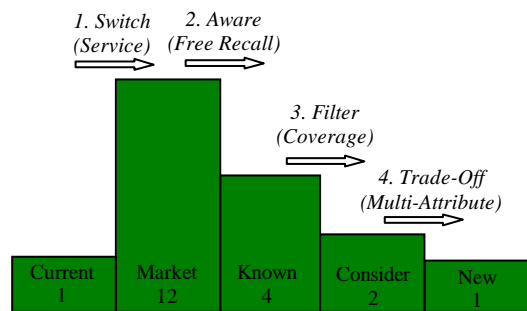*Figure 2. Example Phone Purchasing Process*

Figure 2 shows an example purchasing process with four decision gates. The customer has a mobile contract but has decided to switch for some reason (e.g. poor service). The consumer doesn't research all 12 available providers, but is familiar with 2 and can recall 2 more. Next, to reduce effort, the task of choosing between these 4 is divided. Initially, a simple filtering rule, on say coverage, is used to eliminate 2 options. Then a more thorough trade-off across attributes like monthly cost, handset and free minutes is used to make the final decision.

We make three observations about this process. First, in practice, the purchasing process and the choice rules employed at each stage vary widely across segments. Most markets have people who simply buy

what the assistant suggests. Conversely, awareness is extensive in some contexts (e.g. automotive). Second, by definition, the earlier decisions (2 & 3) are made with little or no information. Hence, consumers' fuzzy beliefs are more important here than specific offer facts. Third, when you ask consumers to talk about purchasing, they describe only the final stage.

This last point is a significant problem for traditional market research. By relying on self-report[e] and lacking a decision process framework, most research inadvertently focuses on the last stage. This means, for example, that it under-estimates the role of the fuzzy beliefs that consumers bring to the process. As such, companies often focus on pricing when it is really price *image* that has the greater sales leverage. Whilst price image is affected by price, this is not the only driver and the link isn't straightforward. In such cases, the lack of a complete and quantitative picture of the purchasing segments and their associated processes will lead to poor marketing decisions.

Propping up the Bar

Having sketched out the framework for researching customer product selection, we now explore its implications. Figure 3 shows a recent mobile phone experiment that offered users a choice between two providers with three attributes.

Figure 3. Trading-Off and Upstream Filtering
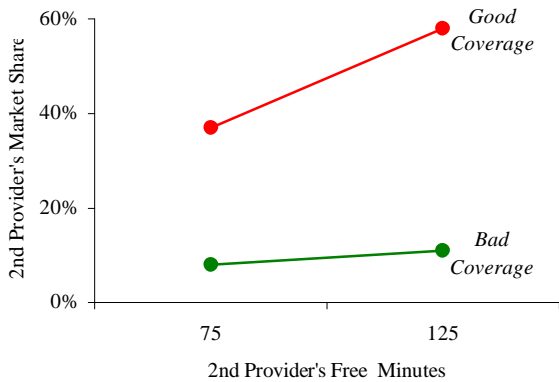
In one case, both providers had good network coverage but the 1st offered a £25 monthly contract with 150 free minutes whilst the 2nd offered £20 and 75 minutes. The left red dot shows that under these conditions the 2nd provider's market share was 37%. Three other cases were then presented to different participants by altering the 2nd provider's free minutes to 125 and re-running both 75 and 125 minutes, but with poor network coverage. In all conditions, the 1st provider's offer was unchanged.

The figure shows that the 2nd provider's market share increases with free minutes and decreases with bad coverage. The results also show that when coverage is good people trade-off price and minutes (the red line

slopes) but that this stops when the 2nd provider's coverage is poor (the green line is flat). So coverage doesn't have an effect when it doesn't differentiate networks, but seems to act as an upstream "knock-out" filter if networks diverge--like relocating to Salt Lake City, the lack of bars is an overriding deterrent to some. But it is worth finally noting that even bad coverage doesn't put everyone off. In figure 3, 10% of people still choose the lowest tariff regardless. This underlines the importance of having different segments in any purchasing map.

Figure 4. Illustrative Market Share Drivers
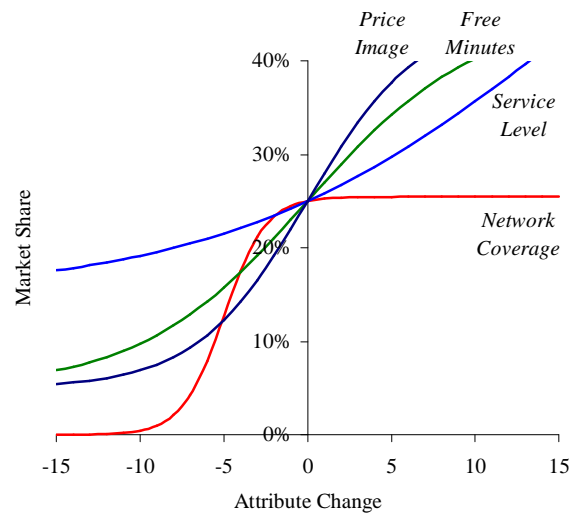
Further experiments can extend these results and explore the impact of other attributes on mobile phone market share. This is illustrated by Figure 4. The chart shows how a process model, comprising various customer segments and their purchasing strategies, can be used to predict how sales will vary with product attributes. For example, coverage is what's sometimes referred to as a hygiene factor. Improvements will not increase sales, but a fall will damage them.

Figure 4 illustrates three other typical findings. First, as noted earlier, soft factors like price image often have more sales impact than hard factors like free minutes, because they control whether a product is even considered, let alone chosen. Second, competitiveness has diminishing returns. For example, the effect of more free minutes reduces (the green curve is concave) as the higher talk segments saturate, leaving just price sensitive consumers. Third, there are attributes, like service, which are the mirror image of hygiene. These "shortage" factors arise where industry practices are bad enough that lower competitiveness goes unpunished. However, shortage factors also have accelerating upsides and therefore offer the chance to differentiate the product.

So based on these findings, where should we allocate our effort? The steepest gains in Figure 4 come from price image. However, purchasing processes usually give rise to complicated interactions. For example,

Figure 3 shows how coverage strongly interacts with the impact of free minutes. As such, the optimal strategy will be a combined approach that is differentiated across consumer purchasing segments. This strategy can only be determined based on a detailed map of the different purchasing processes operating in the market.

Summary

Before concluding, we'd like to distinguish the ideas presented here from two other types of research. We start by noting that a traditional economic analysis of pricing elasticity falls substantially short of a purchasing process map. First, there is a range of problems with the conjoint method that underpins such analysis. Second, the approach doesn't employ a cognitive theory of purchasing and therefore has all the problems associated with using a black box. Third, such analysis is focussed on price and therefore cannot capture the interaction effects seen in Figure 3.

The approach presented here is also not a "brand funnel". Funnels usually comprise a mixture of attitudes and behaviours. This is risky because there are counterintuitive gaps between people's intentions (let alone attitudes) and actions[f]. In the end, the behaviours that matter are things like becoming and staying a customer. Anything that isn't empirically and causally linked to these is frankly irrelevant. Whilst Figure 2 resembles consideration set formation, the key difference is that this process map is an objective cognitive model that can be used to predict sales. By contrast, brand funnels are typically qualitative and based on what often amounts to several hours of meditative introspection whilst queuing round the M25.

We have described how to model customer purchasing processes and thereby predict sales. We have characterised this using a single-shot customer-led purchase, though the same approach can be applied to repetitive choices and outbound sales. In summary, companies need to answer the following:

- *Behaviour*: What are the customer decisions with the highest sales leverage – for example is it selecting in, switching out, or both?
- *Stages*: What are the different stages of those decision processes? How many companies or products typically make it to each?
- *Choices*: For each stage, which choice rules explain the behaviour? Is rule selection contingent on any of the earlier stages?
- *Attributes*: For each choice rule, what attributes are used and what decision weights do they carry? What is the product attribute hierarchy?
- *Segments*: What are the different customer choice segments, given different shopping personalities and other demographic differences?

Mapping the purchasing process will yield a range of commercial benefits. Whilst these will vary by industry, consider some generic examples. First, purchasing segments often declare themselves by using different channels. This means that you can adjust the sales pitch to the situation--say by focusing on price on the net and service in the shops. Likewise, in a post-Wanamakerian advertising age, it is possible to target specific segments with tailored messages. In this case the purchasing map can be used to determine what to say, to whom, in which regions, and so forth. Finally, purchasing maps can be used to make better product investments. By quantifying the financial impact of different product strategies, the map can be used to evaluate the attractiveness of the different options available.

Consumers have more choice today than ever before. Yet their brains haven't changed much in 250,000 years. "Shop for phones" runs on the same kit that ran "hunt for mammoths" and, as such, is increasingly open to scientific enquiry. You just need to use the right framework and techniques. But before you do that, make sure to check whether your brand name sounds like Ko-kou-ko-la in Chinese, which translates as "bite the wax tadpole", and if it does, take the appropriate evasive action.

References and Footnotes

a. Figure 1 is taken from Huber, J., Payne, J. W., & Puto, C. (1982) Adding Asymmetrically Dominated Alternatives: Violations of Regularity and the Similarity Hypothesis. *Journal of Consumer Research, 9* pp: 90-98.

b. And this isn't a one-off. By moving the third product around a variety of effects can be observed. See Simonson, I. (1992) Choice in Context: Tradeoff Contrast and Extremeness Aversion. *Journal of Marketing Research*, *XXIX* pp: 281-295. Meanwhile, if you're sceptical about this in practice, consider the launch of New Coke. It was a disaster that ended up increasing Classic Coke sales. Ray Mears is a woodsman from Lewisham (www.raymears.com).

c. We're not claiming that people explicitly calculate these, but that their choice patterns are consistent with them. For a great overview see Payne, J. W., Bettman, J. R., & Johnson, E. J. (1993) *The Adaptive Decision Maker*. Cambridge University Press: Cambridge.

d. But what is a "better decision"? This is also a deceptively simple question. There are literally acres of inconclusive academic print on how to define "rationality". If you want to kill time or bore people at dinner parties Stanovich, K. E. (1999) *Who is Rational?* Lawrence Erlbaum: Mahwah, New Jersey is for you.

e. There are many experiments demonstrating that people don't know why they did what they did. Johansson, P., Hall, L., Sikström, S., & Olsson, A. (2005) Choice Blindness: On the Failure to Detect Mismatches Between Intention and Outcome in a Simple Decision Task. *Science*, *Vol 310, Issue 5745* pp:116-119 is a good example involving post-rationalisation and Swedish blondes (really).

f. There's also a literature on why people don't do what they say they'll do (or believe they should do). For depressing stats on dieting see Sheeran, P. (2002) Intention-behavior relations: A conceptual and empirical review. *European Review of Social Psychology. Stroebe & Hewstone (Eds.)* John Wiley: Hoboken, NJ.