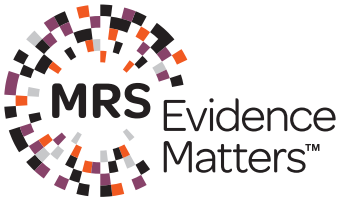

MRS Awards 2021
New Consumer Insights

Highly Commended:
Blue Marble Research & CCW - the voice for water consumers

Sink Sense:
Kitchen sink habits caught on camera

SUMMARY

Climate change means that the need to reduce household water consumption is increasingly urgent. However, the water sector's understanding of how we use water at home still relies heavily on self-reported data – and little is known about how accurately this reflects actual behaviour.

Blue Marble has recently worked with CCW (formerly the Consumer Council for Water) to conduct an observational study which breaks new ground for the industry. We observed kitchen sink water use in 15 households, using motion-sensitive cameras. As far as we are aware, the water sector has never previously used video technology to research household water usage. We also conducted depth interviews with each household to explore the relationship with reported behaviour and understand the rationale behind specific behaviours.

Recently published, our study has delivered new insight into key domestic behaviours and prompted the water sector to explore making greater use of observational approaches. Among many ground-breaking findings, our study has challenged industry assumptions about the factors driving high water usage, indicating where behaviour change campaigns could be made more effective and where demand forecasts could be made more accurate. The industry is now using similar technology to understand water usage in the garden.

SYNOPSIS

Background and objectives

Through this study, CCW and Blue Marble aimed to prompt a step change in the accuracy of the behavioural data that the water sector uses. Both organisations have analysed their fair share of self-reported data on water use behaviours, and we have long grappled with the discrepancies between this data and actual behaviour.

As far back as 2011, Blue Marble conducted a wide-ranging literature review analysing how the water industry uses data to model behaviour and forecast future water demand. In our conclusions, we highlighted the need for better evidence to improve the assumptions underlying behavioural forecasts, as the sector has limited understanding of the behaviours driving water usage. We concluded that the sector should avoid methodologies that rely only on self-reported behaviours:

'There will always be the need to rely on self-reported behaviour however the industry needs a better understanding of how adrift (or not) reported behaviour is with reality. Once we understand what types of consumers under or over-claim behaviours then self-reported data can be used with much greater confidence.' [1]

The discrepancies between reported and actual behaviour are long acknowledged. In the water sector, these challenges are particularly acute. Water use mainly involves routine and daily actions that are so embedded we barely notice them – and therefore respondents find it difficult to be accurate when answering retrospective questions on the frequency, duration or thought processes that go with these activities. Additionally, social norms – particularly about wastefulness and hygiene – can result in respondents feeling self-conscious in a research situation and giving socially acceptable responses rather than their true behaviour.

In countless other sectors, ethnographic approaches have shed light on real behaviours – and the ability to observe over time has become possible with the development of low-cost video technology.

Against this backdrop, CCW commissioned this research to stimulate industry interest in developing a more accurate understanding of water behaviour. CCW wanted to use observational approaches and the principles of ethnography as an example of how close observation sheds light on actual behaviour – highlighting where existing self-reported data is inaccurate. The kitchen sink was selected as the primary 'micro-component' for this study – in the hope that this project will prompt further research to investigate behaviour in other household settings. Specifically, CCW and Blue Marble aimed to:

- Validate or challenge existing evidence on self-reported behaviour
- Observe, through filming kitchen sink behaviour:
  - Water use
  - Disposal of fats, oils and grease (FOGs), as well as other waste, down the sink

- Assess dissonance between recall and actual behaviour
- Explore whether water use is believed to have changed since COVID-19 – and whether this is anticipated to be permanent or temporary
- Evaluate current advice and communication about 'good / bad' kitchen sink behaviour against new understanding derived from this research.

How was this study innovative?

Our proposed approach was experimental in that we are unaware of previous close observation of a single water usage 'micro-component' – in this case, the kitchen sink. We drew on our experience of using technology to observe other behaviours at close quarters, as well as our deep understanding of observational, exploratory research on water-related issues using other approaches.

Observing natural behaviour

Given the frequency and routineness of kitchen sink activity, we decided to use motion-sensitive cameras to capture behaviour. Crucially, we selected cameras which were unobtrusive, enabling us to get as close to natural behaviour as possible. After trialling numerous cameras, we selected a model with numerous advantageous features – including remote login (to allow moderators to review behaviour as fieldwork progressed), cloud storage (to facilitate easy access to the video clips) and night-vision (to ensure we did not miss any behaviours).

The COVID-19 pandemic added an additional challenge – how to ensure a smooth camera set-up which would deliver the high-quality footage we were looking for. We therefore selected an easy-to-use camera and designed bespoke briefing packs to facilitate set-up. We also arranged for an initial depth interview with each household prior to fieldwork, which we used to ensure that the camera was working as intended and to gain participants' trust.

Accurately mapping behaviour

Given the desire to understand how reported behaviour relates to actual behaviour, we decided to log and code the video footage – reviewing each clip to identify the behaviour involved (e.g. handwashing), code it accordingly and record other relevant data (such as how long the kitchen tap ran for). This process enabled us to analyse the video footage systematically and rigorously, developing valuable indicative statistics – such as the total length of tap running time in each household and the number of individual kitchen sink "events" in a single day. In total, we reviewed 150 days of kitchen sink behaviour.

Comparison with reported behaviour

We conducted video depth interviews before and after the observation period. We used the first interview to build rapport, put participants at ease and ensure the camera technology was working. Although we told respondents that we were interested in behaviour at the kitchen sink, we did not reveal at this stage that we were specifically monitoring water usage.

At the start of the second interview, we then asked respondents a series of standard industry questions about their kitchen sink water usage during the previous week (such as how many times a day they use the kitchen sink and how often they do the washing up). We compared participants' responses with the data that we had gathered during the observation period.

Understanding behaviour

Where we identified significant discrepancies between reported and actual behaviour, or observed unusual behaviours, we often presented these to the participants and asked them to explain the rationale behind their actions. In some instances, we showed participants footage of their own behaviours – particularly where their survey responses had not mentioned "bad" kitchen sink behaviours. This provided powerful footage which we have used in the research film, akin to a water industry Gogglebox.

What were the outcomes of the research and how has the research led to new consumer thinking?

The research has provided powerful insight which was overturned long-held industry assumptions regarding household water use. To highlight a handful of the most important findings:

- The research has challenged the assumption that household water usage is correlated with household size, a common way in which the industry forecasts usage. Instead, our research has suggested that other factors, such as kitchen size (i.e. the space available to leave unwashed items standing), cleaning mindset (tolerance for untidiness) and working status (time in the household) are more important.
- The dissonance between reported and actual behaviour is significant across all household types, but particularly larger households and shared households – as individuals are not privy to the behaviours of others, so are unable to respond accurately to standard industry questions about the household's usage.
- Consumers generally only have a very limited understanding of the link between water usage and climate change – highlighting a missing link in the way that the water sector's behaviour change campaigns are often set up, as consumers do not understand *why* they should try to reduce their water use.

CCW have recently published the research findings (https://www.ccwater.org.uk/research/sink-sense-kitchen-sink-habits-caught-on-camera/), prompting significant interest and debate across the industry. The final outputs included a summary film (https://www.youtube.com/watch?v=R9rJjLjR2no) which tells the story of the research, as well as an infographic and full report. The research was featured on the ITV Evening News on the day it was published (30th June 2021 – https://www.itv.com/news/2021-06-30/sink-spies-show-shocking-household-habits-contributing-to-uks-100-million-per-year-fatberg-bill), and has already been featured in countless water sector publications. The sector's regulator Ofwat has also reacted very positively to the research.

As a direct consequence of this project, several water companies are now collaborating with Blue Marble on a follow-up study exploring garden water usage during the hot summer months – suggesting that CCW have succeeded in sparking industry interest in greater use of observational techniques.

Why this should win the award

Blue Marble and CCW used an innovative approach to deliver insights which are genuinely new regarding household water usage – upturning old assumptions and calling into question the way that the sector is forecasting for the future. Dr Mike Keil, Director of Research, Policy and Campaigning at CCW, said: "This innovative project showed us that there is a significant difference between what consumers tell us about their kitchen sink habits and what they actually do at the kitchen sink."

Perhaps more importantly, however, the project is set to have a much wider impact across the water industry – with a sector historically reliant on traditional survey methods now embracing new approaches to build a more accurate picture of human behaviour.

With water likely to become scarcer across the UK over the next 50 years as a result of climate change, helping the industry to better understand how water is used is surely an important step in starting to address the challenges this will cause.

[1] UK Water Industry Research (2011), *Customer Behaviour and Water Use: a good practice manual and roadmap for household consumption forecasting, Report Ref. No. 12/CU/02/11*