Debiasing:
How to use behavioural science to enhance research design

Relying on self-reported answers is a longstanding practice in market research. A core part of our work is to ask people questions, such as "How likely is it that you would use this product if it was available?" or "What factors do you consider when choosing which treatment to prescribe to a patient?"

However, in doing so, we implicitly assume that our interlocutor can accurately describe how they go about making decisions, and that they rationally consider all the factors before doing so. This approach fails to capture the complex interplay of context, habits, intuitive factors, fleeting thoughts, and gut reactions that influence choices, and may introduce biases and distortions. Behavioural science provides a lens through which to reduce these biases and uncover deeper insights.

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Uncovering insights with a behavioural lens

Behavioural science recognises the limitations of these assumptions and presents a more realistic lens through which to explore decision-making processes in both qualitative and quantitative research. Doctors, for example, are experts who often need to rely on heuristics, intuition, and mental shortcuts to work efficiently, while facing time constraints and stress. This reality challenges the conventional assumptions underlying self-reported answers. Behaviourally informed research techniques offer a way to mitigate biases and attain a more comprehensive understanding of decision-making.

Typically, the discourse on behavioural science focuses on projects aiming to change a specific behaviour. However, it can and should be applied more broadly, including to enhance research design. This paper suggests several ways to extract richer insights by incorporating behavioural science methodologies into the research process. By viewing behavioural insights not as a standalone tool, but as a complementary lens, researchers can reduce biases and uncover implicit drivers that traditional methods may overlook.

Addressing biases in research

For the purposes of this discussion, we can define bias as any distortion skewing market research results away from reality. Thankfully, these are often predictable, and we can leverage existing literature to minimise these distortions in our research and prevent distorted findings and conclusions from flowing into business decisions.

Behavioural science, also known as **"the science of context,"** emphasises replicating decision-making environments in research settings. By understanding the contextual factors influencing decisions, researchers can design studies that capture the nuances of real-world scenarios.

Challenges and solutions

Let us look at some of the usual challenges in research design, and consider practical solutions to each:

Isolation from the decision context

Challenges

1. Context influences decisions. The same people with the same goals and values can behave differently in different settings. For example, a doctor might be seeing a patient at the end of a distressing day, when they are tired, hungry, and stressed. These aspects of their experience are going to affect their decision-making in a way that will not show up in typical interviews.
2. Ignoring the social, physiological, and psychological factors present in the real world can introduce biases.
3. The empathy gap (also known as the hot-cold empathy gap) refers to the fact that we are oblivious to the ways factors such being tired, hungry, or cold affect our decisions when we are not experiencing these things in the moment. As a result, we make incorrect predictions about our future behaviour.

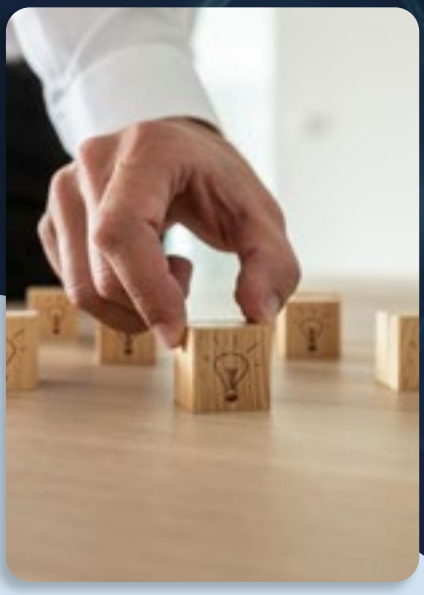
Solutions

1. Put respondents in a mindset as similar as possible to the one in which they make decisions – if necessary, consider creating time pressure or information overload conditions.
2. Replicate real-life choices - like writing the answer on a mock prescription form or spending a fake currency.
3. Use visuals or the physical space to simulate the environment, and consider immersive techniques, such as a simulation with actors or virtual reality to bring respondents closer to the setting in which they would make the real-life decision.

Over-rationalisation

Challenges

1. We often see capturing the "why" a key aspect of market research and an important moderator skill. However, respondents may not always remember why they made a particular decision and insisting that they rationalise their choice retrospectively can lead to misleading findings.
2. Evaluation encourages deliberate consideration that might otherwise not occur and can change initial preferences.
3. Forcing respondents to describe explicit drivers to justify intuitive choices can bias the research.



Solutions

1. If you need to include questions about preference, ask these before evaluation.
2. Naturalistic question formats, such as time-pressured responses and cognitive load methods, can encourage system 1-style, intuitive processing.
3. We can also combine explicit responses with implicit methods, such as IAT, eye-tracking, and sentiment analysis.
4. Offer not knowing why as an option.

Reconstructed answers

Challenges

- Standard interview techniques elicit responses that are reconstructed, reflective and retrospective.
- Real-world decision-making, however, is driven by thoughts, feelings and gut reactions that may not be fully unconscious but emerge and dissipate rapidly; traditional research techniques often fail to capture these as respondents may forget about them or not deem them important.

Solutions

- Specialised research tools used in other disciplines can provide a more nuanced picture.
- Techniques such as cognitive interviewing, cognitive task analysis, and think-aloud protocols can help capture moment-by-moment thoughts, feelings, and intentions as decisions are made – leading to a deeper understanding of the intuitive, habitual, and emotional aspects of decision-making.

Self-reporting

1 Challenges

Self-reported answers are vulnerable to social norms and self-efficacy effects such as self-serving bias, as well as to language and culture-related effects. In addition, they are easily affected by research design and question wording.

1 Solutions 2

Look for opportunities to use mixed methods designs along with self-reporting techniques such as surveys and interviews, and triangulate findings.

This can include observational methods like social listening, behavioural methods such as search data and app usage, and implicit methods such as eye-tracking, voice emotion analysis, and IAT.

Salience effects

Challenges

1. Several common biases are grounded in order effects: for example, we tend to better remember something if mentioned first, or last, or repeated more than once.
2. The most powerful of these is anchoring, which refers to the way we filter all subsequent information through the first piece of information provided – for example, a price tag, or an overall survival data point. It is one of the most robust effects in psychology.
3. Priming refers to the impact of anything that has been activated in our mind, such as a topic mentioned in a previous question.

Solutions

1. Go from general to specific, and always capture unaided responses first.
2. In surveys, avoid priming and order effects by randomising or counterbalancing question and option order.
3. Carefully consider any reference points provided, such as numbers or prices, which could function as anchoring points for the respondent.
4. Remember that people's responses are influenced by what they saw earlier in the research.

Motivational distortion

Challenges

1. Any questions about behaviour that could make the respondent look better or worse to themselves or others can trigger the social desirability bias.
2. Acquiescence bias refers to the tendency to agree with the question asked, regardless of content; its magnitude can vary across cultures.
3. These effects can be stronger with in-person research.

Solutions

1. Use open, neutral wording and attitude. Remind respondents that the survey is anonymous and that you are not affiliated with the company manufacturing the product.
2. Use social proof to normalise the 'suboptimal' behaviour. For example, instead of asking **"Do you ever skip doses?"** you could say **"Research shows that about half of patients have difficulties with compliance, what do you think about this? Have you ever struggled with taking your treatment on time?"**
3. Allow respondents to express the desired behaviour, such as through intentions for the future.
4. Complement with implicit methods such as sentiment analysis or voice emotion analysis and check for consistency with explicit answers.

Framing and wording effects

Challenges

1. Question wording and framing, such as presenting a data point as a **99% survival rate** compared to a 1% fatality rate, can lead respondents to favour one answer over another depending on whether we emphasise the upside or the downside.
2. Paying attention to each individual question can be challenging, so respondents tend to give the same answer to similarly worded questions.

Solutions

1. Avoid emotionally loaded language and ensure you present information in a consistent, neutral way.
2. Carefully considering the information can mitigate the framing effect – as does providing a rationale for choices, however this may trigger the over-rationalisation bias.
3. Vary question wording, sentence structure, and answer format to encourage respondents to consider each question separately.

Cultural and language effects

Challenges

1. Language can affect perceptions. For example, the intensity of anchor points in semantic differentials may vary across languages.
2. Using in one's native language compared to a second language can also impact responses – for example, people may be more or less rational, or more or less susceptible to certain cultural cues in different languages.
3. Cultures are associated with different response styles, such as extreme or mid-point, and varying attitudes towards communicating emotions, social desirability, and acquiescence bias.

Solutions

1. Where possible, use visuals to avoid language effects. This can be especially helpful to capture emotions and attitudes.
2. Involve a partner who can bridge the cultural divide.
3. Consider cultural differences both in the research design phase and in the analysis phase.
4. Be aware of how you see the world and mindful of making assumptions through a cultural lens.

Confirmation bias

Challenges

1. Confirmation bias is common – people tend to search for information in a way that confirms their pre-existing beliefs, or, in the case of market researchers, research hypotheses.
2. This can lead to asking leading questions or cherry-picking data. For example, we may focus on specific parts of a participant's response while ignoring parts that do not support our prediction.

Solutions

1. Work with an objective third party.
2. Let the data do the talking – the team conducting the research should not be aware of your **'preferred result.'**
3. Use structured analysis techniques.
4. Play devil's advocate and test the opposite hypothesis – can you find data to support it?

Conclusion

By integrating behavioural science into research design, we can effectively address the intricacies of human decision-making and inherent biases.

The challenges, including contextual influences, cultural variations, and researcher biases, underscore the need for a nuanced approach. Many mitigating factors, such as thoughtful study design and wording, can be implemented efficiently with minimal costs. Others provide an opportunity to use innovative AI-enabled solutions to gather complementary data.

By recognising biases as navigable terrains rather than insurmountable obstacles, the continuous refinement of methodologies through behavioural insights contributes to a more nuanced understanding of decision-making processes. On this iterative journey, the pursuit of unbiased insights shapes the future of research methodologies, enriching the knowledge base that informs critical decision-making.

Get in touch!

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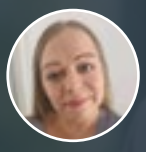

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