Evidence-based versus target-driven design

Dan Jenkins

The difference between evidence-based design and target-driven design can be subtle. Both involve collecting and processing data to feed into the decision-making process. However, the key distinction lies in the way this data is viewed and acted upon.

The concept of using data to shape the design process often receives an impassioned response. Over-reliance on inappropriate targets has resulted in high-profile failures in many sectors, notably healthcare and policing. As is typically intended, the introduction of targets leads decision-making to directly assess the impact of change on the imposed targets. The result is that systems optimise to the target.

While on the face of it, this appears to be positive mechanism for improvement, the link between the imposed targets and the resultant system performance is not always clear. Targets are often set by what is easy to measure and often focus on single metrics of performance. As such, other aspects of the system, that are typically harder to measure, are often disregarded to meet targets, resulting in an overall reduction in performance.

To creative designers, the idea of a using numerical metrics to guide design direction can also be highly alarming. While numerical-based philosophies to process improvement, such as 'Six sigma', have flourished in manufacturing, applications to earlier stages of the design process have often failed. According to the authors of the Jugaad innovation book, "Six sigma is like a straightjacket" reducing opportunities for innovation.

Conversely, a complete rejection of data and evidence leaves designers at the mercy of subjective bias. An over-reliance on subjective opinions can lead to designs that are too focused on the small sample group, resulting in lost opportunities and negative second-order consequences. Clearly, understanding what is working well in a system and estimating the impact of proposed changes is a fundamental aspect of process improvement. As such, some form of measurement is key.

Most would agree that a happy compromise is needed, one that uses metrics to inform the design without dictating direction. To assist in striking this balance, it is useful to consider the following three tips when embarking on an evidence-based approach:

1. Measure and track the right thing. It may sound obvious but too often targets track the wrong metric or, more commonly, too few metrics. Metrics should be clearly linked to the overall purpose of the system for which the product is designed. Of course, if the purpose of the system is not clearly defined then this must be done first. There should be enough metrics to address the overall purpose of the system, and to ensure that one aspect is not optimised at the expense of others.

2. Be sure that identified differences mean what you think they do. It's very easy to fall into the trap of thinking that shorter completion times must be a positive thing. After all, they score well on efficiency and intuitiveness. However, care should be taken to ensure that these are not at the detriment of other key measures such as efficacy. Similarly, when considering experience and consumer choice, we should be mindful of what Harvard's Michael Norton refers to as the 'Ikea effect'. Norton has shown that people place higher values on products in which they have taken an active role in creating. In short, we need to make sure we are assessing change across all metrics.

3. Use data to inform decisions not drive design. Ultimately the difference between an evidence-based approach and a target-driven approach is what we do with the data. Metrics should be considered for a range of aspects of performance. The old adage 'garbage-in garbage-out' remains true. If we want to make good decisions we need good data to base them on. Pragmatically, where it is not viable to collect good data, decision-making should account for this, informing not dictating direction. ❖

Dan Jenkins is Research Lead at DCA Design International.

Further information

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