

Evidence-based design

Design is rarely a solitary exercise. Despite perceptions brought about and perpetuated by celebrity designers, most products are developed by teams. The reason is that many products, like planes, trains or automobiles, are simply too complex to be designed by one person alone.

Even if they had the time, very few individuals have the required breadth and depth of skills, knowledge and attitude required to consider all aspects of the design. For products of any notable complexity, the idea that a single individual could fully research the product, its context of use and commercial market, develop a concept, engineer it, test it, select materials and suppliers, and manage production transfer is simply a fantasy.

When it comes to working in teams, it's not enough to be confident in one's own convictions. If the best designs are to be developed, it is imperative that each member of the team is able to explain the rationale for the decisions they make and convince others.

The most beautiful products, like works of art, elicit physiological responses, upon first sight pupils dilate and heart rate quickens. The strongest brands can have the same impact. Users often place greater trust in these objects, they care for them and take time to use them effectively. But initial responses can also be fickle. How do we ensure that users not only remain engaged with products but can also use them to enhance system performance? Or simply put, how do we create beautiful things that also work beautifully?

Evidence-based design is a key component in developing better things. It's a philosophy that's critical for ensuring the team have a common objective and rationale for decision making when working in large multidisciplinary teams. Measurement is a critical part of this.

This kind of approach is something that a select few do intuitively. They create compelling arguments for a vision of the future and they have the authority or the gravitas to set a course that others follow. For most though, some form of systematic structure usually helps. Fortunately, the human factors tool kit is jam-packed with methods and techniques ready to be used.

These range from ethnography and contextual enquiry to more data-driven approaches that are able to quantify aspects of system performance such as efficiency, effectiveness, resilience, intuitiveness, usability and inclusiveness. Furthermore, these approaches can also form the basis for ideation, providing inspiration and information for product improvements.

Ultimately a concise, well-supported argument for change is critical in ensuring that human factors is considered and communicated to a wide range of stakeholders. For example,

this may include those within the design team as well as end users, regulators, maintenance staff, sales and marketing, and those involved with construction and decommissioning. This way we can ensure that we are designing products and services that go beyond initial aesthetic appeal to enhance wider system performance.

Dan Jenkins & Lisa Baker, DCA Design

Dan Jenkins and Lisa Baker will be presenting an interactive workshop on these ideas at the CIEHF's Ergonomics in Design Seminar on 22nd September. The workshop will introduce a range of human factors tools and explain how they can be used to build, inform, and present a compelling business case for change that leads to better products and greater system performance. See page 11 for more details.

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