

Designer’s Bias: Dividing and Creating Cultures

I. INTRODUCTION

Designer’s Bias is a broad term that encompasses all forms of biases that come into play during engineering design work. One could define bias as the engineer’s prejudice caused by their own lived and learned experiences, which may in turn discriminate against certain groups of people and ultimately fail to address the needs of their stakeholders. While partly true, this definition fails to capture the magnitude of impact bias can have among teams, stakeholders, and even its ability to shape and create entire cultures.

II. ACCESSIBILITY ISSUES

It is easy for an engineer to think about a design using their own lived experiences, instead of forcing themselves to think as a potential stakeholder, which may be an uncomfortable task. One of the most common examples of when designers fail to think about how other people may interact with their product is not designing for colour-blind people. For example, the popular game *Among Us* had in-game tasks that required users to match certain colours, which was extremely difficult for colour-blind players. It is only after the plethora of complaints that the developers finally added in other visual cues. Considering that there are over 300 million colour-blind people in the world, this should have been a foreseen issue during development. I was first made aware of this issue back in high school where I created a flowchart for a proposed design project. I thought I would make the flowchart easier to

follow by having “red” and “green” arrows to represent “yes” and “no,” but I was presenting it to someone who was colour-blind, and was completely confused.

One way to address this bias is to practice value-sensitive design, which embeds bias analysis as part of the design process, forcing design teams to give a conscious effort to try and identify bias. This idea was first proposed by the communications scholar Sasha Costanza-Chock in her book, *Design Justice* [1]. I have been attempting to practice value-sensitive design by identifying which everyday designs afford or deny accessibility. This week, I saw an automatic door that opened towards the “open button,” which was located very close to the door. It was very absurd since if I was in a wheelchair and pressed the button, the door would open and crash into me! I believe that acknowledging these areas in our everyday life can help train our own empathy. By constantly putting ourselves in other people’s position, it can make identifying bias in our own designs easier.

III. DIFFERENCE IN CULTURES

While Costanza-Chock’s framework of value-sensitive design is a step in the right direction, it is not always realistic to perform a bias analysis by placing ourselves in every possible stakeholder. By doing so, we either risk generalizing a group of people into a single entity: resulting in stereotypes, or risk omitting certain groups of people from the bias analysis: resulting in discrimination. Especially when the bias is caused by a differ-

ence in culture, which is much more complex than an accessibility issue, it may take a lot of research to understand just one aspect of the other culture.

When our Praxis III team was creating a design to assist in plastic waste management in Ghana, we wanted to eliminate as much bias as possible. Therefore, we conducted extensive research to see what their recycling culture was, and how different actors viewed the waste management system. Using this research, we identified where we had the greatest opportunity for creating value. However, our attempts to tackle bias stopped once identified our scope. During our brainstorming sessions, we developed ideas by making references to plastics we had available around us, such as food containers, wrappers, plastic bags, and water bottles. What we failed to identify was that a large part of the plastic waste in Ghana are buckets[2].

Living in a first-world country where the most have access to clean water, most of us barely see a bucket in our everyday life. It was only after we watched a video of a recycling facility in Ghana that we realized most of the waste there were buckets and made the connection of why Ghanaians would need and use so many buckets.

IV. BIAS THAT SHAPES CULTURES

While most engineers create products that is influenced by their prejudices and personal viewpoints, it can often cause frustration in other cultures. However, if the designer is also wealthy and influential, these personal beliefs can also lead to the creation of new cultures, for better or for worse. Especially when the design space is in uncharted territory, many attributes created as a result of bias are seen as “features” instead. For example, LinkedIn started in 2002 and is now a vital platform for many professionals[3]. Its design features are inherently biased. They represent how the company executives think how job searches should work, and their personal views has shaped an entire culture of looking for jobs. If someone is struggling to find a job, the narrative is not that LinkedIn wasn’t designed for them, but that it’s their fault for not using LinkedIn effectively.

Next time we point fingers at engineers who unknowingly discriminated against a group of people due to their own bias, remember that when many large corporations do the same thing with their innovations, they are not being called out. Instead, individuals are the ones who are forced to adapt in order to fit into this new culture that they have forced upon.

[1] S. Chock, *Design justice : community-led practices to build the worlds we need*. Cambridge, Massachusetts: The MIT Press, 2020.

[2] E. BizTV, “Making profit from plastic waste collection and recycling in ghana,” 2016.

[3] M. Storrs, “Looking back at the history of linkedin,” 2017.