

# FOUR TRAPS UX PRACTITIONERS SHOULD KNOW

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There is a wealth of knowledge and research from psychology to economics that has a lot to teach UX practitioners about how to conduct research, how research will be received, and above all: traps to avoid.

This paper will highlight four of these obstacles that all UX professionals should be aware of and detail how they can be harnessed to your benefit. Once you have a grasp on how these areas can ensnare you, you'll be able to work more effectively both as a researcher and as a member of your company.

## 1. HINDSIGHT BIAS

Hindsight bias is the one that makes everything obvious in retrospect. It shows up everywhere: from court cases to academic papers to medicine. Sometimes referred to as the “I knew it all along” effect, it causes people to falsely believe that knowledge that they already know is self-evident, and if they hadn't been told, it would be easy to figure out.

This effect has been demonstrated multiple times in numerous studies. For example, when participants in an experiment were given a story with four possible outcomes and told that one of these outcomes was true they would report that the “true” outcome was the most likely, regardless of which outcome they were told was true. It was also found that hindsight bias heavily affected the interpretation of the level of malpractice by doctors. Participants were told about a procedure and then were either told that it had a negative outcome or a neutral outcome. The participants who were told that a procedure had a negative outcome reported higher levels of malpractice than those who were told of a neutral outcome even though the procedure was exactly the same. Participants supplied with the knowledge that the outcome was negative felt that this negative outcome was obvious and that the doctors should have known it as well.

### Why this affects you

When you present your research to clients or to members within your organization, hindsight bias will be taking hold of every single member of your audience. It's harder to prove the value of research to your organization when after every presentation people leave thinking what they just heard was obvious and that anyone could have figured that out.

In addition, in research scenarios this can show up if you ask participants if something makes sense to them rather than have them show you what they would do. If you describe how to get to some outcome, they will more readily agree that seems correct and that this is what they would have done. If you had never described how to get to this outcome, it is very likely that many of these users might have tried something else.

### What you can do

Avoiding hindsight bias is tricky because even when you are explicitly aware of it, you are still affected. However, when people are asked to make a guess about conclusions before they are revealed and explain their reasoning, than hindsight bias is reduced. Use this to your advantage by having your audience guess beforehand about what the outcomes will be. By considering other possibilities besides the correct one you make the resulting outcome seem less inevitable. This technique also works with participants in your research studies. Ask participants “what would you expect?” rather than “does this make sense?” to get a better idea of what they actually would do.

## 2. CONFIRMATION BIAS

Confirmation bias ensures that you only see evidence that supports your previously held beliefs. It causes you to ignore any evidence that contradicts your beliefs or to rule this evidence out as flawed and less important.

When participants were asked to figure out a complex set of rules for moving objects (simulated by the computer) none of the participants were able to figure out the rules of the system because they kept trying to confirm rather than disprove their hypotheses. In another study, participants in the US who felt either strongly for or strongly against the death penalty were asked to read a fictional study that either supported or contradicted their beliefs. If the study supported their beliefs then they would find it to be a good study, if it didn't, then they considered the methodology to be flawed in some way.

### Why this affects you

Confirmation bias is likely to affect the quality of your research. It can make you see patterns that don't exist and only focus on some of the facts that are presented to you. It can make you doubtful toward observations that contradict your beliefs and quick to accept observations that do. If this bias is affecting you than you can end up with completely incorrect conclusions from your research.

This bias can also affect you during the design process. If, when creating designs, you end up with a design that you think is the best, you will only focus on the positive attributes and ignore the negative attributes. This can cause you to ignore new findings that might indicate that this is no longer the best design.

### What you can do

Don't test your own designs or anything that you have an emotional investment in. Experiments where you are emotionally invested are ones where you are more likely to see trends that don't exist or falsely interpret facts to support your beliefs. Recording metrics such as time on task, user paths, and counts also enable you to analyze or statistically test if there was in fact a pattern later or if there just seemed to be one. It also helps to have another person analyzing the data or reviewing the designs you created so that it doesn't just end up confirming to any one individual's assumptions.

## 3. THE SUNK COST FALLACY

When something is a bad idea and you should probably stop, this fallacy causes you to keep going because you've already invested too much. You're so concerned about your previous expenses going to waste that you put in future expenses to keep the project going even though you know it will fail.

This fallacy is also called the "concorde fallacy" after the supersonic commercial airplane developed by the UK and France. This plane continued to be developed even after it was anticipated that it would be a commercial failure. This fallacy also turns up as a profit strategy in many free to play games, such as Farmville. These games hinge on using the sunk cost fallacy to keep you playing by making your "investments" fail if you don't keep coming back. Even though you're no longer having fun playing these games, you keep coming back to ensure that all the time you've put in so far is not wasted.

### Why this affects you

This sunk cost fallacy can happen when you realize that some product or service is a bad idea, but you decide to continue releasing it anyway because you have already spent a ton of money developing it. This fallacy prevents you from seeing the best choice and focuses you on trying to avoid feelings of loss.

This fallacy can happen in all steps of the development process from the creation of an idea to the deployment of the final result. In the design process, if you notice that there is a fundamental problem in the design you have been creating but you don't want to make a new design because you have already spent so much time creating this first one, then you are falling prey to this fallacy. Or in the research process, if you notice that there is a flaw in your experimental design but you've already started the experiment and you don't want to go back and redesign the questions and tasks because otherwise the data of the participants who already did the experiment would be "wasted".

### What you can do

The best thing to do is try to fail as early as you can. Following a user centred design process and figuring out if something will be a failure before you have spent too much money developing it will benefit your users and your bottom line. It can be hard to accept that failure might be the best path, but if you fall prey to this fallacy you have to remember that you aren't avoiding failure, you're delaying it and making it bigger.

## 4. SURVIVORSHIP BIAS

Whenever you focus on the success stories, the products that are still around, and forget about the failures, survivorship bias is in effect. It's so easy to overlook the companies, products, and people that did not survive, as they are much less visible and often no longer even exist.

This type of selection bias can cause you to come to completely incorrect conclusions about the effect that you are trying to observe. In World War II, the United States was trying to figure out which locations on their planes they should fortify to prevent them from being shot down. They looked at all the planes that had been in combat and noted the locations they were shot the most. From there they recommended that these areas be fortified better in the future to prevent further pilot deaths. Fortunately for them, a statistician on the team noticed that the sample of planes they had looked at were all the planes that had survived their missions as these were the only ones that had returned home to be studied. These planes were not showing where they should be fortified, but rather where the planes could be shot and still fly home at the end of the day. The United States was about to fortify the most fortified parts of their planes!

Survivorship bias is not just at play in exceptional situations. Take company satisfaction surveys. These surveys often lead to an inflated opinion of how satisfied employees are with the company as they only ever interview the survivors. The people taking these surveys are current employees with the company; the ones who decided to stay and are more likely to have a positive opinion. The people who were dissatisfied with the company are likely the ones that left, and whose data is no longer captured in these surveys.

### Why this affects you

Survivorship bias can happen when you recruit for studies and when you analyze the results. You can easily forget about the failures during recruitment if you're only focusing on the current users of a product or service and not on past users. By only recruiting current users, you only get the sample of users who decided to stick around and don't get to find out why the other ones chose to leave. If you forget this fact, recruit only current users, and move onto the analysis portion of your research, you might incorrectly conclude particular findings.

In design this can also affect you when you are considering which design approach to take. If you are only ever looking at successful designs, you are only getting a fraction of the picture. Designs that were failures or don't work for some reason have just as much to teach you as the success stories. Having a better idea of why designs fail helps you avoid making the same choices and mistakes that lead to these designs' downfalls.

### What you can do

Think about the data that you are not capturing if you are only focusing on the survivors and be aware of it. In the previous example where you only recruit current users, this is a perfectly acceptable approach to recruiting if you only care about improving the experience for current users, you just have to be cautious and remember not to draw any conclusions about the users you aren't talking to.

Likewise with design, you might not be able to notice all the elements that make good designs good, if you don't look at what is making the bad designs bad.

## GOING FORWARD

Knowledge of these four traps will enable you to effectively avoid costly mistakes that the less experienced UX practitioner might fall prey to. You'll be better equipped to help your team and your projects succeed. When planning projects, these traps should be lingering in the back of your mind so that you can take steps at each phase to avoid them. By planning ahead you'll be able to control situations to reduce the likelihood that these biases will affect your work. Planning would allow you to add things into your schedule like "fail points" to make sure that a bad project is ended sooner rather than later and to make sure that your schedule doesn't have designers testing their own designs. Try to think about your company's process and where these checks would most make sense for the way you work.

## ABOUT AKENDI

Akendi is a human experience design firm, leveraging equal parts user experience research and creative design excellence. We are passionate about the creation of intentional experiences, whether those involve digital products, physical products, mobile, web or bricks-and-mortar interactions.

We provide strategic insights and analysis about customer and user behaviour, combine this knowledge with inspired design, and architect the user experience to meet organization goals. The result is intentional products and services that enable organizations to improve effectiveness, engage users and provide remarkable customer experiences.

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