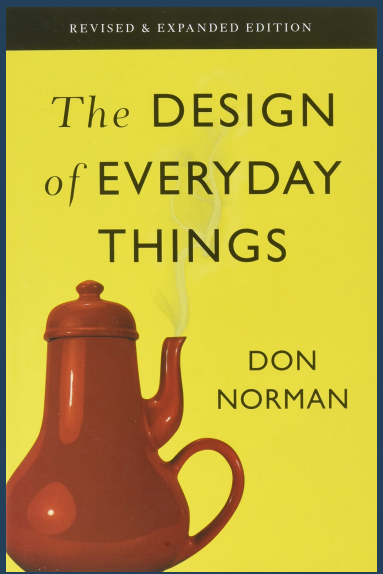
The Design of Everyday Things

Year of publication: 2013
Author: Don Norman
347 pages



Look around the room you are in, and try to base yourself to make a quick count: how many objects do you think you interact with on a regular basis?

You are way off if your estimate was less than a few tens of thousands. Irving Biederman is a psychologist dedicated to the study of visual perception, he estimates that there are "30,000 objects readily identifiable to the adult".

With so many different objects, have you ever wondered how many stressful or unproductive situations we experience on a daily basis because of the incorrect use of these objects?

All this could be avoided if the designers had researched more thoroughly the application of their prototypes. If you are one of those professional designers , read the summary of "The Design of Everyday Things", by Donald A. Norman, and learn how to do it.

However, if you are just a struggling user of the not-so-carefully-designed products that often do not receive the proper care in their composition, keep on reading and find out that you too have an influence on perpetuating this situation.

What are the key points of "HBR Guide to Negotiating"?

- Good design requires care, planning, reflection, and conscious attention to what the user needs;
- Technological evolution is useless if it is too complex for its users;
- If a simple object needs images, instructions or, labels to be used well, then the design can be improved;
- When you have trouble knowing whether to pull or push on a door, for example, it is the designer's fault, not yours;
- Good designs bring pleasing aesthetics, art, and creativity, also at the same time are usable, easy to operate and enjoyable.

Why should I read "The Design of Everyday Things"?

A book so valuable that even the author himself gained learnings from it, after it was released.
In the first edition, Donald Norman made a typical mistake of those he studied, calling it "The Psychology of Everyday Objects", leading to it being placed in the psychology section in bookstores, being shown to a completely different target audience than it was intended.
If even someone who has gathered enough studies to produce an entire work about flaws in product design has been subject to slips of this nature, the importance that "The Design of Everyday Things" has for anyone who works with the same matter is undeniable.

Overview of the book

What are the principles of designing for people?

Provide a **good conceptual model** and **make things visible**. Those are the key points when you design a product with the consumer's best interests in mind.
However, there are some challenges in creating an ideal conceptual model. o understand why this is the case, we first need to address how some of the relationships between the models and other elements that are part of the equation come about.
The designer's conceptual model is the model that the product design itself will have. Interaction with the system develops the **user model**.
The expectation is that the two models will be identical. The problem is: how to guarantee this since the designer cannot talk to every single consumer?
This dialog of who designed it with who is consuming it, in order not to give room for malfunction, is done by the **system image**. It consists of everything physical and common to most products found on the market today, such as documentation and instructions.
Most of the time, new products are put on sale and even consolidated in the commerce because of the impatience that the marketing logic imposes on companies.
The author reports that in conversations with developers he has realized that it takes **five or six attempts** to get a product to market to get the design right through user experience. The problem is that if the first or second attempt is unsuccessful, the product is already discarded.
The constant and rapid evolution that the market demands also causes another problem that often leads to bad design, although in this case, it shouldn't be a justification.
We are talking about the **paradox of technology**, where the complexity of a device takes the path of a "U" shaped graph, starting high, dropping to a comfortable level, and then rising again.
More functions in a device come to make life easier for those who use it, but they can end up complicating it when they make things more difficult to master.
One way to avoid this escalation of complication is to think about **mapping**, about the relationship between the controls, how they move, and what results they cause: “whenever the number of possible actions exceeds the number of controls, there tends to be difficulty”.
In addition to conceptual models, **feedback**, **constraints**, and **affordances** are also design principles.
Most people involved in a labor environment know how important the first is for the improvement in the service provided. What perhaps escapes attention is how beneficial the return given by a product, an inanimate object, can be.
On devices that do not immediately perform something that indicates full functionality, the user needs to know that they have performed an action, and whether or not it was the action they intended.
You can implement feedback in the structure of a device in several ways: different colored lights, the status written displayed on a small screen, or even sounds, like the ones we hear while making a phone call.
The constraints related to the affordances. It is possible to design a product with a good understanding of how it works by using mainly four types of constraints:

1. **Physical constraints** are, for example, parts that only fit together in a certain position or buttons that only turn in one direction, regardless of what the user tries.
2. **Semantic constraints** take more into account the consumer's world knowledge so that he can understand the situation in which he is applying that instrument and how it is composed, to identify the only situation in which it can work.
3. **Cultural constraints** are a great example of how to relate one principle to the other, while also implementing feedback. A green light in most cultures around the world conveys the idea of "on" or "allowed", while a red light symbolizes the opposite.
4. Finally, the **logical constraints**. Equal shapes or arrangements of a button and the artifact it triggers, or, in a case where all the parts have already been connected and only one is missing, the logic guides the end of the work. Here is also clear the interdependence that constraints have with mapping done well.

How is our psychology affected by design?

Have you ever heard of the term "**learned or assimilated helplessness**"? It is the name given to when someone fails too many times at the same task. This leads one to think that it is impossible to do, at least for oneself.
Furthermore, when there is a belief that one is not capable, the attempt is not even made the next time, because it is already taken for granted that one will not succeed either, as happened before. From this, a prison is created within this "self-fulfilling false prophecy".
Now, imagine this same feeling of helplessness repeated over and over again, with many of the approximately 30,000 objects with which we interact. The result can be severe, even leading to depression, because of the fear of coping with everyday life.
And the **conspiracy of silence**, are you familiar with? Imagine, if this device that a person feels completely unfit to operate is always present in stores, in homes, in offices, all working fine, the problem must be only with that individual, correct?
Actually, no. But that is what everyone who cannot operate it optimally imagines.
As a result, no one admits the difficulty they face, keeping a precarious design work in vogue, always being sold and bought. Psychology can also deceive us, when, at first glance, that purchase seems something quite simple, and the various functions offered are eye-catching.
The real hurdles only show up on a day-to-day basis, so don't be shy about asking the salespeople questions for fear of being silly, or doing more "real" tests. The author recommends pretending to prepare a meal with a kitchen appliance or adjusting the channels on a television, for example.
Also talking a bit about how the functioning of the human brain influences design, comes the work with memory, of which the author classifies three types:

1. **Memory for arbitrary things** stores information that has no meaning or relationship to other things already known. These are straightforward things, brought about by that utility, that must simply be learned. This is the most unsatisfying type, but it is useful in emergenc when there is no time to think.
2. **Memory for significant relations** is the most recurrent, when one piece of information is tied to another already stored, to make it easier to remember.
3. And **memory by way of explanation** is when that material doesn't need to be recalled specifically, it can be deduced through another aspect of the situation. According to Norman, it is the most powerful type of memory, which should be taken into account when producing mental models, because it allows you to know what to do in various situations.

Also on memory, the writer points out that, taking into account the limitations of **short-term memory (STM)**, one should not require a person to remember at one time more than, give or take, five unrelated items.
For the limitations of **long-term memory (LTM)**, again, the usefulness of integrating one piece of information with another comes in, creating a conceptual structure that facilitates learning.

What is user-centered design?

Besides everything that has already been said here, it is very important to assume that the error **will** happen. Yes, take it for granted that the person who will use your product will at some point misuse it.
So, once again, it is worth remembering that those who cannot use a device correctly should in no way assume guilt. Everything needs to be thought out by the person who designed it.
While it is the duty of you, who designs such a product, to protect the user from his own mistakes. How to do it? Simple, make the **actions reversible**, and try to **minimize the cost** of the error.
Confirmation requests before a reckless action can save a big headache. Still, it is not enough.
Remember the different types of **constraints** we listed? Here they play a key role, just choose the most appropriate one.
In addition, there is a somewhat obvious question, but one that should be taken into consideration nonetheless. If you want to not repeat an error and preferably fix it as soon as it happens, what is the most basic thing you need? Of course, **being informed** that something didn't work as expected.
It is important to change the attitude toward user errors. Think of him not as someone who makes mistakes and that's it, but as someone who tried to perform a certain task but didn't get exactly what he wanted. Actions are imperfect but approximate, use this to identify where the problem lies.
Making it a little easier, the author provides a list of **seven principles to make difficult tasks simple**:

1. Using knowledge in the world and knowledge in the head at the same time;
2. Simplify the structure of tasks;
3. Making things visible: ensuring that implementation and evaluation gaps are shortened or overcome;
4. Do the mappings properly;
5. Exploiting the power of natural and artificial coercions;
6. Designing for error;
7. When everything else fails, standardize.

However, in the middle of all the improvements aimed at the consumer, there are some challenges from the design business itself.

> *"Simple improvements should be possible. One would imagine that simple items such as cars, household appliances, or computers, which are periodically released in new models, could absorb the benefits of the previous model's experience. Unfortunately, the multiple forces of the competitive market do not allow this."*

In the medium itself, time and the limitations that deadlines impose on workers end up sabotaging them. The new model already starts to be designed before the previous one is launched.
The means for collecting customer evaluations of their experiences are also precarious. Additionally, the focus is always on trying to surpass the previous copy, often discarding good old characteristics and without respecting the natural process of evolution.
As in many other areas, professionals also harm each other, and in this battle, also themselves. According to the author, designers always try to leave their signature, a unique mark, on what they project.

This quest for individuality leads to some of the best innovations. On the other hand, if a company develops something that is already almost perfect when a similar one is launched by the competitor, it is disfigured, losing all the advances already obtained.

Moreover, the community of these professionals itself tends to prioritize aesthetics over functionality. There is also an almost unconscious problem.

By working so much on that project, the professional becomes an expert on it. Thus, he or she is unable to think like a typical user and fails to see the possible problems and loopholes

Finally, the customers that need to be pleased are often not the users, but the contractors. Remember that all aspects of user-centered work, from the basic principles of good design, need to be put into practice **together** to get the most out of it.

Books on Design Applications

Steve Krug, author of "**Don't Make Me Think**", works with user experience, performing website design for large corporations. With this background, his focus in the book in question is to teach how to use design principles precisely to make a website more attractive and effective in the sales process.

In the book "**Service Design for Business**", the authors, who work at the Design Team of the Year award-winning company Livework, teach how to drive the entire user experience up to the point of purchase completion through the design offered. The title has a lot to do with the design of routine services.

In "**Change By Design**", the basic steps of the design thinking process are explored, from inspiration, through conception, to execution. In the work, observing how each product is used by consumers is also a key point in the quest to revolutionize a company's creative processes.

How can I get more clarity in my projects?

- When you pick up an unfamiliar object that you can use without difficulty or effort on the very first try, examine it and learn from the well-designed, thoughtful design;
- Share your good designs with other professionals in your field, and don't be afraid to take inspiration from other good works;
- If you can't use a product, don't give up and try again;
- Make complaints and requests for improvements and assistance to the responsible company;
- Always test a new model, simulating everyday situations, either when buying or producing.