
What is Design Thinking? A Short Critique on Design Thinking

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Abstract. In this article we examine the history of different new product development (NPD) processes and their application. As an example, “design thinking” is subjected to a closer examination. While “design thinking” has been made quite popular and commercialized during the last twenty years, there is little scientific examination on whether or not design thinking actually provides what it claims to do: put the user / client first.

Keywords: design thinking, brainstorming, design process, new product development

When Henry Ford (Ford & Crowther, 1922) was commenting on the “choice” his customers would have when choosing a color for their model T (just black was available), consumerism was on the rise, while demand was so big that people on both side of the Atlantic didn’t bother to express their individuality by having lengthy debates on which color their car or radio should be. While -thanks to Taylorism- output continued to grow (which interruptions of course during the first and second world war). While markets were still far from being saturated, the industry slowly felt the need to create new demands, by advertising fashions (which was now possible at lower cost thanks to mass media) and creating niche markets (Higgs, 2021).

Others -like von Mises (2011) for example- might argue that individuals have the inhabited tendency to be “individualistic” and hence require products and services that take this individualism into account (von Mises, 2011). According to von Mises (2011), people who wouldn’t see novelty, new products would left behind with bitterness.

So from a one color choice situation in Ford’s time we are now faced with countless choices, for example Lancia’s (2020) model came in 13 standard colors, while clients could choose from 100 other possible colors and nuances. While choices seem to be countless, the society becomes more polarized, which in itself requires further sub segmentations of markets and product choices (Geher, 2018).

While it might be debatable (like a chicken or egg first situation) what came first: the demand for novel and more and more individualistic products or the push from the industry to “create” the need for new products, it is clear that institutions and companies at large are facing a growing pressure to change them self, their processes and of course their services / products to flourish and survive in these competitive times. Design thinking is here seen by some as one possible solution to face the complex modern reality (Was Ist Design Thinking?, n.d.).

Design thinking is seen as a process where the users (aka consumer) is in the center of center a process that shall lead to innovative products / services (Kwon et al., 2021). Design thinking shall lead to new ideas, that might help to create products / services that are user centric.

As one example of design thinking I shall here focus on the IDEO model, its origin, application and critique this model.

It is noteworthy that -like so many other ideas / concepts- there are several interpretations and definitions around. IDEO undisputable stands for inspiration, ideation and implementation.

All the different interpretations however have in common that design thinking is seen as a process that produces at some stage innovation. The Hasso Plattner Institute (Potsdam) has broadened the original design thinking concept, by setting following steps: understand, observe, point of view, ideate, prototype and finally “test” (Tschimmel, 2012).

The 4D Double diamond model of the Design Council might be another variation: discover, define, develop, deliver.

All the applications of that design thinking have in common, that they (all centered around the user) bring together different stakeholders (Lee et al., 2021) in order to innovate and come up with novel solutions / products that find their niche in the market.

In essence we are looking at a wider philosophy (user centered / user designed) that is applied (or one may say marketed) under different “brands” / methods. It is interesting to see that “human centered” is seen as an “empathy-driven approach to innovation” (Fischer et al., 2021). It neglects that some product innovation involves animals, or maybe android kind of robots in the future.

The IDEO method (brand) is taken here as one example as it gained quite some popularity and recognition recently. Even if it is applied in other branches of science or business then core points as seen above remain the same. For example in the field of architecture ARIES (Architecting innovative enterprise strategy) IDEO is being applied and slightly modified / enriched to fit its purpose (Lee et al., 2021).

It is important to keep in mind that as definitions change over time (for example “innovation” has seen 60 different definitions from the 30s to 2008 (Frich et al., 2021), it might be fair to assume that also other definitions have changed (as earlier mentioned: what about machines as users, is there a user centered approach to design pet products or zoo facilities for animals?).

On the History of Design Thinking

The “IDEO” school might be rather young, but its roots might be found as early as in Gropius’s Bauhaus period around 1920 in Europe (Design Thinkit, n.d.) Gropius already who -among other ideas- brought together different stakeholders, focused on the functions (as perceived by the user!) to come up with innovative products / designs. Later through newly developed creativity processes like brainstorming in the early 1950 (Osborn, 1953) the process has become more interactive and creative. Norman (1986) looked into how humans would interact with the upcoming personal computers and how that should influence the design of systems, he later developed his ideas further to develop a broader idea of the “Psychology Of Everyday Things” (Norman, 1988). Around that people close to Stanford scholar David Kelley founded d. school at Stanford, that took decades Stanford’s research on human centered design and machine to human interface to combine all this accumulated knowledge to a design thinking system that is easier to put into action (hence easier to spin off as a new company called IDEO).

Hasso Plattner (founder of German software company SAP) liked the Stanford D school so much that he brought the concept to the old continent, where 400 students annually can learn applications of user centered design thinking as marketed by IDEO, or Stanford’s D school (Design Thinkit, n.d.).

There seem to have been a commercial hype around 2015 when publications of popular scientific books was at its height, scientific publications are still growing, reaching almost 300 per annum in 2019 (Kwon et al., 2021).

Critique of Design Thinking

A lot of what can be found / said of design thinking (and its many “sub branches” like IDEO for example) seems to be pretty plain. As funnily put in newspaper article back in 2007: “Has it been spotted before? Well, it’s kind of common sense, but in science, it isn’t been recognized” (Sample, 2007). Or to put it in other words:

- Who wouldn’t talk with clients and watch them how they use products / services when innovating?

- Who wouldn't put the human in its center of development? (8 Design Thinking Problems and How to Fix Them, 2019)

Like with so many other hypes (think of agile development or coaching,) there are many people out there that might give courses in design thinking, but as the earlier blog mentions, does taking a single course at IDEO or HPI equip you really to steer design thinking processes? I think the claim here is that there is quite some pseudo-scientific interest about IDEO and other design thinking processes that might misled the public about what design is / can do (which was also reflected in the publishing amount earlier in my article).

In the scientific world there is a debate whether putting the user in the center off innovation really leads to better (innovative) outcomes. In fact, Frich et al. (2021) was not able in his research to show a strong connection involvement (of user) and innovation. Then some practical users of design thinking processes mention in some research (Kwon et al., 2021) that design thinking is too time consuming also stating that design thinking might be not applicable in all department (hence create some strange "islands of creativity" that might have issues to connect / deal with other departments).

In general, there seems to be a consensus that design thinking processes take more time, need more involvement of more stakeholders (which is an essential part of design thinking). Another problem in design thinking might be that the product / service that is the result of a design thinking process might be too specific, i.e. which be hard to sell / implement to a wider audience / clientele (Lillemaa, 2004).

Iskander (2018) sees deep rooted problems in design thinking processes, as the he understand that the designer (of facilitator) is somewhat privileged in the whole process, hence the outcome might by far less reflect the need of the user (who actually stands in the center of attention in all design thinking processes). He also criticizes that the whole process is less defined than necessary and sees little original value (like Sample did in the earlier quoted Guardian article) in this "concept" and refers more to common sense. At some point the designer of facilitator of the design thinking process will have to choose which ideas to follow up / pick up on. Here is where Iskander sees the designer as the ultimate decision maker and NOT the user as proposed in all the design thinking processes. According to Iskander subjectivity (choose which individual to observe, which information taken, which prototype to follow up on or not etc.) is hard to be avoided in design thinking.

Is it Useful After All?

As Fischer et al. (2021) pointed out, human centered design (in her case research related topic) might help not only to have better results for the actual problem (in her case drug-drug interactions in an ER environment) but also might cut time in the innovation process. Schwab (n.d.) takes the example of one company, that has named a DVD storage room "creative thinking room" as one example how superficial some companies integrate what they believe as essentials for design thinking into their organization. Like so many other ideas, it takes top management attention and honest support to use design thinking in order to achieve better innovative results. Different authors stress out that company culture plays an important role to successfully run design thinking processes. While an open engaging culture is needed to successfully run design thinking processes, as a matter of fact an organization running design thinking processes might improve that culture even more (Design Thinking: A Key To Improving Organizational Culture, 2018).

To me design thinking is one way to facilitate the search for innovation, but firstly it is one way of many (on the market) and secondly in times of mobile phones etc. one might resort to APPs that make the design thinking faster and might help to eliminate undemocratic flaws as Iskander mentioned. Apps like klaxon (Board Hybrid, the Collaborative Tool Designed for Hybrid Work, n.d.). My point here is that the demands for novel products and services change

rapidly, so why not employ new technology to gather needs and feedbacks from users? Design thinking is already been used for AI projects (Mello, 2020), maybe one day the time is right that AI will help to be part of design thinking process or design new products complexly by itself without any human input. Which would bring us to the question whether an algorithm could anticipate human needs for a special product or feature.

In conclusion we can say that design thinking in its different methods might help to foster innovation, but as the world is changing so must applications be adapted.

References

- 8 Design Thinking Problems and How to Fix Them. (2019, February 10). Disruptor League. <https://www.disruptorleague.com/blog/2019/02/10/8-design-thinking-problems-and-how-to-fix-them/>
- Board Hybrid, the collaborative tool designed for hybrid work (n.d.). Klaxoon. Retrieved November 21, 2021, from <https://klaxoon.com//board>
- Design Thinking: A Key To Improving Organizational Culture (2018). Mindhatch. <https://www.mindhatchllc.com/design-thinking-organizational-culture-change/>
- Design Thinkit (n.d.). GRUNDLAGEN. Retrieved November 15, 2021, from <https://design-thinkit.de/grundlagen>
- Fischer, M., Safaeinili, N., Haverfield, M. C., Brown-Johnson, C. G., Zions, D., & Zulman, D. M. (2021). Approach to Human-Centered, Evidence-Driven Adaptive Design (AHEAD) for Health Care Interventions: A Proposed Framework. *Journal of General Internal Medicine*, 36(4), 1041–1048. <https://doi.org/10.1007/s11606-020-06451-4>
- Ford, H. & Crowther, S. (1922). *My Life and Work*. Doubleday, Page & company. <http://archive.org/details/mylifeandwork00crowgoog>
- Frich, J. et al. (2021). Revisiting the Role of User Research in Design Creativity. *ECCE 2021: European Conference on Cognitive Ergonomics*, April 2021, Article No.: 29, pp. 1–5. <https://doi.org/10.1145/3452853.3452857>
- Geher, G. (2018). The Polarization of America. *Psychology Today*. <https://www.psychologytoday.com/us/blog/darwins-subterranean-world/201808/the-polarization-america>
- Higgs, K. (2021, January 11). A Brief History of Consumer Culture. *The MIT Press Reader*. <https://thereader.mitpress.mit.edu/a-brief-history-of-consumer-culture/>
- Iskander, N. (2018, September 5). Design Thinking Is Fundamentally Conservative and Preserves the Status Quo. *Harvard Business Review*. <https://hbr.org/2018/09/design-thinking-is-fundamentally-conservative-and-preserves-the-status-quo>
- Kwon, J., Choi, Y., & Hwang, Y. (2021). Enterprise Design Thinking: An Investigation on User-Centered Design Processes in Large Corporations. *Designs*, 5(3), 43. <https://doi.org/10.3390/designs5030043>
- Lancia Y. (2020). In *Wikipedia*. https://de.wikipedia.org/w/index.php?title=Lancia_Y&oldid=203497550
- Lee, S.-H., Lin, W.-C., Rudnik, J., & Rhodes, D. (2021). An architecting approach to transformations within the design consulting industry: IDEO case study. *Proceedings of the Design Society*, 1, 405–416. <https://doi.org/10.1017/pds.2021.41>
- Lillemaa, M. (2004). *User centered design*. https://www.academia.edu/1012299/User_centered_design
- Mello, A. (2020, May 8). *Design Thinking for Artificial Intelligence Projects*. Medium. <https://towardsdatascience.com/design-thinking-for-artificial-intelligence-projects-87c4bc920c03>

- Norman, D. (1986). *User Centered System Design: Book by Don Norman*. Nielsen Norman Group. <https://www.nngroup.com/books/user-centered-system-design/>
- Norman, D. (1988). *The Design of Everyday Things—Don Norman*. New York: Basic Books.
- Osborn, A. F. (1953). *Applied imagination: Principles and Procedures of Creative Thinking*. Scribner'S.
- Sample, I. (2007). The science of common sense. *The Guardian*. <https://www.theguardian.com/science/blog/2007/sep/13/thescienceofcommonsense>
- Schwab, K. (n.d.). *Ideo breaks its silence on design thinking's problems*. Retrieved November 1, 2021, from <https://www.fastcompany.com/90257718/ideo-breaks-its-silence-on-design-thinkings-critics>
- Tschimmel, K. (2012, January 1). *Design Thinking as an effective Toolkit for Innovation*. <https://doi.org/10.13140/2.1.2570.3361>
- von Mises, L. (2011, September 12). *Individualism and the Industrial Revolution*. Mises Institute. <https://mises.org/library/individualism-and-industrial-revolution>
- Was ist Design Thinking? (n.d.). Design Thinking—Hasso-Plattner-Institut. Retrieved November 15, 2021, from <https://hpi.de/school-of-design-thinking/design-thinking/was-ist-design-thinking.html>