DESIGN THINKING

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Design Thinking

Design thinking is a process, sequence of activities, that serves as a problem-solving tool. It ensures that the solution we come up with is one that gets accepted by the users it is intended for.

What is design? We know of fashion design, graphic design, industrial (product) design, interior design, web design. When we hear the word design we, most often, think of appearance. We think of the outcome. But it is not about outcomes – it is about the methodology.

Within Design Thinking we are focused on the approach. On the verb designing.

Designing of: services or solutions or systems or processes; is an interdisciplinary approach that combines many tools from various functional disciplines. We innovate by creating solutions more useful, more desirable, more efficient, more useable.

''When you have two coffee shops right next to each other, and each sells the exact same coffee at the same exact price, service design is what makes you walk into one and not into another.''- 31 Volts SD, 2008

Brief history of Design Thinking:

It is said the term 'design thinking' itself first appeared as far back as 1935 when it was used by John Dewey as he studied the interception of the aesthetics and the design, and the possibilities of the two contributing each other. In the 50's the concern was in finding new methods to achieving creativity. In effort to create a scientific consideration on how all functions of design work emerged in the 60's in the academic community. The studies were done into how representatives of the creative industries work: product designers, graphic designers, artists, architects, cartoonists etc. The goal was to find out how design can enrich the modern world of business, science, and real-world problems in general. The creative and design path was found to be solution focused approach. Which contrasted greatly with the scientific approach of problem-focus. Most famous example of the times Design Theorist being Horst Rittel who argued that Design Thinking be used in solving Wicked Problems.

In the 70's the term was used by Nobel Prize laureate Herbert Simon who was the first to postulate is as an approach of thinking indeed, and is also the origin most of the design thinking processes, such as rapid prototyping and observation. In 1978 IDEO began operating and the organization, and their founder Tom Kelley, are found to be the greatest influence in making Design Thinking mainstream. The approach also got interest from many fields, and in business Martin and Liedtka were both practitioners and ambassadors.

Many methodologies of Design Thinking:

One can use the Double Diamond, or Stanford d.school Design Thinking process, Lidetha and Ogilvi Design Thinking process, Dubberly Design and Mellon Coleleg Design Thinking process, Service Design Thinking, or any other. Regardless which process one chooses the principles are always the same in all of them (it is only names of the wholes that change, not the content of the activities and their objectives).

5 principles of Design Thinking

1. **User Centered**
    - Think from the perspective of [end] user
    - Use their language

2. **Inclusive**
    - Consider all stakeholders, co-create with them
    - Customers, us in the company – managers, front-end staff AND back-end operatives, other stakeholders…

3. **Sequence thinking**
    - Of interrelated actions [flow / rhythm]
    - Service, or project, takes place over a certain period of time
    - (I) pre-period, (II) during, (III) post-period

4. **Evidencing**
    - Visualized or embodied even if intangible
    - Increase the recollection of experience as well as loyalty
    - Examples: email, note, souvenir, picture, brochure…

5. **Holistic thinking**
    - Consider the entire environment and context
    - Consider alternative customer journeys – there are numbers of alternative touch points to them
    - Consider that sequences change at different iterations

Fields & functions where Design Thinking as a methodology is more than useful: service designers, product design, graphic design, interaction design, social design, user experience (UX) design, strategic management, change management, operations management, marketing, ethnography, R&D, and many more.

We use design thinking to increase the changes of our solution being both relevant and accepted!

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Set of skills needed for design thinking:

- Identifying problems
- Researching
- Analyzing
- Evaluating
- Synthesizing
- Conceptualizing
- Testing
- Communicating to others (reasoning)

The brief

0.

The brief is an initiation document in which we formulate the work ahead of us. We need to state clearly a) what is the scope of work; b) what are our objectives; c) who is our team; and d) what is our time plan. In this document, which serves as strategic direction for all further work we also do our biggest duty: state the problem properly. The aim is to formulate the organizational problem but from the user perspective (if the solution involves the people of your organization then they are the users, internal but still users).

The 5 why's is a very useful tool to evaluate our problem as it goes into root cause analysis. This tool is as simple to use as it is insightful. As we state our problem, we simply ask 'why'. 'Why is this so?' The answer to the question gives us the basis of the next question! We do five rounds as five is enough to get to the true root cause.

Going into the process optimally your brief should answer the following questions:

1. About your company and brand. What is it that your business does? What's your industry? Your market? (Introduction into your business)

2. What is the current situation and why you think that needs changing? What's the challenge / project? Provide brief description of what is to be achieved?

3. What are the goals and objectives? (Goal is the main thing to be achieved. Objectives are the sub-sets that make it up, for example: measurable targets, specification, conditions, factors, characteristics, requirements, actions, milestones, indicators…) to be achieved?

4. The case. Why is this being done OR should be done? (Why is it important to achieve the outcome / introduce the desired change/ create the requested solution?)

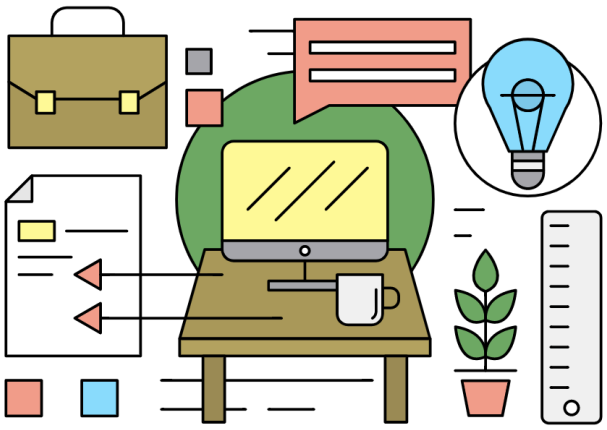
5. Person responsible:

6. Team, members and roles:
7. Time plan or schedule? (what time/date should this be done by)
8. Budget size:
9. Available resources:
10. Restrictions / deal-breakers (definite DON'Ts):

The brief should be revisited and iterated through all phases of the Design Thinking Process. If fact the first two phases form the brief significantly.

Design Thinking process

1.



First part of the process is to gain understanding. We need to know more about the problem, we need to understand the human needs involved and be able to put the organizational problem form our brief into the perspective of users of the solution. Therefore, we seek understanding that will enable us to reframe in a user-centric way. Understanding will come from research. We collect data, find patterns in it and analyze it to garner information, and then ask and place that information within its context (what is the context?) in order to gain understanding.

This will then inform our brief and give us clear direction going forward. To reach the point we research the problem background, the existing solutions and tries, and most of all the users of solution.

Desktop research is the easiest way and can yield good results as we utilize the power of crowdsourcing. By doing desktop research we access existing findings and research done by experts. It is imperative to do desktop research by reviewing relevant and reliable sources, and making sure they are indeed credible. Some sources are:

- research reports
- public (government) statistics
- studies
- text books
- scientific journal articles
- google scholar

While the desktop research has enables us to perhaps understand the background of the problem better and even perhaps resulted with some user or customer behavior reports, it is not sufficient to rely on desktop research alone. We need to confirm user needs. Which we can do best by studying users themselves.

Qualitative research is the type that gives us insight. Through qualitative research we can understand the meaning that customers give to a specific phenomenon. We use inductive reasoning to data analysis seeks to identify trends, larger themes, patterns, or generalizations. The dana is collected by asking open-ended type questions and /or by technique of observation, which includes studying subjects in their environment. We can observe while we participate or as non-participants.

The issue with interviewing people is that we are all unreliable narrators, to the point of not knowing how skewed our own experiences and perceptions are. Observation is the most reliable method to gain meaningful insight first hand. Observational research both gives more insight into the research question (problem), which is particularly helpful when dealing with something new, and it gives us insight on user behavior – either in natural or controlled environment, depending on the goal of the research.

When researching trough observation remember to collect data –write down what you see. It is also important that one does not interpret what one sees as observing, but save analyzing for later. In this manner we avoid bias and ensure validity of research.

Empathy map is another valuable tool when understanding customers. It makes us consider the perspective and experiences of customers in a systematic and holistic way. This tool is available on *startegizer.com*.

In addition to data collection, observing in situ and the empathy map, it is also recommended to map all of the stakeholders while gaining understanding. In stakeholder mapping we identify all stakeholders related to the project at hand. Some stakeholders can influence the project, while others are those affected by the outcomes of the project. It is important to identify which is which, and to map the relationships. The aim is to reveal the issues that concern different groups and to group our stakeholders.

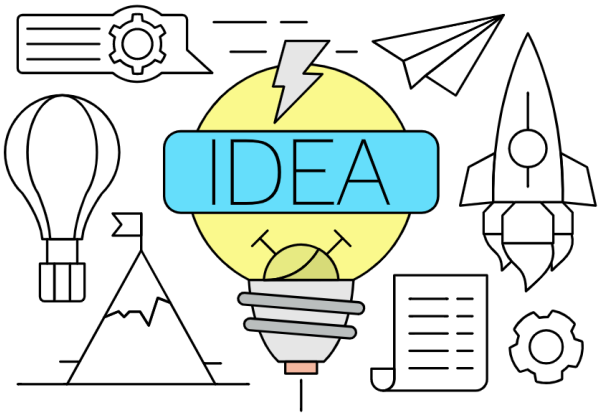
2.

As a result of our understanding step of the process we now have: user insight, problem background, context and relationships, all identified. The next step is to define the direction. This means that we will analyze all data we have collected and with that information, and the known context, relationships and problem – we have enough to set the strategic direction off activities moving forward. This is where we revisit our brief and augment it or add to it.

The insight gained about our users will now be used to create user personae – imaginary people (or single persona) who are described in detail and embody the user behavior we analyzed, for the reasons we induced. From the observation sheet (data gathered) alone we are able to sketch a day in our users' life. Visual thinking deepens our insight and enrichens all the analytical and descriptive work done in this step.

At this, second, phase of the process our problem statement should hit at the core of the problem itself and become very clear and straightforward. We will also then be clear on the criteria that we can select solutions against, and the overall direction. The defined direction ensures that all our activities and solutions are aligned to both the organizational goals and user needs. These are your foundations in the process which ensure consistency.

3.



The third phase is the one where we get very creative and generate as many ideas as we can. There is a secret to the creative work and that's that it is structured work with guidelines and rules. Like a social game or a sports game for example – if there is no collaboration among participants and adherence to the rules we get a mess instead of what we set out into.

You have been educated by the previous Design Thinking process phases and steps taken. There is no need to revisit the brief or any of the findings from previous phases now. There will be time for it later. Now, in this phase, just relax and embrace your creative mind. Speak freely. Remember to smile, and laugh.

Very important rule: there is no '*no*' at this phase of process. If needed have a regulator who continually watches out for any 'no' bombs and bomb-disposes of them immediately. Our creative brains get discouraged easily and therefore any negativity and no's thrown around will diminish the quality of work. The bombs are usually something within these types of statements: 'that won't work', 'they won't go for that', 'I don't think it will work', 'I don't understand', 'don't like it', 'our boss won't like it', 'that's not the way we do it' etc. Just save the judgment for later.

Ideation techniques:

Ideation is about generating ideas. As many as possible. In a productive hour or two we can end up with 200 or more ideas. Brainstorming is when a group of people, all of who contribute, come up with a list of ideas. The dynamics are fast and the rule is to stay positive.

Improvisation technique is when within the group (two or more) the first person says something and the next person adds to it by saying '*yes, and…*'.

Reverse brainstorming technique is when we engineered stories of how the plan fails and many ways that things can go wrong (it is like writing a script for a silly disaster movie where every plot development leads to this same disaster).

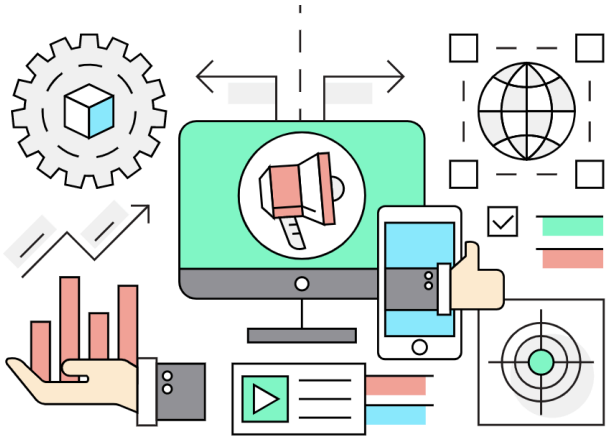
Imaginary brainstorming is a technique where we play with our problem statement. Our problem statement tells us what is the problem we are traying to solve. As such it consist of 1)what is happening/ what we fail to achieve and therefore have problem (ACTION), 2)who or what is the recipient of action/ who or what we want to affect (OBJECT), 3)where is this happening (CONTEXT), 4)who does the action (SUBJECT). We make 4 columns. The first one -action—we fill with different actions (verbs). The second one -object—with different objects. The third one -context—with different surroundings. The forth one -subject—with different subjects. Then chose one word from every column and see what great combinations of problem statements you get. In the next round try applying the ideas to the actual problem statement. Replace just one part, out of the four, in the problem statement with something from that parts column, in order to see what comes up. Write down all the solutions, in application to real problem, that the group comes up with.

What if technique is very similar to the improvisation technique but instead of 'yes and' we follow each suggestion with a 'what if' and add to the story in that way.

E/R/A technique is one that questions the problem we have. We write down the problem statement and then we try doing three things to it, in the following order: E -we try and look for things we can eliminate in the current approach / state of things. 'What can we remove' is the perspective from which we search for solutions. Then next, R - what are the reasons of this problem / why do we have this current state of things? We search for solutions from the perspective of causes. And finally, A - ask if there are alternatives to the current approach / the problem. Thing from the point of what can be done instead.

There are many ideation techniques, only few covered here. Find what works for you or simply stick to brainstorming. Just keep it positive and generate generate generate - the ideas.

4.



In this phase we bring back our judgements. If the previous phase left you with hundreds of ideas now is time to consider all of them, and strip it down to three that might be great. We use the defined direction and criteria from phase 2 to evaluate the ideas generated. We filter against those and get our selection. Selection is the name of this phase.

The three, or less, that we have narrowed down to we explore further. Develop these ideas into more details, think on the production required to make it reality, elaborate what the applications of the idea will be… When you did, go back to phase 2 outputs and see if it is a fit.

If none of them are a fit, that's ok. Why aren't they a fit? Do we need to improve the brief again? Make new iterations to the brief and go into ideation all over again. Easy.

If there was a fit choose one and take it to the next phase. It is cool to take up to three ideas to the next phase but do it one by one. First finish the Design Thinking prices with one, and then go and develop another if you wish so.

5.

Prototyping. We take our developed idea and as cheaply and as easily as we can we make it into something tangible – a prototype. This is a simulation of a final, implemented solution. It is also an experiment as we evaluate in controlled conditions – we control by not spending resources in an unjustified way. All the resources: time, money, human work, are kept as low as possible for the rapid prototype.

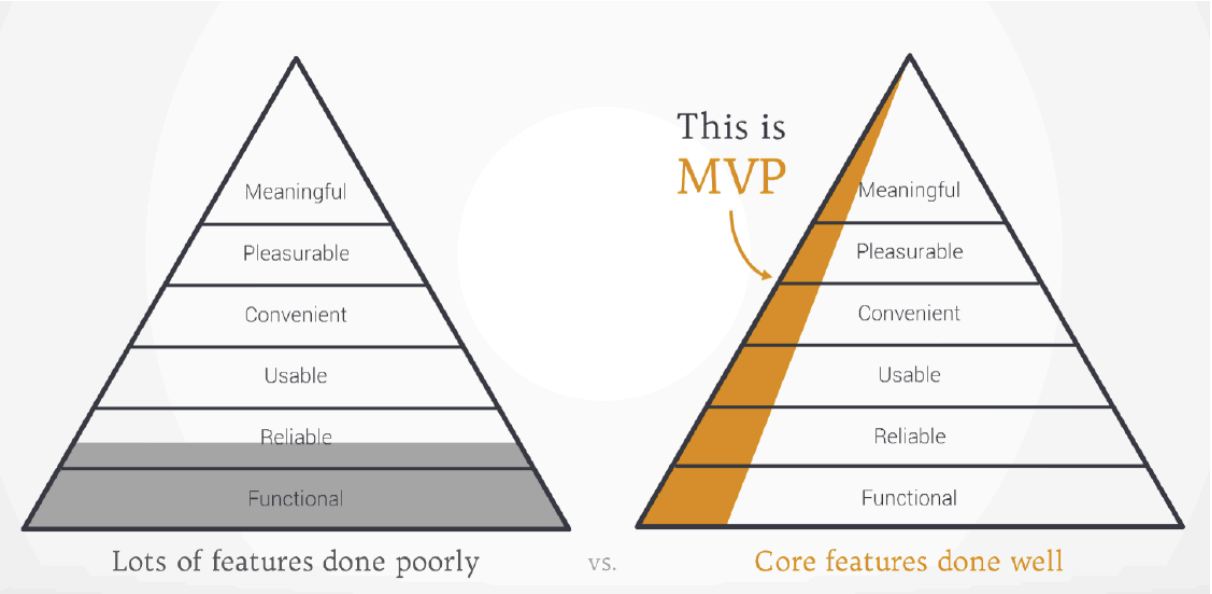
We will test the prototype with users. And know if this is solution of ours should be developed further. The most concise answer as to why we would prototype is – because often times solutions bring unforeseen problems with them OR fail to be meaningful to the users.

You can make any number of types of prototypes: Storyboards, Role Plays, Models, Mock-ups, Collage. The goal is to make something tangible that conveys the idea you want to test. No need to make it perfect, just make it good enough to get the idea across. That means it needs to be clear and simple when presented/ tested.

Once built make sure to present it – get feedback from some intended users. Write down the feedback. Learn from that feedback. Perhaps you need to change something in the solution itself, or perhaps you need to change something about how you preset it. The point of the prototype was to test it with users.

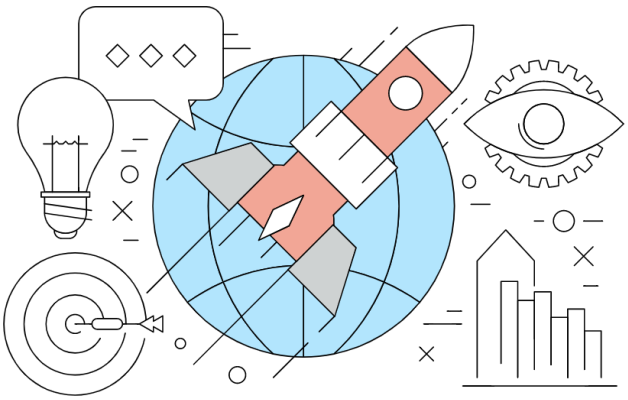
6.

If the idea solution lived up to this point it is time to build it the way it would look once truly applied. This means building a Minimum Viable Product, an alpha prototype, so that it can be validated.



For the implementation we need a plan, specifications or blueprints, training, measuring (control) plan, and a pilot. All of this is to be prepared at this phase, as the phase is indeed implementation. All of these will also be needed to launch the solution.

Pilot is a sustained engagement. Pilots can last months and will fully expose your solution to market forces. At this point you're not testing an idea—you're testing an entire system. Once your pilot is over then you have successfully finished your Design Thinking process. You can now improve the solution even more and launch it to live on its own.



Final thoughts

Regardless of the name of the Design Thinking school one follows and the terminology involved under the way they present the process, the process will in fact always include the steps described above. For proper Design Thinking problem solution, it is needed to undertake all the phases ad presented, and in that order. The order, structure of the process – sequence in which activities go is not to be underestimated. For example, the problem with barnstorming, and ideation in general, is that it is fun. So people skip over the previous phases and go straight into ideation. Please don't. Act as an educated thinker. And avoid the trap of coming up with ideas that do not relate to real customer problems or needs.

Adhere to the 5 principles. If the solution isn't meaningful to the users then there is no point to it, and that is why the user is the center. Besides the user, who else are the stakeholders – people involved or influencing the project, that should be included. There is a rhythm to every solution, as it gets delivered or used or experienced in this rhythm which must be respected when designing. Even when designing an experience or service we keep in mind how to make it tangible – how to best make this meaningful to the user. And lastly, and most importantly, even when designing only a part of a solution we must be aware of the whole and think systemically on how what we are trying to achieve fits in.

You, the Design Thinker, now have a mission to find a solution such that is: feasibile (possible to do); viabile (likely to become a part of the business model); desirable (makes sense to users and is for the users).

Resources:

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