Design Thinking For Innovation & Visual Design

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Unit 1

Topics in Unit 1:

What is design, Need of Design, History, the purpose of design, Principles of Designs, What is design thinking, Why Is Design Thinking so Important , The Five Stages of Design Thinking, Features of Design Thinking, Use of Design Thinking, Applications of Design Thinking, Business Model Innovation, Challenges Best-suited for design thinking, Importance of Innovation

● What is design?

Design is a discipline of study and practice focused on the interaction between a person — a 'user'— and the man-made environment, taking into account aesthetic, functional, contextual, cultural and societal considerations. As a formalised discipline, design is a modern construct.

A design is a plan or specification for the construction of an object or system or for the implementation of an activity or process, or the result of that plan or specification in the form of a prototype, product or process. The verb to design expresses the process of developing a design. In some cases, the direct construction of an object without an explicit prior plan (such as in craftwork, some engineering, coding, and graphic design) may also be considered to be a design activity. The design usually has to satisfy certain goals and constraints; may take into account aesthetic, functional, economic, or socio-political considerations; and is expected to interact with a certain environment. Typical examples of designs include architectural blueprints, engineering drawings, business processes, circuit diagrams, and sewing patterns

People who produce designs are called designers. The term "designer" generally refers to someone who works professionally in one of the various design areas. The word is generally qualified by the area involved (so one can speak of a fashion designer, a product designer, a web designer or an interior designer), but can also designate others such as architects and engineers. A designer's sequence of activities is called a design process, possibly using design methods. The process of creating a design can be brief (a quick sketch) or lengthy and complicated, involving considerable research, negotiation, reflection, modeling, interactive adjustment and re-design.

What is design? Most people think that design is about making things look pretty – a decoration. Art. But design is as much an art as it is a science. Cold and calculated process. Sometimes the detriment of pretty. Yet, the design is not allowed to fail. Design is for everyone and no one in

particular. Website and mobile app design, as well as design in general, is a complex yet subtle process, it's more than making things pretty.

Humans speak through languages and things speak through design. It seems today that nobody claims to speak a foreign language they haven't studied but everybody thinks they know design.

Let's dive deep into the world of design and try to understand why it is so important and what purposes it serves.

- **THE PURPOSE OF DESIGN**

    1. Your design doesn't have to be original
    2. Designers are not like their users
    3. UX design is more than just usability
    4. Design is not a stage of the project
    5. Eye candy design works
    6. Simple doesn't mean minimal in design

The many-sided nature of design

In simple and brief words, a design is a plan to make something.

"Design is a plan for arranging elements in such a way as best to accomplish a particular purpose."

— Charles Eames, American designer, architect, and filmmaker

Meanwhile, the meaning of design depends on the context and can also mean a variety of other things. Design is the creation of an experience. It's also the process of the said creation and how well it's organized. On top of that, design is the result, i.e. the things we see, hear, and feel.

The meaning of design is so multifaceted, to the point that you can no longer say if a universal definition is at all possible. You can, however, try to look at the sum of the parts to come up with a more realistic picture. So, Charles Eames said that design is all about purpose. Let's dive deeper into this idea.

The purpose of design

Every type of design exists to solve problems. To see the problem and find a solution, designers rely on data. So the toolset of the designer is based on research, not prettification.

1.Your design doesn't have to be original

It's a common misconception that novelties and hype in design will sell a product. The only reason conventional and textbook design patterns exist is because they are tested, proven, and they work. According to Jakob's Law of Internet User Experience, users spend most of their time on other sites, so it makes perfect sense to design for patterns for which users are accustomed.

We only implement new approaches if we are 100% positive they are better than the existing ones. This alone comes from a great deal of research.

The great design solution you are looking for is out there.

The real challenge is to find it.

Every time you make a user think through an 'innovative' navigation pattern or an unorthodox menu placement, it's a chance to lose them. Not because they are dumb but because we gravitate to familiar things more than we do to the unknown. If we do go for it though, we make sure everything about the new design is bulletproof.

2.Designers are not like their users

Everybody has biases and it's okay. Cognitive biases reduce the load and help us stay sane. That being said, it's important to know whether your bias is damaging your design work.

Designers and owners know their product inside out. Their bias is called the Curse of Knowledge. It's when you find it extremely difficult to think about problems from the perspective of

lesser-informed people. On top of that, your goals are entirely different from those of the people you are building for.

People want to get things done, not listen about how cool you are.

What makes us different? If you are reading this, you are top of the food chain when it comes to computers. Most people are not and they don't care. They don't know what it takes to build a digital product just like we don't know what it takes for our computers to work off the power line. Everybody knows something no one else does.

Oddly enough, the more employees a design company has, the stronger their detachment from real users. No matter how good they think they are. Ask Google about Buzz.

That is why it's vital for design agencies to keep it humble and always research their users, study their goals and pains. The more we know about our users, the less biased we are. Eventually, people will have their own habits and biases about our product. But we have got to convert them first.

3.UX design is more than just about usability

Usability is about making a product for people to accomplish their goals. UX design is a lot more robust than just that. It brings delight and meaning to ordinary things. Good UX design matters because it makes every step enjoyable, even the negative ones. If there is no network connection, the website should not die. If a page doesn't exist, the 404 should not be a bummer. That's a UX design job. It goes further beyond the familiar definition of user experience.

Why UX design is important and what makes good design:

- Good design will crack you up. User satisfaction is no longer a goal. It's a default every design solution should be in line with. However, the fun and delight are the goals. The hard sell times are past. Modern design seduces and brings pleasure.
- Good design will eat your money and make you feel good about it. Practical value is only a part of what people are willing to pay for. Another part is happiness. If your design makes people feel good, they will forgive you for technical issues and bad

updates. How to make them happy? Be genuine and honest about your work. Listen. Change.

- Good design feels like a person. For people to care, they have to empathize with something. If a product is designed in a way that favors everything, it favors nothing. You make a social impact by having a strong distinctive voice, promoting the right kind of values, and identifying with your audience. No matter what type of business you do, there has to be a human side to it.
- Good design has meaning. Meaning connects people with objects. If that connection is meaningful, it will stay for years. The design should empower people to establish the connections they need to feel free, capable, and enlighted.

4.Design is not a stage of the project

Even in deep tech circles, there is an idea that design is a time in the project when they draw sketches of the interfaces. It is not. Design starts when the owner first puts together the image of the product and ends when the project is done which is never.

The choice of a business model can't rely on the goals of the owners. There might be a natural talent and an insane gut feeling but it would be foolish to rest on them.

Knowledge of how the product could fit into people's lives is UX. Knowledge of how to get that knowledge is UX.

UX does not result in UI. It penetrates production, testing, analytics, support, and updates that follow the creation of just interfaces. Those who realize that a designer is more than just a pencil, end up with a consistent and reliable product as opposed to a patchwork of narrow tasks.

A business owner shouldn't be surprised when no other than a designer will start asking them about their business strategy. In fact, a designer will only be drawing the UIs for 12.5% of the time they'll be involved in the project.

5.Eye candy design works

It might appear that design, especially the digital one, takes itself too seriously. Indeed, there are usability geeks who don't believe aesthetics have any impact. They exemplify it by the unattractive likes of Reddit and Craigslist.

Design is no place for extremities. When there's looks not backed by proper functionality, it's empty. When it's just handy and useful, there's no emotion tied to it and it is also bad. To find the balance between usability and aesthetics, we need to know how attention works and what makes something perceived as beautiful.

To reach more people, your expertise has to spread thin and let emotions onboard users. The visual design drives emotion.

This is how web design works. The vibe of a website decides whether a person will stay and discover the features. Design is engineering in the sense that we know how to engineer delight. Through visual design, we bring meaning to ordinary things and help people find value.

An illustration is a shell for something that it represents on a deeper level. When we designed a professional platform for architects, we created an animation of elements that mimics the behavior of a construction site.

It might look subtle and may not seem worth the struggle at the early stages of design like wireframing and prototyping. But it's important for a designer to keep in mind the image of the finished product. More so, the way you visually present your digital product says a lot about the brand in general.

No matter how good the service, if it doesn't care for itself, neither will the people.

For skeptics, no attractive things don't work better but they are always worth a try. Beautifully designed products get half of their credibility because of the visual appeal. It's the developer's job to pull the rest of the features to that level. Most people think if it looks good, it has to work well as well.

"Usability is not everything. If usability engineers designed a nightclub, it would be clean, quiet, brightly lit, with lots of places to sit down, plenty of bartenders, menus written in 18-point sans-serif, and easy-to-find bathrooms. But nobody would be there. They would all be down the street at Coyote Ugly pouring beer on each other."

– Joel Spolsky

The point is, how the product works is important but how it looks while doing that is a game-changer.

6.Simple vs minimal in design

If you make a rating of comments on Dribbble, the ones that feature the words 'clean' and 'simple' will be well ahead of the rest. Simplicity has long become one of the staples in design. Because of that, there appeared a bunch of false beliefs that use the term 'simplicity' with regard to things that end up being far from simple. So what design is simple and what is minimal?

It's important to know the distinction between the two main concepts of design optimization:

- *Simplicity is a reduced complexity*
- Minimalism is a reduced quantity

The practice of reducing and decluttering is a discipline of its own. To know what to reduce means to have confidence there will be no tension put on a user as the result of our design experiments. It's called friction. Every design decision we make has to reduce friction. Sometimes it coerces designers into minimalism, hence the thriving trend for minimalism in web and app design. But it's important to know where to stop.

Reducing the volume of text on buttons means substituting it with icons. But how universal are the icons? Are you 100% confident your mute icon is unambiguous and won't mean radar to some? The Floppy Disk "Save" Icon is starting to lose a whole generation of people who have never seen one in real life.

Minimal interface design is not purpose-driven. It's a style. Simplicity comes from our understanding of the experience no matter how multi-elemental the UI is.

The design has to be visible first so that it won't do harm. The notorious hamburger menu has taken a beating but made its way into the designers' minds and earned respect. What this shows is you can't force minimalism and count on simplicity.

All Adobe products are insanely non-minimalistic. At the same time, they are perfectly clear in terms of performance and functionality. You can research the interface and make it simple, yours. But you can't make yours something that's not there.

To demonstrate the magnitude of the issue with simplicity and minimalism, let us bring Nielsen Norman Group's UX case study of Tesla Model S' 17-inch screen car interface. The main idea is that by mounting this tablet-like device on the dashboard, Tesla tapped into a realm of drivelessness and made the experience way more simple. They minimized the driver's input but created a new pattern of behavior that might appear dangerous.

Take lane assistance. It minimizes the driver's efforts to change lanes on one hand and dissolves their attention on the other. An engineer's urge to minimize the pattern might cost someone their life.

Designers have to step in and take responsibility for the mental state we put people in with our products.

If it's driving, we can't simplify it and give people a full sense of security because. We can't know all the possible outcomes of all the possible scenarios. Let people stay in charge, but make the experience clear and enjoyable.

● Principles of Designs

1. Balance
2. Rhythm
3. Emphasis
4. Proportion & Scale
5. Movement
6. Unity
7. Contrast

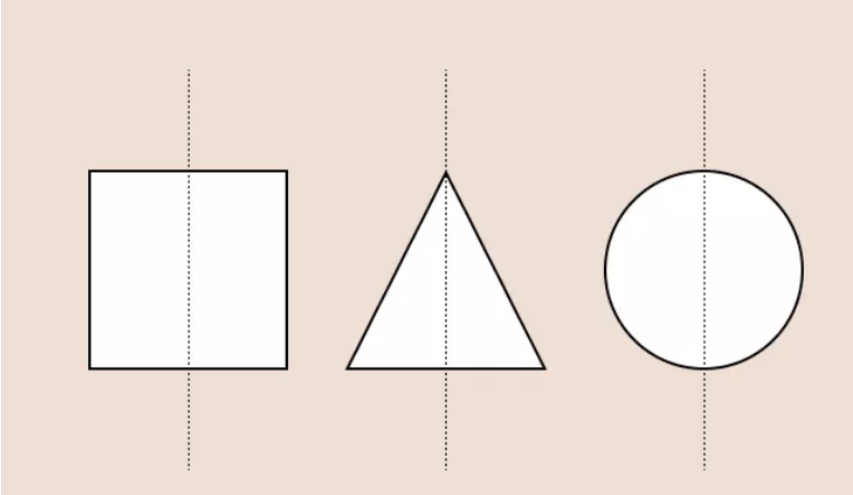
1. Balance

Where objects in real life carry physical weight, elements in design carry *visual* weight. Large elements are heavier and small elements lighter, with each element having its own "weight" based on how much attention they draw.

Visual balance is about ensuring your design is equally weighted on both sides of the central point. It's like a seesaw—too much weight on either side and the whole thing becomes unbalanced.

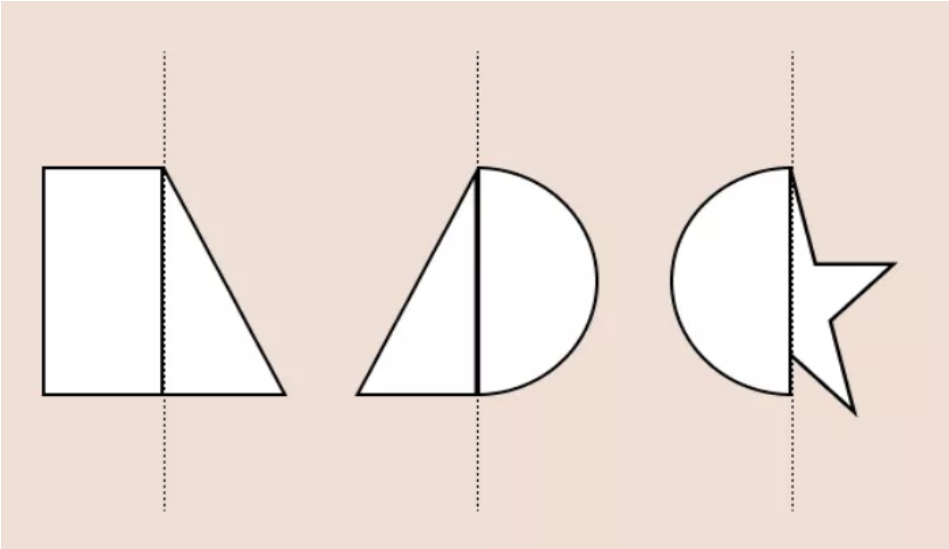
By striking this balance you create visual harmony and stop your design from feeling too chaotic to the viewer. It's one of the most important parts of visual composition, and comes in three basic forms:

Symmetrical balance



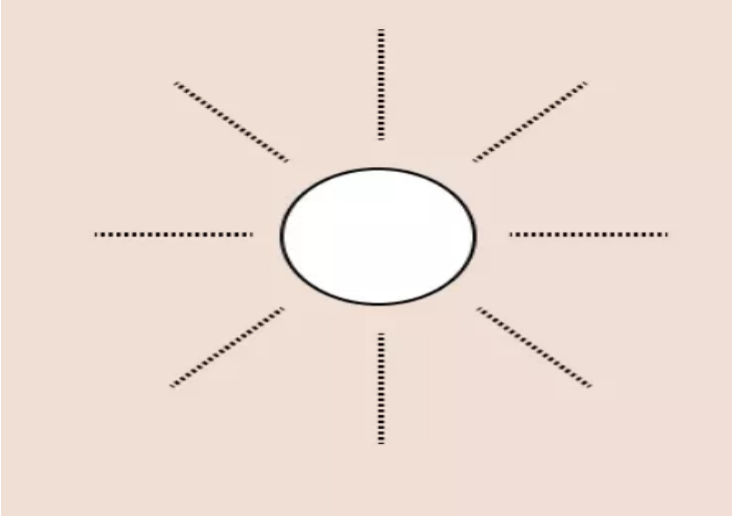
Symmetrical design uses an imaginary vertical (or sometimes horizontal) line to divide a design into two halves around a central point. Elements of equal visual weight are balanced on each side of the axis to create symmetry.
There are two variants of symmetrical balance: Reflectional symmetry, where the two halves are exact mirror images, and translational symmetry, where the same shape or elements are repeated on both sides of the design

Asymmetrical balance



An asymmetric composition is when a design uses unequal weighted elements. One side might have a visually heavy element, balanced with multiple lighter elements on the opposite side.
To run with the seesaw example, it would be like having a 100kg weight on one side and 100 kg of feathers stacked on the other. It still achieves balance but provides a whole different experience.
Asymmetry is often more visually interesting. Where symmetrical designs can be quite static and predictable, asymmetrical balance can give designs a more dynamic feel.

Radial balance



Radial balance is when elements “radiate” from a point in the centre of a design. Think of rays shining from the sun, petals blossoming from a rose, or a squirt of tomato sauce in the middle of a juicy meat pie.
This form of symmetry is a way to add depth and movement to a design and works to draw attention to an object in the centre of a composition.
2.Rhythm

In design, rhythm hasn't got anything to do with the way you move your hips. It's about giving your composition a feeling of action and movement.
Designers create rhythm by repeating lines, shapes, colours and other elements. This makes a path for our eyes to follow, builds patterns and imbues the design with a sense of flow. There are a few different types of rhythm:

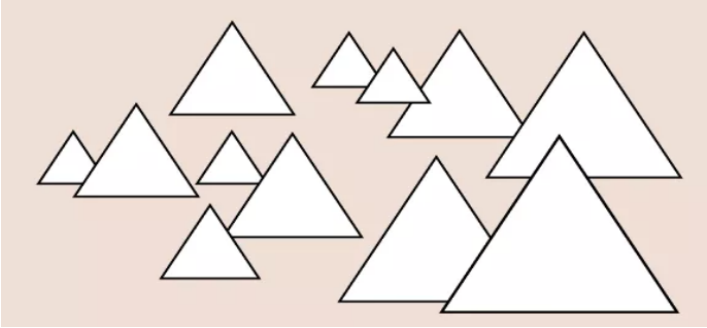
Random rhythm: Repeating elements without any regular interval.

Regular rhythm: When the elements are of a similar size and length and spread out over predictable intervals.

Flowing rhythm: Natural patterns where the intervals are organic (like a tiger's stripes or a bunch of flowers in a garden.)

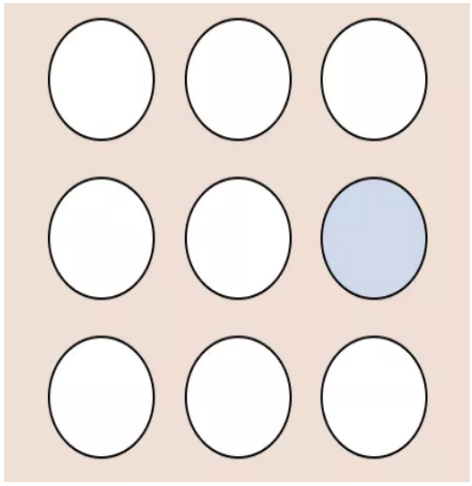
Progressive rhythm: A gradual change or sequence of elements that change over a series of clear steps (like a colour gradient for example.)

Rather than letting the viewer's eye settle on a focal point, rhythm encourages viewers to move their eyes across the entire piece, following the lines and forms to their natural endpoints. It's something you see reflected across nature and works of art.



3.Emphasis
Emphasis is used to focus the viewer's attention on a certain part of a composition. The effect is achieved by manipulating elements (like colour, shape and size) to make specific parts of a design stand out.

For example, say you wanted to bring attention to a call to action on a landing page. You could increase the text size and use colours that stand out from the background, emphasising the CTA and making sure visitors can't miss it.



4.Proportion and Scale

Proportion is the *relationship* between two or more elements in a design, particularly the size and scale of them. When things are "proportionate", it means there's a coordination between them that makes the design look aesthetically pleasing.

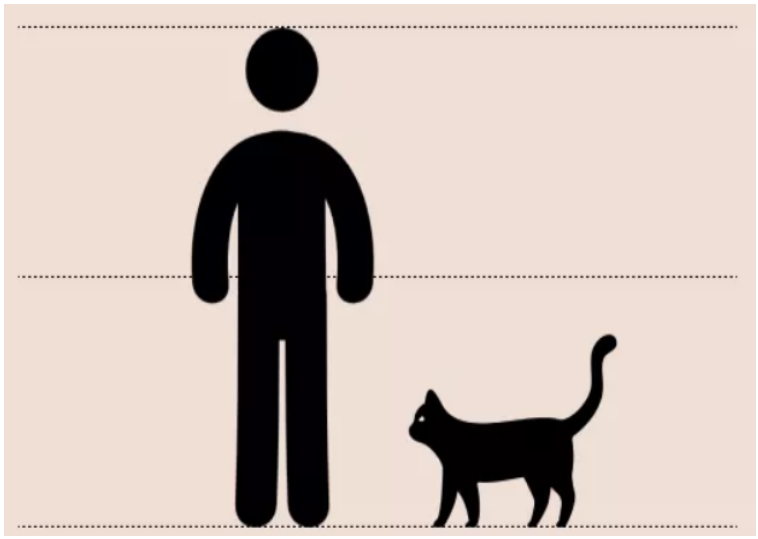
For example, when you're reading a blog post you expect headings to be larger than the body text. Or if you were looking at a realistic drawing of a tortoise and a hare, you expect the hare to be larger than the tortoise.

Proportion is about finding harmony between two elements. You want to make sure things look "right"— that the elements look as if they belong together.

This is something that comes up when creating digital assets and websites online. It's the bane of many an amateur designer's existence. Here are a few tips for keeping the elements in your design in proportion:

- Assemble elements that are identical or share a function.
- Establish major and minor areas in the design to prevent monotony and boredom.
- Ensure size variations are subtle (unless the objective is emphasis.)
- Avoid separating the composition into halves, quarters, and thirds.
- Try to keep a sense of *balance*.

You can also play with proportions in a variety of ways to emphasise elements or get a certain message across. It's a strategy you'll notice advertisements do often and is usually best used for more creative projects.

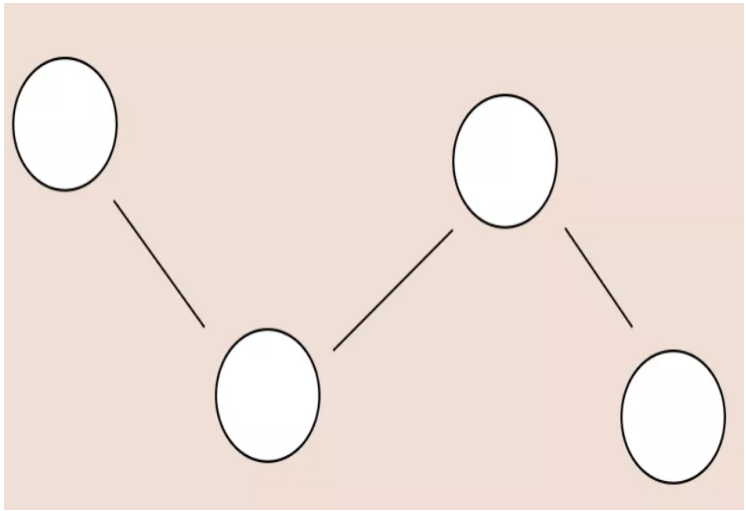


5.Movement

When we think of movement we think of, well, things moving. A pendulum swinging. A Ferrari roaring down the freeway. But in design, it refers to the path a viewer's eye takes when they look over a composition.

It's not just what you look at; it's *the way* you look at it. Designers can guide this by using lines, edges, shapes and colours to create focal points and encourage certain ways of seeing.

Movement can be harnessed to distract, direct and pull the viewer's gaze around a design. By using subtle cues (particularly with lighting and perspective) a savvy artist can control this entire process. You can use lines to create directional cues and make images feel more alive.



6.Unity

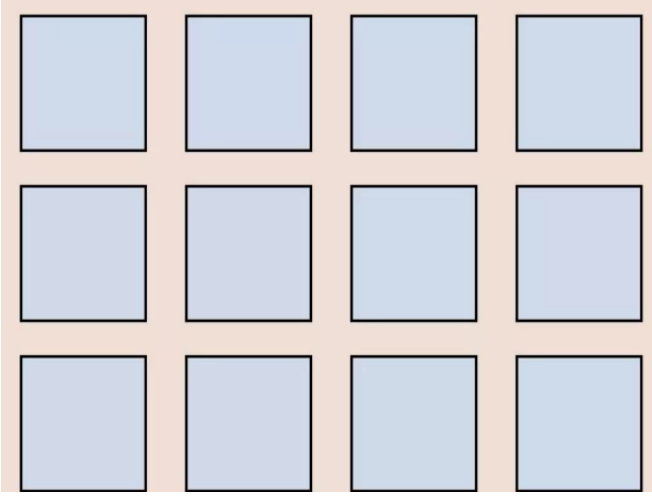
it only occurs when all the various elements within a design coexist to form a holistic experience that's pleasing to the eye.

Unity adds order and makes a piece feel like a coherent whole, instead of a messy combination of individual parts that just so happen to exist on the same page. It's developed both visually and conceptually.

- Visual unity. An extension of “harmony”, is about elements working together, like colour schemes, the use of complementary styles, and in some cases, the repetition of colours and elements to achieve consistency. An example would be using the same colours for all the buttons on a webpage to keep the design cohesive.
- Conceptual unity. Is when you combine elements for the user’s convenience; it’s about blending form and function in a natural way. An example of this is how you can double-tap on Instagram to “Like” an image—it reduces friction and requires less action from the user.

To achieve unity you need to look out for three things: whether the elements you’ve used have a good reason to be there, whether they work together, and whether the message or concept you’re trying to display is communicated clearly.

By making sure your designs unite you reduce cognitive load and ensure viewers actually understand whatever it is your design is trying to achieve.

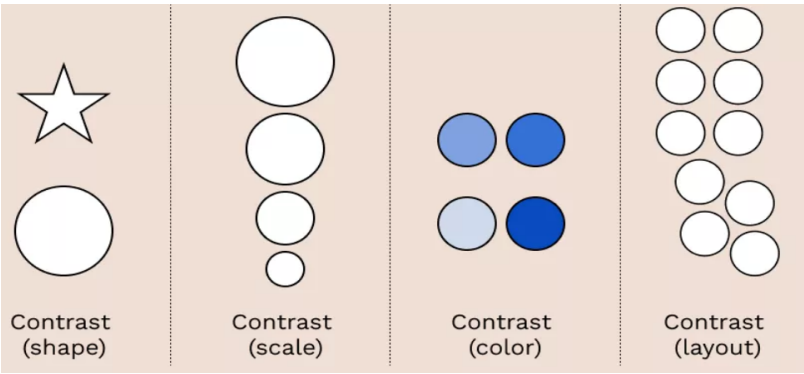


7.Contrast

Contrast is produced when two or more visual elements in a composition are different. It can be used to create specific effects, emphasise the significance of certain elements, and add visual appeal to your designs.

Designs that look the same are boring—by experimenting with contrasting colour hues, shapes, sizes, textures and typography, you can liven things up. Humans tend to like contrast. It’s a great way to grab attention, control the visual flow and keep folks engaged.

Keep in mind that adding too many variations can be confusing for viewers (the opposite effect you want to have.) As with most of the different elements of art, it’s about striking a balance.



● What is Design Thinking?

Design thinking is a non-linear, iterative process that teams use to understand users, challenge assumptions, redefine problems and create innovative solutions to prototype and test. Involving five phases—Empathize, Define, Ideate, Prototype and Test—it is most useful to tackle problems that are ill-defined or unknown.

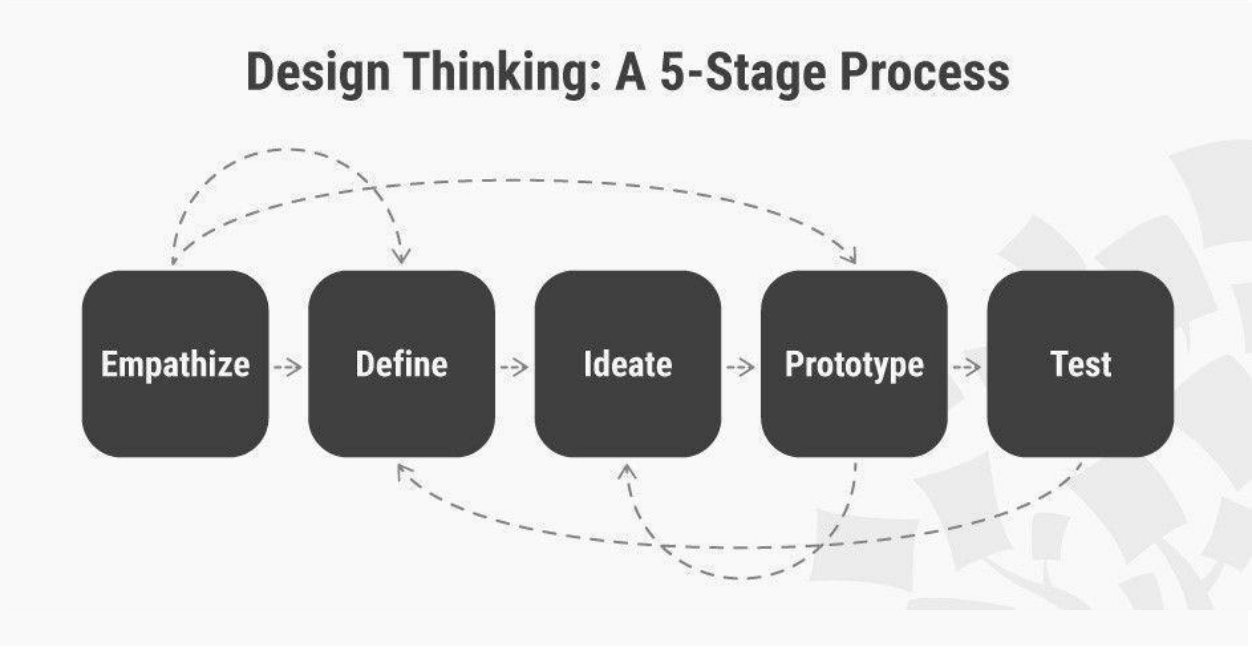
● Why Is Design Thinking so Important?

In user experience (UX) design, it's crucial to develop and refine skills to understand and address rapid changes in users' environments and behaviors. The world has become increasingly interconnected and complex since cognitive scientist and Nobel Prize laureate Herbert A. Simon first mentioned design thinking in his 1969 book, *The Sciences of the Artificial*, and then contributed many ideas to its principles. Professionals from a variety of fields, including architecture and engineering, subsequently advanced this highly creative process to address human needs in the modern age. Twenty-first-century organizations from a wide range of industries find design thinking a valuable means to problem-solve for the users of their products and services. **Design teams use design thinking to tackle ill-defined/unknown problems (aka wicked problems) because they can reframe these in *human-centric* ways and focus on what's most important for users**. Of all design processes, design thinking is almost certainly the best for "thinking outside the box". With it, teams can do better UX research, prototyping and usability testing to uncover new ways to meet users' needs.

Design thinking's value as a world-improving, driving force in business (global heavyweights such as Google, Apple and Airbnb have wielded it to notable effect) matches its status as a popular subject at leading international universities. **With design thinking, teams have the freedom to generate ground-breaking solutions**. Using it, your team can get behind hard-to-access insights and apply a collection of hands-on methods to help find innovative answers.

● The Five Stages of Design Thinking

The Hasso Plattner Institute of Design at Stanford (aka the d.school) describes design thinking as a five-stage process. Note: These stages are *not* always sequential, and teams often run them in parallel, out of order and repeat them in an iterative fashion.



1. **Stage 1: Empathize—*Research Your Users' Needs***

   Here, you should gain an empathetic understanding of the problem you're trying to solve, typically through user research. Empathy is crucial to a human-centered design process such as design thinking because it allows you to set aside your own assumptions about the world and gain real insight into users and their needs.

2. **Stage 2: Define—*State Your Users' Needs and Problems***

   It's time to accumulate the information gathered during the Empathize stage. You then analyze your observations and synthesize them to define the core problems you and your team have identified. These definitions are called problem statements. You can create personas to help keep your efforts human-centered before proceeding to ideation.

3. **Stage 3: Ideate—*Challenge Assumptions and Create Ideas***

   Now, you're ready to generate ideas. The solid background of knowledge from the first two phases means you can start to "think outside the box", look for alternative ways to view the problem and identify innovative solutions to the problem statement you've created. Brainstorming is particularly useful here..

4. **Stage 4: Prototype—*Start to Create Solutions***

   This is an experimental phase. The aim is to identify the best possible solution for each problem found. Your team should produce some inexpensive, scaled-down versions of the product (or specific features found within the product) to investigate the ideas you've generated. This could involve simply paper prototyping.

5. **Stage 5: Test—*Try Your Solutions Out***

   Evaluators rigorously test the prototypes. Although this is the final phase, design thinking is iterative: **Teams often use the results to *redefine* one or more further problems**. So, you can return to previous stages to make further iterations, alterations and refinements – to find or rule out alternative solutions.

Overall, you should understand that **these stages are different *modes* which contribute to the entire design project, rather than sequential steps**. Your goal throughout is to gain the deepest understanding of the users and what their ideal solution/product would be.

Design Thinking

The idea of using design as a way of solving complex problems in a simplified manner in sciences originated in the book, 'The Sciences of the Artificial', authored by Herbert A.Simon in 1969. The same purpose was achieved for design engineering by the book 'Experiences in Visual Thinking', authored by Robert McKim in 1973.

In 1987, Peter Rowe's book titled, "Design Thinking" described methods and approaches that planners, designers, and architects use. The work of Robert McKim was consolidated by Rolf Faste at Stanford University during 1980s to 1990s and then, David M. Kelly adapted design thinking for business interests. David M. Kelly founded IDEO in 1991.

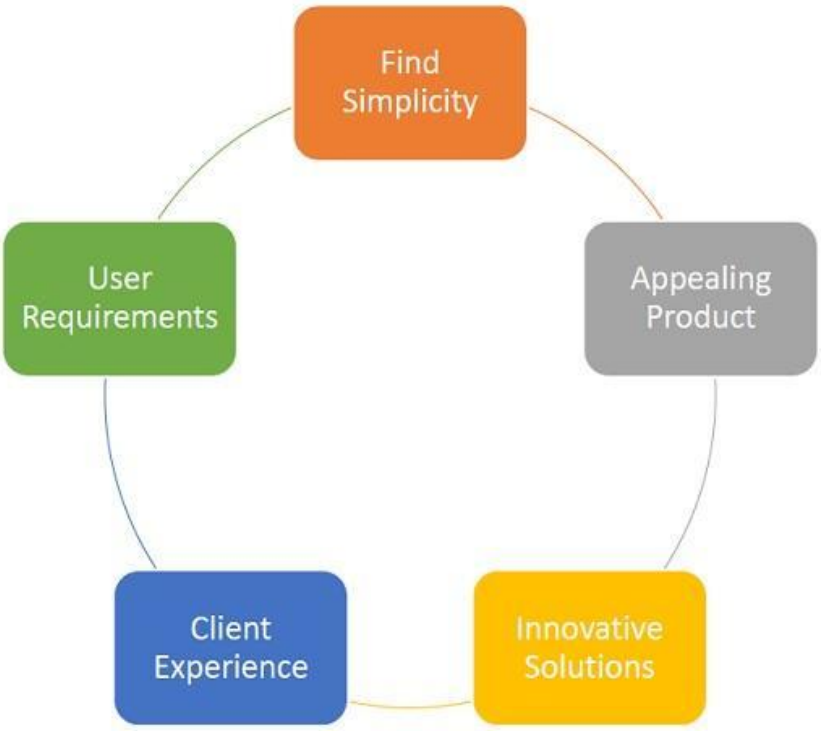
Most of the industries trying to solve customers' problems and address their needs are failing just because they look at the problems outside in. However, many problems can be solved in a better manner if we look at them inside out.

According to an article in Forbes, a large number of problems faced by organizations worldwide are multi-faceted and are a part of increasingly complex business models. The expansion of global transactions, growth of international partnerships and decentralized base of human resources are leading to challenges that require a global outlook and hence, a different outlook to solve the problems.

● Features of Design Thinking

Such problems require multidimensional solutions. Design thinking helps in this regard. It not only assists a professional to come up with a solution, but it also helps the organization to gain a competitive edge over its rivals. Following are the benefits conferred by design thinking. These are incidentally also the distinguishing features of design thinking.

- Finding simplicity in complexities.
- Having a beautiful and aesthetically appealing product.
- Improving clients' and end user's quality of experience.
- Creating innovative, feasible, and viable solutions to real world problems.
- Addressing the actual requirements of the end users.



Most of the challenges in the world do not get solved because people trying to address those problems focus too much on the problem statement. At other times, the problem statement is overlooked and there is too much stress to find a solution.

Design thinking helps to gain a balance between the problem statement and the solution developed. A design-oriented mindset is not problem focused, but solution focused and action oriented. It has to involve both analysis and imagination. Design thinking is the way of resolving issues and dissolving problematic situations by the help of design.

Strategy of Innovation

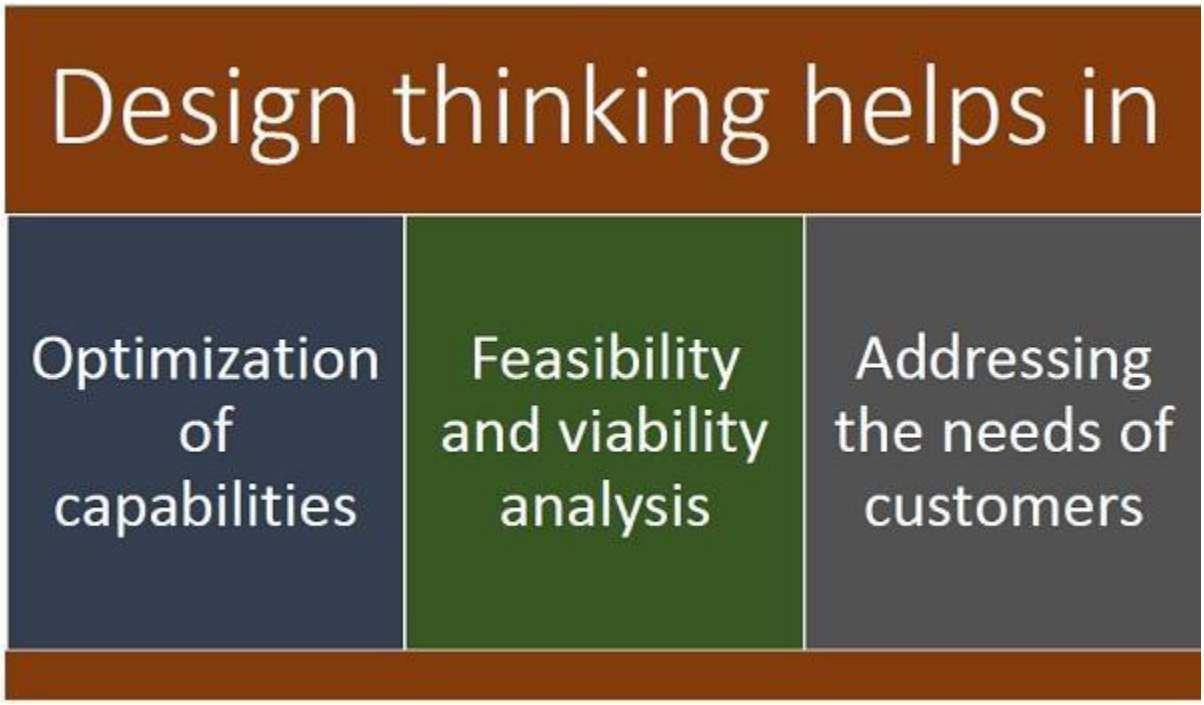
Design thinking is also considered to be a strategy for innovation. It leads to dramatic improvements in innovation. This is why design thinking forms the core of effective strategy development and seamless organizational change. Anything that involves human interaction, from products, services, processes etc., can be improved through design thinking. It all depends on the designer's way to create, manage, lead, and innovate.

● Use of Design Thinking

The basic principle of design thinking is that innovation can be disciplined. Innovation is not an elusive entity that only a few genius people can experience. It is, rather, a practice that can be systematically approached by a set of practical and meticulous tools, methodologies, and frameworks.

Design thinking helps you learn the following.

- How to optimize the ability to innovate?
- How to develop a variety of concepts, products, services, processes, etc. for endusers?
- How to leverage the diverse ideas of innovation?
- How to convert useful data, individual insights and vague ideas into feasible reality?
- How to connect with the customers and end-users by targeting their actual requirements?
- How to use the different tools used by designers in their profession for solving your customers' problems?



● Applications:

Design thinking helps people of every profession to arrive at solutions in a planned, organized, and systematic manner. The step-by-step process helps to create solutions with both the problem statement and the required solution in mind.

Design thinking finds its application across a variety of professions. From sports, education and research to business, management and design, design thinking is widely used by professionals around the globe.

Design thinking is halfway between analytical thinking and intuitive thinking. Analytical thinking involves purely deductive reasoning and inductive logical reasoning that utilize quantitative methodologies to come to conclusions. However, intuitive thinking refers to knowing something without any kind of reasoning.

These are two extreme kinds of thinking. Design thinking makes use of both the extremes in an optimum manner. The intuitive thinking helps in invention for the future, whereas analytical thinking to create something creative in the present, which is replicable. The willingness to use these futuristic solutions is what is called abductive logic.

Business

Design thinking helps in businesses by optimizing the process of product creation, marketing, and renewal of contracts. All these processes require a companywide focus on the customer and hence, design thinking helps in these processes immensely. Design thinking helps the design thinkers to develop deep empathy for their customers and to create solutions that match their needs exactly. The solutions are not delivered just for the sake of technology.

Information Technology

The IT industry makes a lot of products that require trials and proof of concepts. The industry needs to empathize with its users and not simply deploy technologies. IT is not only about technology or products, but also its processes. The developers, analysts, consultants, and managers have to brainstorm on possible ideas for solving the problems of the clients. This is where design thinking helps a lot.

Education

The education sector can make the best use of design thinking by taking feedback from students on their requirements, goals and challenges they are facing in the classroom. By working on their feedback, the instructors can come up with solutions to address their challenges.

For example, Michael Schurr, a 2nd grade instructor from New York, realized that his students would be more comfortable with bulletin boards lowered. He also found the idea of creating comfortable semi-private space for working students as it provided them space to study. As a result, his students became more engaged and felt free to move.

Healthcare

Design thinking helps in healthcare as well. The expenditure on healthcare by the government and the cost of healthcare facilities is growing by the day. Experts worldwide are concerned about how to bring quality healthcare to people at low cost.

Venice Family Clinic in Venice, California has come up with innovative solutions to the challenge of opening a low-cost children's clinic to serve the low-income families. Problems of finance, transportation, and language barriers had to be solved. And all this had to be done at low cost for the poor kids. Fostering good health along with profits was a challenge, as it does not sound sustainable. Using design thinking, the inefficiencies in the system and the perennial crises were addressed.

This was followed by mind-blowing innovations to serve the children. How they solved the various issues will be seen in the later sections of the tutorial.

Business Model Innovation

One of the common mistakes people make when it comes to business models is that they simply look at them very narrowly as just the pricing model for their products and services.
While it certainly is a key part of the business model, the term is actually defined as the way an "organization creates, delivers and captures value".
Business model is the way an organization creates, delivers and captures value.

Successful business models thus take a very holistic approach by integrating these different aspects of the business into a well-organized and thought out system.
Business model innovation, then is simply a novel way to put these pieces together to hopefully create a system that produces more value for both customers and the organization itself.
A good business model, like any other system, is after all much more than just the sum of its parts.What is a business model?

Why Is Business Model Innovation So Important?
Without realizing it, a business that doesn't explicitly focus on their business model as a whole often ends up compromising their initial strengths.

For example, many businesses start to gradually drift apart from the true needs of their customers unless they specifically focus on avoiding that. Some might focus too heavily on just optimizing the delivery of their products and sacrifice their ability to create value.

There are many reasons for these phenomena. Perhaps management focuses too heavily on what the competition is doing, or perhaps there's pressure from shareholders to optimize for short-term profit.

Regardless, there are countless industries where the true interests of the customers and those of the service providers have become opposite.

The healthcare sector is a prime example of this: a private hospital has strong incentives for wanting you to be chronically sick so that you'd keep coming back regularly and they could charge you for each visit. You naturally want the hospital to take good care of you, but ideally, you'd just want to stay healthy and not have to go to the doctors' in the first place.

So, even if the individual doctors are doing their best to take care of you, the business simply isn't very likely to invest in keeping you healthy because that's the worst thing that could happen to their business.The Healthcare industry is in dire need of business model innovationContrast that with business models like flexible subscription services where the provider has to constantly create value to keep the customer. The longer they are able to keep their customers happy, the more profit

these businesses make, which creates very strong incentives for aligning shareholder and customer value.

Business model innovation is simply put probably the most important tool for building a business that creates maximal value for all stakeholders: customers, shareholders, employees, and the society at large.

This obviously leads to a wide variety of benefits:

Increased value creation will lead to increased growth, even for otherwise stagnant businesses
As business model innovation often requires new operating models and is thus often very difficult for established competitors to copy
…which can lead to an extend period of competitive advantage
The right kind of business model also helps overcome objections to sales and create positive brand recognition
As mentioned, some business models can make the business much more robust towards market cycles and unexpected "black swan" events, such as the recent COVID-19 crisis
To conclude, business model innovation is a flexible tool for building a great business irrespective of the industry. That's why you'll see most of the fastest growing and most disruptive businesses including business model innovation as a key part of their "innovation mix".

Examples of Business Model Innovation
Before we get into the part where we look at how to actually do business model innovation, let's first take a look at a few examples of business model innovation to get a better picture of what it can look like in practice.

Subscription models
Subscription models are a powerful way to turn one-off purchases to a more predictable, and over time larger, stream of revenue while ensuring that the customer keeps getting value and is also able to better afford higher-end services due to the purchase occurring over time.

Subscription models are equally applicable for both B2B and B2C businesses.

On the B2B side, Software as a Service (SaaS) products like Microsoft Office 365 and Infrastructure as a Service (IaaS) offerings like Amazon Web Services are great examples of this approach.

Where businesses previously used to buy the new version of Office products perhaps every five to ten years, now the same companies pay a comparable, albeit slightly lower, amount every year for their Office 365 subscriptions. However, for that increase in price, they get constant updates so that everyone's always on the latest versions, as well as many more value-added services that customers

used to have to purchase from someone else, like Microsoft Teams, plus the added flexibility of canceling unused licenses and upgrading or downgrading certain users to appropriate plans. It's quite obvious that this is a deal where everyone wins.

● Challenges Best-suited for design thinking

One of the first questions people ask when hearing about Design Thinking is, "What is Design Thinking best used for?" Design Thinking is suited to addressing a wide range of challenges and is best used for bringing about innovation within the following contexts.

- *Redefining value*
- *Human-centred innovation*
- *Quality of life*
- *Problems affecting diverse groups of people*
- *Involves multiple systems*
- *Shifting markets and behaviours*
- *Coping with rapid social or market changes*
- *Issues relating to corporate culture*
- *Issues relating to new technology*
- *Re-inventing business models*
- *Addressing rapid changes in society*
- *Complex unsolved societal challenges*
- *Scenarios involving multidisciplinary teams*
- *Entrepreneurial initiatives*
- *Educational advances*
- *Medical breakthroughs*
- *Inspiration is needed*
- *Problems that data can't solve*

o A Holistic approach to Challenges

Design Thinking is best suited to addressing problems where multiple spheres collide, at the intersection of business and society, logic and emotion, rational and creative, human needs and economic demands and between systems and individuals. We would most likely not require Design Thinking to tackle tame problems — that is, problems that are simple and that have fixed and known solutions — unless we were seeking a novel or innovative means to solving the problem with a different desired goal than the typical available solutions.

o It's NOT Just a Process or Set of Steps

However, Design thinking is not necessarily only to be understood as a process or method for solving a set-in-stone collection of problems. It is also a mindset that can be applied in almost any scenario where innovation or thinking differently is required. It can also be combined with other methodologies, business strategies, social innovation models, and management practices. It's something that changes depending on its context and can use tools and techniques from other disciplines.

- **It's About Human-Centred Innovation**

Design Thinking works best where we need to make human sense of things, approaching challenges in ways that best suit human needs regardless of the scale or authority of the challenge. A conformist, controlled, technical or linear approach is no longer able to grapple with the newly complex and sensitive needs of modern society.

It starts with an intention, a desire, a need or yearning towards a better situation or state. We have no way of knowing whether this is a mere dream or a practical and viable path to take. Design Thinking gives us the tools to explore What Could Be.

As Bruce Mau, founder of the Massive Change Network, put it:

"It's not about the world of design, but the design of the world".
– Bruce Mau

- **Cope with Disruptions in Society**

Since the disruptions in human development caused by the Industrial Revolution, analysts have been strategizing ways of streamlining just about every business, production and economic process imaginable with the aim of extracting the maximum benefit from the least amount of time and resources. While this may have had some degree of success on the level of productivity and efficiency, the recipe to that much-needed innovation within all sectors has been somewhat of a conundrum. This is where Design Thinking steps in with a bold new human-centred approach at radically changing how we go about exploring problems and finding solutions to those problems, helping us break out of the old moulds we've become stuck in, so as to take a fresh look at the world around us.

Besides the ongoing struggles between the analytical and creative worlds, other factors have dramatically disrupted the way we see, understand, experience, and interpret the world around us. Technology is developing at such a rapid pace that job descriptions can barely keep up, let alone entire industries. Consumers demand much more now that they are constantly switched on, always informed, and obsessively sharing everything with their networks.

- **Focus on Humans, Not Users**

In order to remain relevant, companies and organisations are also fighting a battle for attention on an unprecedented level. Besides the constant scrutiny and accountability, information overload is also reaching its peak. People are increasingly seeking out those products, services, and organisations that they personally connect with on a meaningful level. Many people are selecting the few options that speak directly to their human needs and experiences. This has driven Human-Centred Design and Design Thinkingapproaches of all types to mushroom in the last few years. Approaches to business and social innovation are increasingly looking for alternatives to the old models of adding value, by focusing on human needs and experience as primary motivating factors.

Innovative solutions need to be found that can keep up with massive disruptions affecting Human Resources, Energy, Sustainability, Education, Economic Constraints, Political Instability—these large, systemic and complex problems with capital letters—and a whole plethora of other challenges which existing strategic and management practices and processes are unable to pick apart.

- **Innovate or be Swept Away with the Tide**

Idris Mootee, CEO of Idea Couture and a leading expert on applied Design Thinking in large-scale strategy innovation, wrote his book Design Thinking for Strategic Innovation about the implementation of Design Thinking methodology within business. The book outlines a number of disruptions in the business environment, including new consumer behaviour and expectations, forcing companies to rethink their every move.

"This disruption has not been so kind to businesses operating by the rules of the old model. We don't have to watch their ads anymore. We don't believe their marketing hype anymore. We don't want to eat their junk ingredients anymore. We don't have to buy from their stores anymore. And we don't want the best of them to just be profit machines anymore. We want more, when we want it, how we want it, and at the price we want it."
– Idris Mootee

Idris Mootee uses the analogy of the study of weather systems, where it was determined that even the slightest changes in atmospheric conditions may have dramatically varying results in the way weather patterns developed. The current climate of rapid change and upheaval is even more difficult to forecast for the future. We are unable to see what lies around the next corner, let alone months or years down the line. This means we need a completely new and dynamic approach to innovation and strategic planning: something less rigid that can quickly and easily adapt to the varying conditions we find ourselves in and those dramatic changes which lie around the next corner.

The abilities to understand and act on changes rapidly in our environments and changes in human behaviour are becoming crucial skills we are still developing and refining. Design Thinking offers a means for grappling with all this change in a more human-centric manner. In order to embrace Design Thinking and innovation, we need to ensure that we have the right mindsets, collaborative teams, and conducive environments.

Form the Right Mindsets, Teams, and Environments for Innovation

Creating the right mindsets, selecting the appropriate team, and setting up environments which encourage innovation to take place are three of the essential aspects of fostering successful innovation within companies, organisations, and society at large.

- ## Importance of Innovation

Innovation, by definition, is the introduction of something new. Without innovation, there isn't anything new, and without anything new, there will be no progress. If an organization isn't making any progress, it simply cannot stay relevant in the competitive market.
Because organizations are often working with other individual organizations, it can sometimes be challenging to understand the impacts of innovation on our society at large. There is, however, a lot more to innovation than just firms looking to achieve competitive advantage.
Innovation really is the core reason for modern existence. Although innovation can have some undesirable consequences, change is inevitable and in most cases, innovation creates positive change.

Unforeseen challenges are inevitable in business. Innovation can help you stay ahead of the curve and grow your company in the process. Here are three reasons innovation is crucial for your business:

1. It allows adaptability: The recent COVID-19 pandemic disrupted business on a monumental scale. Routine operations were rendered obsolete over the course of a few months. Many businesses still sustain negative results from this world shift because they've stuck to the status quo. Innovation is often necessary for companies to adapt and overcome the challenges of change.
2. It fosters growth: Stagnation can be extremely detrimental to your business. Achieving organizational and economic growth through innovation is key to staying afloat in today's highly competitive world.
3. It separates businesses from their competition: Most industries are populated with multiple competitors offering similar products or services. Innovation can distinguish your business from others.