

A	B	C	D	E	F	G	H
Session #	Week #	Deck #	Date	Day	Topic	Faculty	TA Attending
1	1	1	8th Aug	Tue	Introduction to INV.ENT	AN	
2	1	2	9th Aug	Wed	Opportunity Identification	AN	Shubh Verma
			15th Aug	Holiday	Independence Day		
3	2	2	16th Aug	wed	Opportunity Identification	AN	Harshil
4	3	3	22nd Aug	Tue	Customer Value Proposition	AN	Sanya
5	3	3	23rd Aug	Wed	Customer Value Proposition	AN	Harshil
6	4	4	29th Aug	Tue	Business Model Canvas + Quiz	AN	Nishkarsh
7	4	4	30th Aug	Wed	Business Model Canvas	AN	Kritish
8	5	5	5th Sep	Tue	Strategy & Business Fundamentals	MR	Shubh
9	5	6	6th Sep	Wed	Introduction to Design & Innovation	PK	Kritish
10	6	7	12th Sep	Tue	Design Principles	PK	Sanya
11	6	7	13th Sep	Wed	Design Principles	PK	Nishkarsh
	7-8						
13	9	8	26th Sep	Tue	Design Brief , Concept Generation, Idea Sketching	PK	
14	9	8	27th Sep	Wed	Design Brief , Concept Generation, Idea Sketching	PK	
15	10	9	3rd Oct	Tue	POC & Rapid Prototyping	PK	
16	10	9	4th OCT	Wed	POC & Rapid Prototyping	PK	
17	11	10	10th Oct	Tue	New Product Development - Theory	AN	
18	11	11	11th Oct	Wed	Marketing / Go to Market	AN	
19	12	11	17 Oct	Tue	Marketing / Go to Market	AN	
20	12	11	18th Oct	Wed	Marketing / Go to Market	AN	
			24th Oct	Holiday (Dussehra)			
20	13	12	25th Oct	Wed	Communication & Pitch Deck	AN	
21	14	13	31st Oct	Tue	Basics of Business Planning & Finance	MR	
22	14	13	1st Nov	Wed	Basics of Business Planning & Finance	MR	
23	15	13	7th Nov	Tue	Finance Doubt Solving	AN	
24	15	14	8th Nov	Wed	Briefing for Presentations, Bringing the Course toge	AN	

lh301

everything is changed

# ENT 101: Innovation & entrepreneurship 6 weeks overview

Week 1: Introduction to Innovation (6<sup>th</sup> Sept)

Week 2: Innovation Process: Design Thinking, Ideation, Creativity Techniques (12<sup>th</sup> Sept)

Week 3: Innovation Process: Design brief, Concept generation & Evaluation (13<sup>th</sup> Sept)

mix

Week 4: AppliedAi: AI for Innovation (26<sup>th</sup> Sept)

Week 5: Proof-of-concept & Rapid Prototyping (27<sup>th</sup> Sept)

Week 6: Innovation in Practice: Real world case studies (PoC student workshops) (3<sup>rd</sup> Oct)

Week 7: Innovation in Practice: Real world case studies (4<sup>th</sup> Oct)

**class:** case studies, discussion, interaction

**theory:** reading material for quiz, exam

Q?

why design?  
why innovate?  
why buy?

what are we looking for????

# Q?

The only goal:

better quality of life

The process:

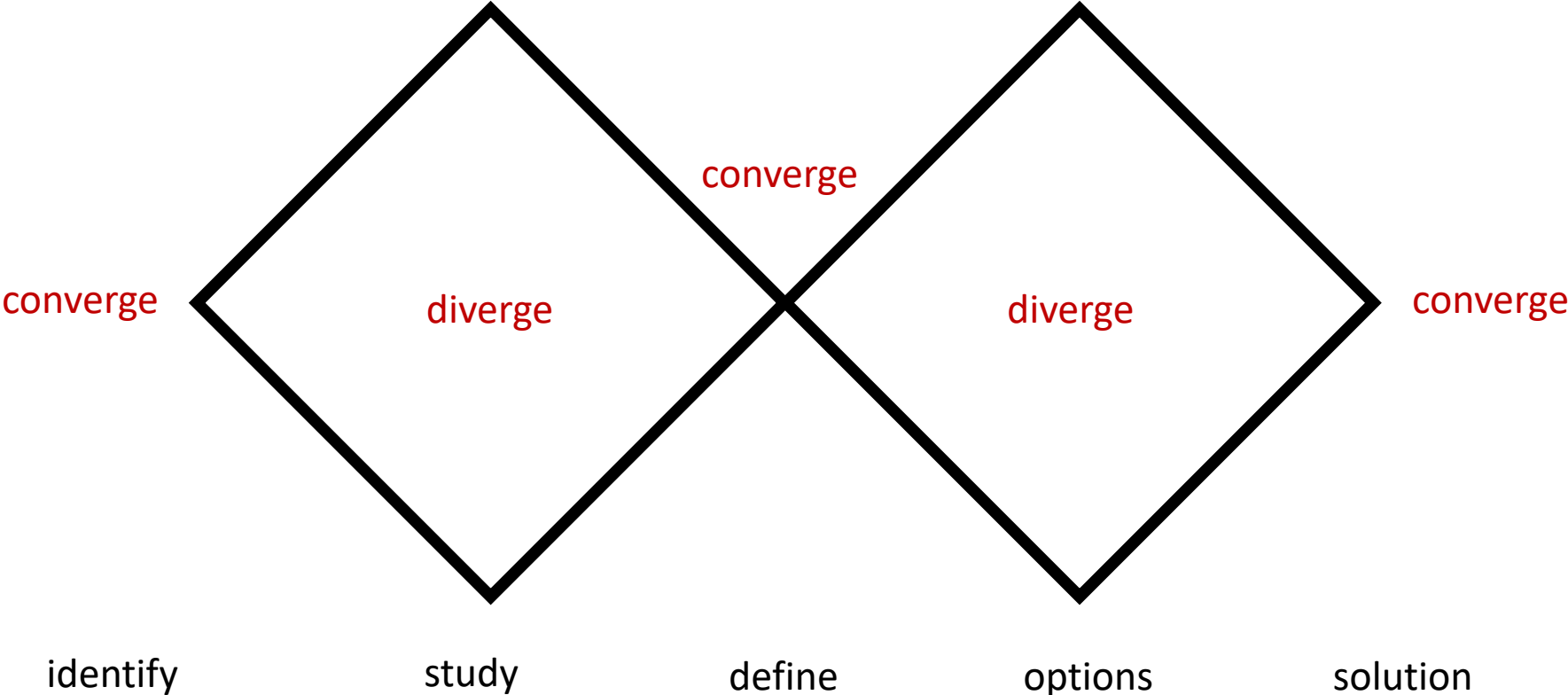
how do we consistently achieve it?

Quality:

how do we measure it?

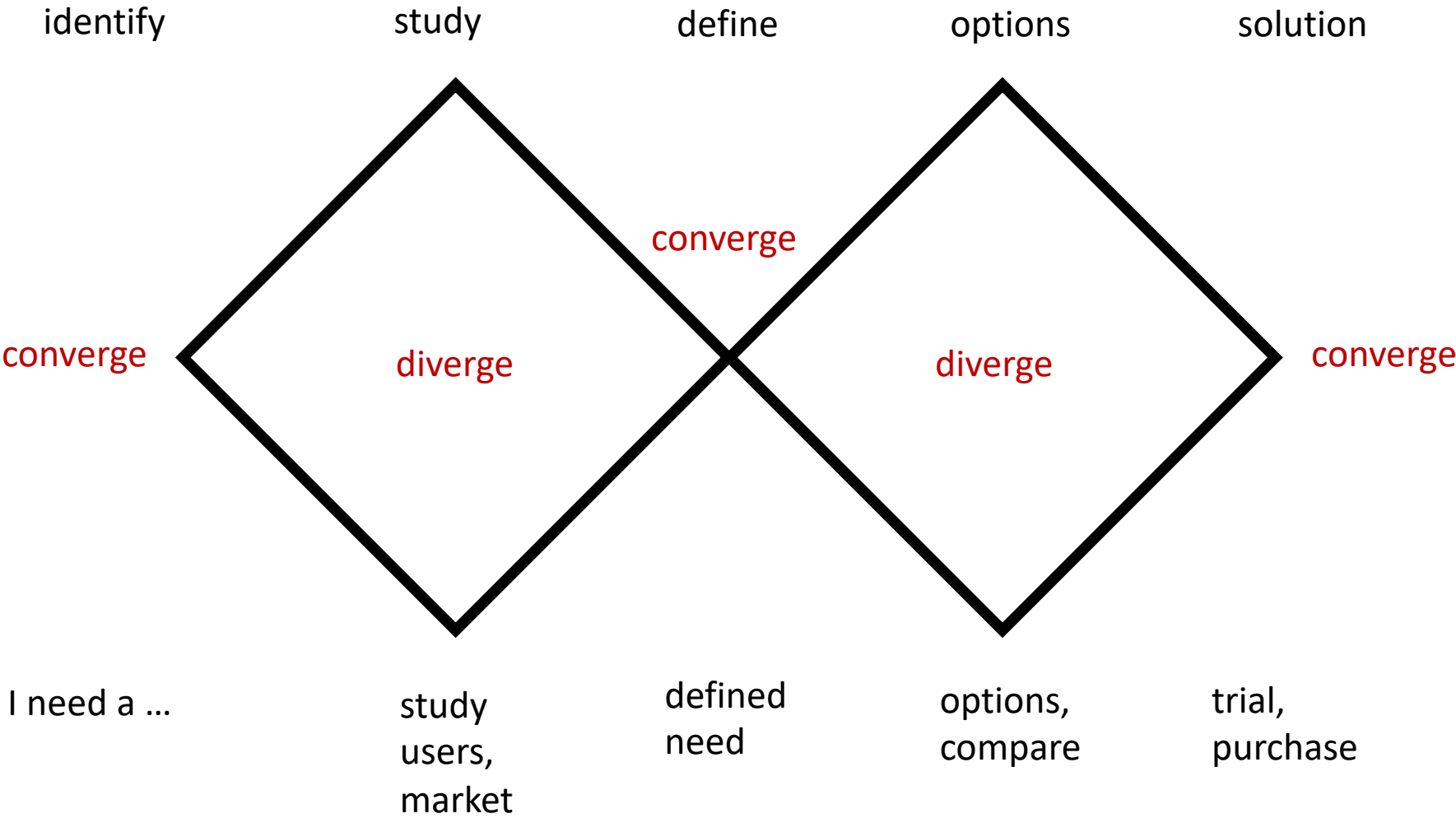
# Innovation Process: Design Thinking, Ideation, Creativity Techniques

Design Process:

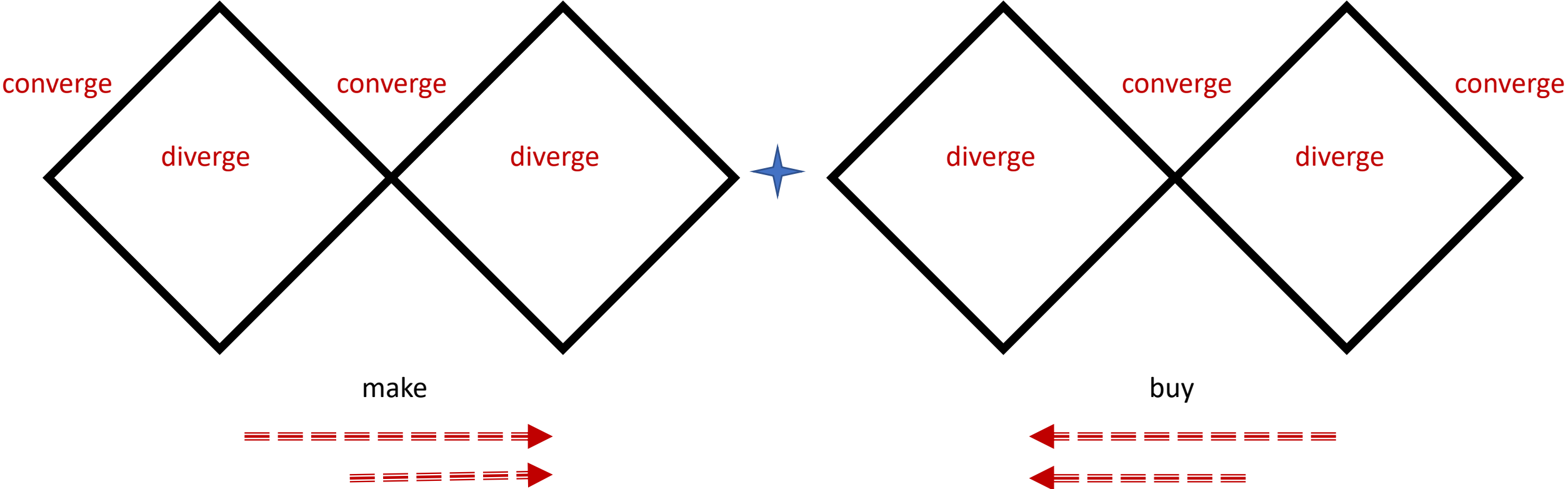


# How we buy what we buy?

Buying Process:

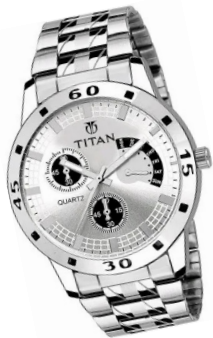


Process: Make vs Buy





Let's buy a watch !



what are the factors to consider?

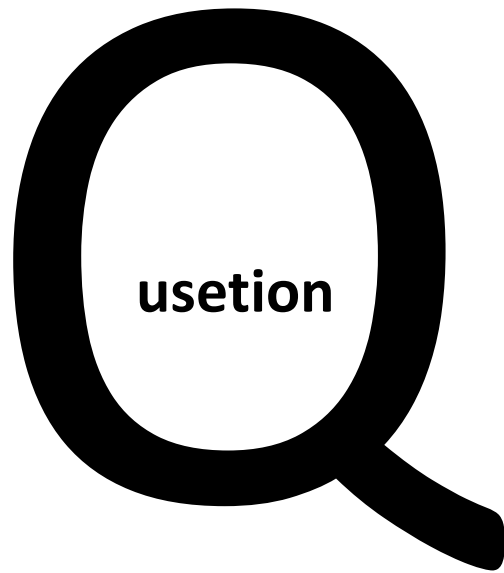
Let's buy a watch !



1. Purpose
2. Style
3. Material
4. Movement
5. Brand and reputation
6. Features
7. Size and fit
8. Price.
9. After-sales service

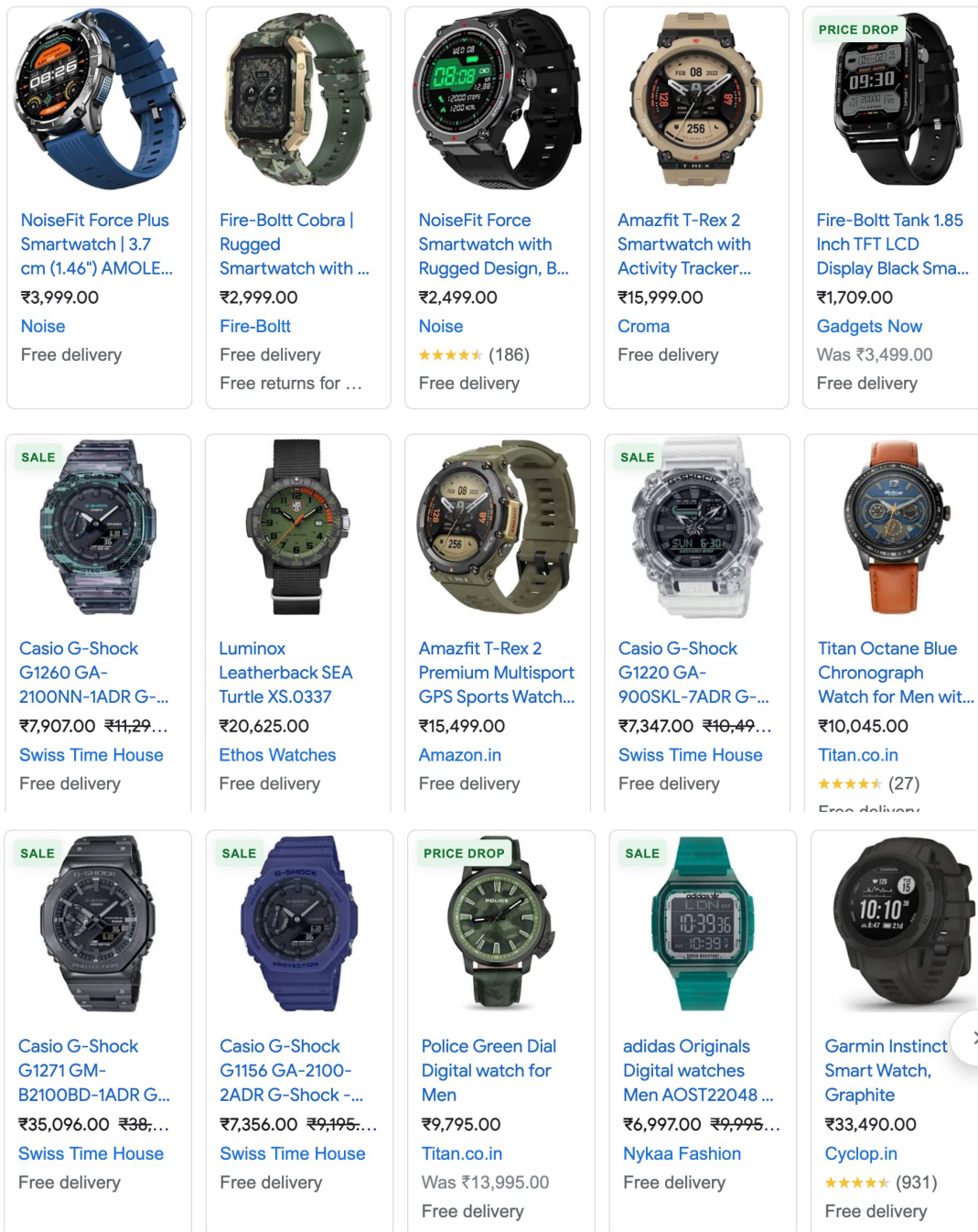
what are we looking for?

what do I need & want?



An appealing wrist watch in range of ₹10000 for everyday use from a good brand which is digital, sporty, accurate, legible, reliable, comfortable, lightweight, serviceable with sports readings, easy maintenance.

1. Performance
2. features
3. reliability
4. conformance
5. durability
6. serviceability
7. aesthetics
8. perceived quality

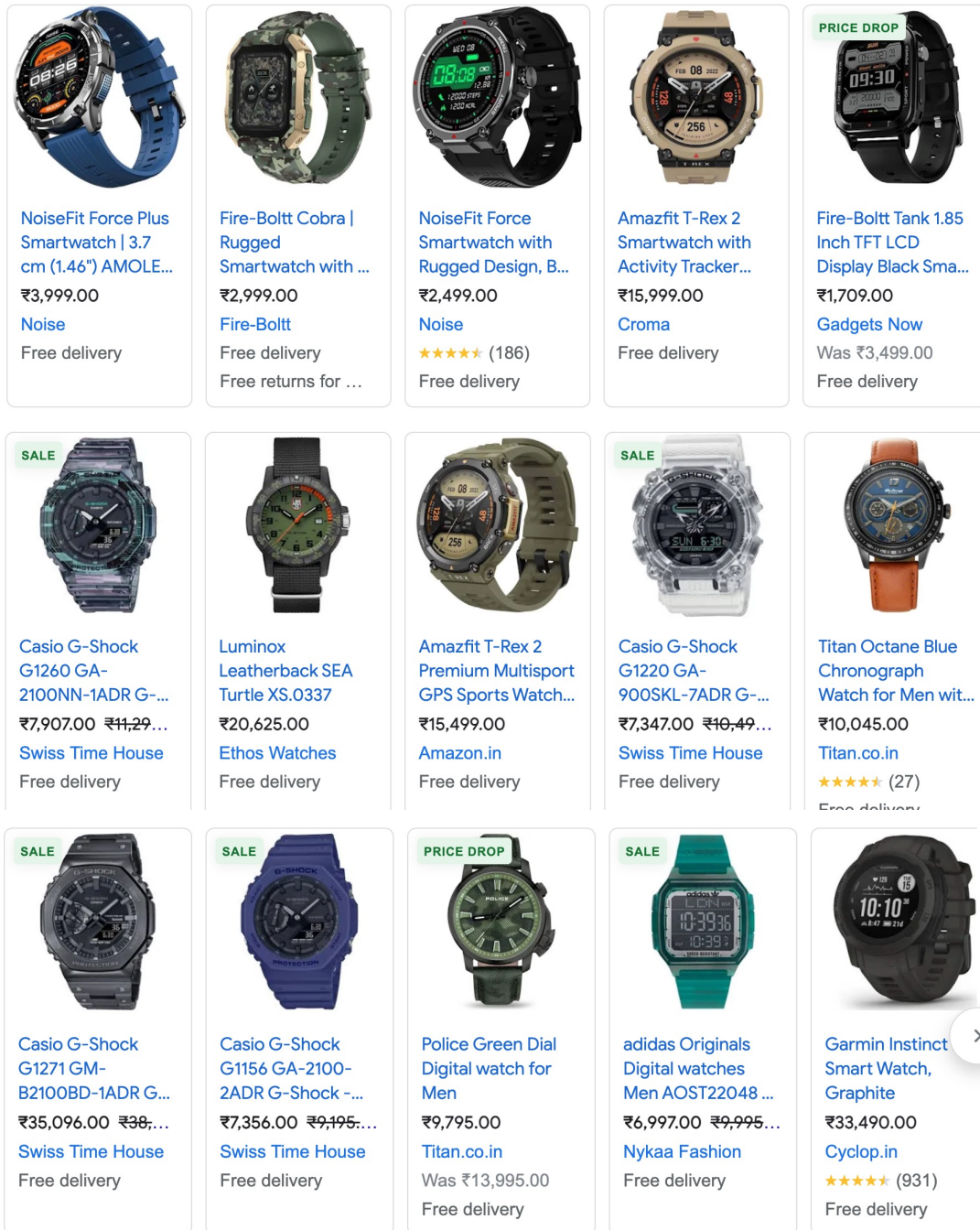


what do I want?

An **appealing** *wrist watch* for **everyday** use from a good **brand** which is **digital**, **sporty**, **accurate**, **legible**, **reliable**, **comfortable**, **lightweight**, **serviceable** with **sports readings**, easy **maintenance**.

how to choose?



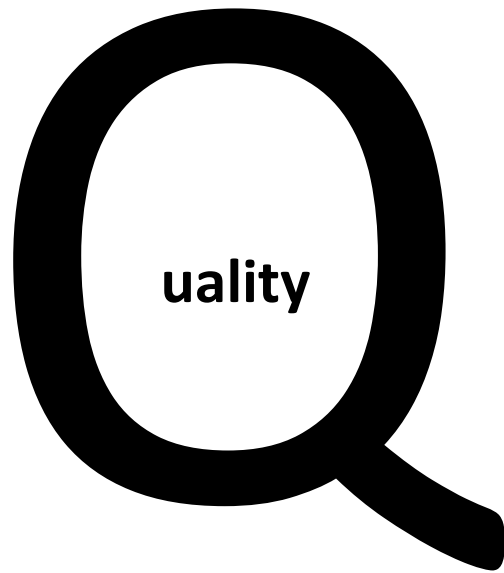


what do I want?

An appealing wrist watch for everyday use from a good brand which is digital, sporty, accurate, legible, reliable, comfortable, lightweight, serviceable with sports readings, easy maintenance.

design statement!

what are we looking for?



## Garvin's 8 dimensions of Quality:

- 1.Performance:** The primary operating characteristics of a product or service.
- 2.Features:** The secondary characteristics that enhance the appeal of a product or service.
- 3.Reliability:** The ability of a product or service to perform consistently over time.
- 4.Conformance:** The degree to which a product or service meets established standards.
- 5.Durability:** The expected useful life of a product or service.
- 6.Serviceability:** The ease with which a product or service can be repaired or maintained.
- 7.Aesthetics:** The subjective sensory characteristics of a product or service.
- 8.Perceived Quality:** The overall impression of a product or service based on brand reputation, advertising, and other factors.

# Quality

the goal is better

the guide for innovation

develop products and services that

1. meet the needs and expectations of their **customers**,
2. differentiate themselves from **competitors**, and
3. drive **business** growth.

# the guide for innovation

develop products and services that

1. meet the needs and expectations of their **customers**,
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How can the eight dimensions of quality drive the process of innovation?

a framework for driving the process of innovation:

1. Identifying customer needs
2. Generating new ideas
3. Evaluating new ideas
4. Prioritizing innovation initiatives
5. Measuring innovation success

## a framework for driving the process of innovation:

- **Identifying customer needs:**

By evaluating each dimension of quality, companies can gain a deeper understanding of their customers' needs and expectations. This can help to identify areas where improvements or new features are needed, which can then drive innovation.
- **Generating new ideas:**

The eight dimensions of quality can also be used to generate new ideas for product or service innovations. For example, by focusing on the aesthetics dimension, companies can explore new designs or materials that may enhance the visual appeal of their products.
- **Evaluating new ideas:**

When considering new ideas for innovation, the eight dimensions of quality can be used to evaluate the potential impact of these ideas on product quality. For example, a new feature may improve performance but may also negatively impact durability or serviceability.
- **Prioritizing innovation initiatives:**

The eight dimensions of quality can help companies to prioritize their innovation initiatives based on the areas of quality that are most important to their customers. For example, if customers value performance over aesthetics, then innovation efforts may be focused on improving performance.
- **Measuring innovation success:**

The eight dimensions of quality can also be used to measure the success of innovation initiatives. By tracking changes in each dimension over time, companies can assess the impact of their innovation efforts on product quality and customer satisfaction.

## how apple applied 8 dimensions of quality in its products and business.

- **Performance:** Apple achieves this by investing heavily in research and development and developing its own custom-designed chips and software.
- **Features:** Apple is known for its innovative features, such as the touch screen on the iPhone and the Face ID facial recognition system.
- **Reliability:** Apple achieves this by implementing strict quality control processes and testing its products rigorously before they are released to the market.
- **Conformance:** Apple's products are designed to meet strict environmental standards, and Apple has made significant efforts to improve the sustainability of its supply chain.
- **Durability:** Apple laptops are built with high-quality materials and are designed to withstand the rigors of daily use.
- **Serviceability:** Apple has also invested heavily in its retail stores and customer support services to provide a high level of service to its customers.
- **Aesthetics:** Apple products are known for their sleek and stylish designs, which have helped the company establish a strong brand identity and differentiate itself from competitors.
- **Perceived Quality:** Apple is known for providing a high-quality user experience, from the packaging of its products to the design of its software. The company has a strong focus on user experience and has designed its products and services to be intuitive and easy to use.



## Quiz Alert

### **companies that have focused on the 8 dimensions of quality to drive innovation:**

- **Performance:** Tesla Motors is known for its focus on performance, with its electric vehicles offering acceleration, speed, and handling that rivals traditional gas-powered cars. The company has achieved this by developing innovative technologies such as high-capacity batteries and electric motors.
- **Features:** Apple is known for its innovative features, such as the touch screen on the iPhone and the Face ID facial recognition system. These features have helped Apple differentiate its products and establish itself as a leader in the consumer electronics industry.
- **Reliability:** Toyota has built a reputation for reliability, with its vehicles consistently ranking high in reliability ratings. The company achieved this by focusing on quality control and implementing systems to detect and address potential issues before they become widespread.
- **Conformance:** Samsung has focused on conformance by meeting and exceeding industry standards for quality and safety. For example, the company's Galaxy S21 Ultra smartphone was recently certified by the International Electrotechnical Commission (IEC) for meeting environmental and safety standards.
- **Durability:** Caterpillar Inc., a manufacturer of heavy equipment, focuses on durability by building products that can withstand harsh operating conditions. For example, its bulldozers and excavators are designed with heavy-duty components and are built to last for many years.
- **Serviceability:** John Deere, a manufacturer of agricultural equipment, focuses on serviceability by designing products that are easy to maintain and repair. For example, its tractors and combines are built with easily accessible parts and diagnostic tools to help farmers quickly identify and fix issues.
- **Aesthetics:** BMW is known for its sleek and stylish designs, which have helped the company establish a strong brand identity and differentiate itself from competitors. The company achieves this by investing in design research and employing talented designers.
- **Perceived Quality:** Amazon has built a reputation for high perceived quality by focusing on customer service and user experience. The company offers features such as fast shipping, easy returns, and personalized recommendations that help to build customer loyalty and trust.

# Class 3

# **Tools and Techniques for Innovation**

## **Design thinking**

### **a flexible and iterative process**

that encourages

1. creativity
2. collaboration, and
3. empathy.

It's important to approach it with

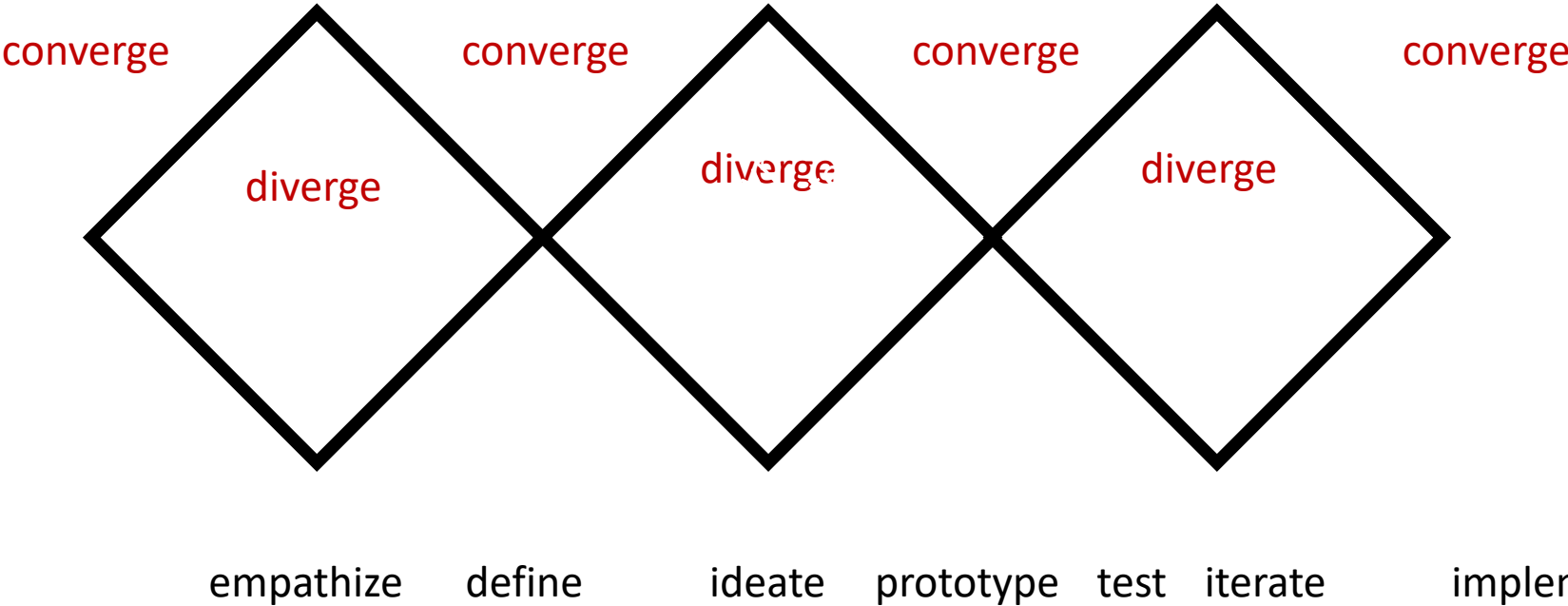
- an open mind,
- be willing to iterate and
- refine your ideas

involve end-users or customers throughout the process to ensure that the solutions you develop are effective and meet their needs.

Innovation Process: **Design Thinking**, Ideation, Creativity Techniques

Design thinking:        empathize, define, ideate, prototype, test, iterate, implement

Design Process:

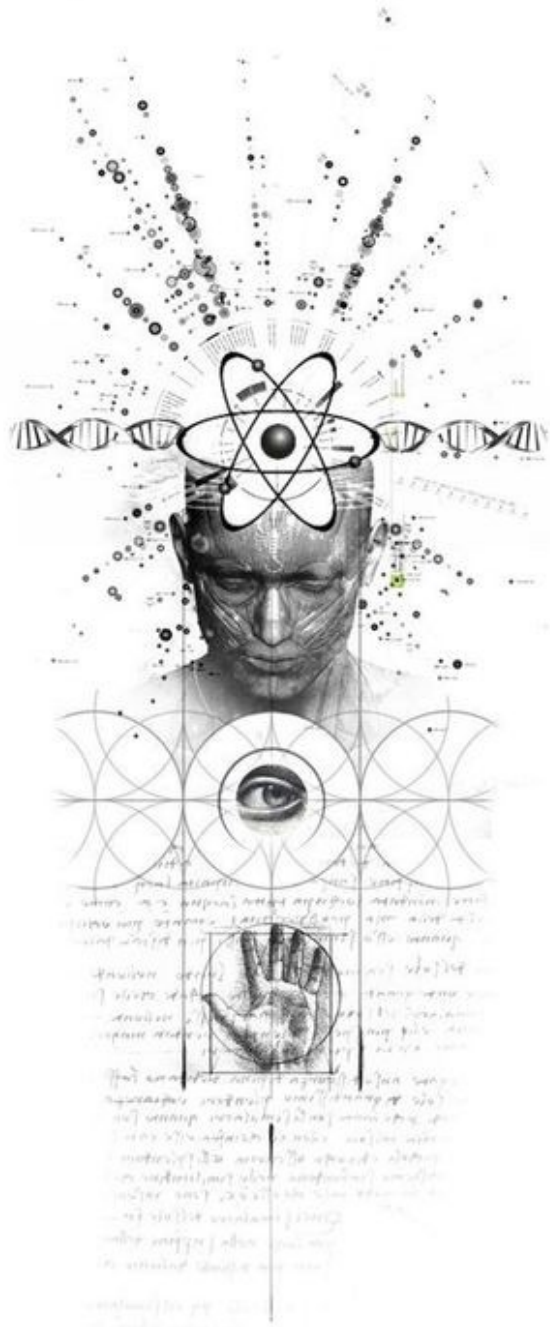




## IDEO deep-dive



deep-dive movie : <https://youtu.be/2Dtrkrz0yoU>

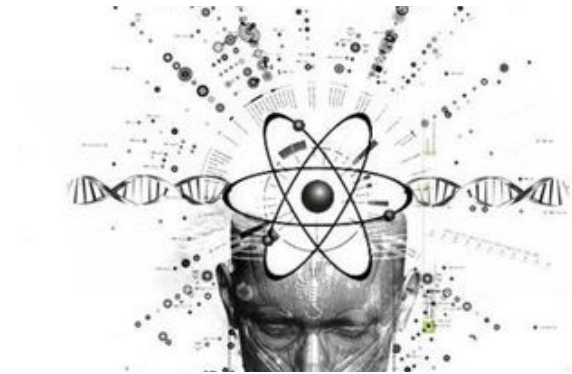


ideate

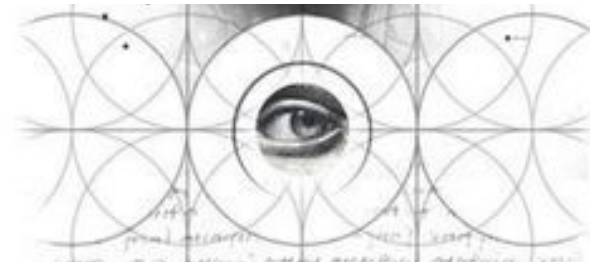
iterate

study

**define**



head



heart

**empathize**

prototype

test

**implement**



hand

**empathize**, define, ideate, prototype, test, iterate, implement

Empathize:

The first step in design thinking is to empathize with the end-users or customers.

This involves understanding their needs, preferences, and challenges through observation, interviews, and research.

The goal is to gain a deep understanding of the people you are designing for, and to develop empathy for their experiences and perspectives.

goal: Deep understanding (tangible & intangible, articulated & unarticulated needs)

Needs	Observation	Task Analysis
Preferences	Interviews	
Challenges	Research	
Larger context		

empathize, **define**, ideate, prototype, test, iterate, implement

## Define:

Once you have a solid understanding of the end-users or customers, the next step is to define the problem or challenge that you are trying to solve.

This involves clearly defining the problem statement based on the insights gathered during the empathize phase.

A well-defined problem statement helps guide the rest of the design thinking process and ensures that you are addressing the right issue.

Articulation

Insights

Scope

Deliverables

## elements of a design brief:

Overall, a well-crafted design brief can help ensure that the design team or designer has a clear understanding of the project requirements, and can help avoid misunderstandings or miscommunications.

**1. Project background:** This section provides context for the project and explains why it is being undertaken. It might include information about the client, the target audience, and the competition.

"Our client is a startup company that sells high-end athletic apparel. The company was founded by two former professional athletes who wanted to create a line of clothing that was both functional and stylish. The target audience for this project is active individuals between the ages of 18 and 35 who are willing to pay a premium for high-quality athletic gear. The competition includes other high-end athletic apparel brands such as Lululemon and Nike."

**2. Project goals and objectives:** This section outlines the specific goals and objectives of the project.

"The goal of this project is to create a new brand identity for our client that is consistent with their vision of high-quality, stylish athletic apparel. The objectives of the project include developing a new logo and color palette, creating a new website and e-commerce platform, and designing packaging for the company's products."

**3. Deliverables:** This section specifies the deliverables that are expected from the design team.

"The design team is expected to provide sketches, wireframes, and final designs for the new logo, color palette, website, e-commerce platform, and product packaging. The designs must be provided in both print and digital formats."

**4. Audience and market:** This section describes the target audience for the project, including their demographics, preferences, and needs. It might also include information about the market, such as trends or competitors

"The target audience for this project is active individuals between the ages of 18 and 35 who are willing to pay a premium for high-quality athletic gear. This audience is interested in functional yet stylish clothing that can be worn both for athletic activities and for everyday wear. Trends in the athletic apparel market include the use of eco-friendly materials, seamless construction, and bright, bold colors. Competitors include other high-end athletic apparel brands such as Lululemon and Nike, as well as mid-range brands such as Under Armour and Adidas."

**5. Design requirements:** This section outlines the specific requirements that the design must meet.

"The design must be consistent with the client's vision of high-quality, stylish athletic apparel. It must be accessible to users with disabilities and must be optimized for both desktop and mobile devices. The color palette must be bright and bold, with a focus on blues and greens. The logo must be easily recognizable and must work well in both large and small sizes."

**6. Budget and timeline:** This section specifies the budget for the project and the timeline for completion. It might also include information about any milestones or deadlines.

"The budget for this project is \$50,000, with an expected timeline of six months. The design team is expected to provide sketches and wireframes within the first two months, and final designs within the last two months. The e-commerce platform must be launched within four months of the start of the project."

empathize, define, **ideate**, prototype, test, iterate, implement

#### Ideate:

In this phase, you generate a wide range of creative ideas to solve the defined problem.

Encourage brainstorming, free-thinking, and collaboration among team members to come up with as many ideas as possible, without judgment or evaluation.

The goal is to encourage a diverse range of ideas and possibilities.

empathize, define, ideate, **prototype**, test, iterate, implement

### Prototype:

Once you have a selection of ideas, it's time to create physical or digital prototypes of your concepts.

Prototypes are tangible representations of your ideas that allow you to test and gather feedback.

They can be as simple as sketches, storyboards, or mock-ups, or as complex as working models, depending on the nature of the problem.

empathize, define, ideate, prototype, **test**, iterate, implement

### Test:

After creating prototypes, you need to test them with end-users or customers to gather feedback.

This involves getting real-world insights by observing how users interact with the prototypes, collecting feedback, and evaluating the effectiveness of your solutions.

This feedback loop helps you refine and improve your ideas based on real-world user experiences.



empathize, define, ideate, prototype, test, **iterate**, implement

Iterate:

Based on the feedback gathered during the testing phase, you may need to iterate and refine your prototypes and ideas.

This involves going back to previous steps, making adjustments, and repeating the design thinking process **until you arrive at a solution** that effectively addresses the problem and meets the needs of the end-users or customers.

empathize, define, ideate, prototype, test, iterate, **implement**

### Implement:

Once you have a refined solution, it's time to implement it.

This involves creating a plan for implementation, considering factors such as resources, timeline, and scalability.

It's important to involve relevant stakeholders and ensure smooth execution of the solution.

# SCAMPER

start with an **existing idea or product**,

- Substitute:** What could I substitute to make this idea or product better?
- Combine:** What could I combine this idea or product with to make it more useful or valuable?
- Adapt:** How could I adapt this idea or product to a new context or audience?
- Modify:** How could I modify this idea or product to make it more efficient or effective?
- Put to another use:** What other uses could this idea or product have?
- Eliminate:** What could I eliminate from this idea or product to make it simpler or more user-friendly?
- Reverse:** How could I reverse this idea or product to create something completely different?

## **SCAMPER: eyewear**

### **substitute**

sustainable or biodegradable materials instead of traditional plastics, or replace regular lenses with smart lenses that offer augmented reality or adjustable tinting.

### **combine**

combine eyewear with wearable technology, integrating features like fitness tracking, augmented reality displays, or bone conduction audio.

### **adapt**

specialized eyewear for sports activities, enhancing durability for outdoor use, or designing eyewear for specific professions like healthcare or construction.

### **modify**

adjustable frames to accommodate various face shapes, implementing innovative mechanisms for easy lens swapping, or creating modular eyewear that allows users to customize their frames.

### **put to other use**

repurpose eyewear frames as fashion accessories or incorporate eyewear technology into other products like helmets or safety goggles.

### **eliminate**

minimalistic frames, eliminating unnecessary components, or streamlining the overall design for simplicity and comfort.

### **reverse**

reversing or rearranging the functionality or aesthetics of eyewear. eyewear with unconventional shapes or reversed lens positioning. Think about unique ways to present eyewear or challenge traditional norms.

## **SCAMPER: Tea**

- 1.Substitute: herbal tea or alternative sweeteners like honey or stevia.
- 2.Combine: tea with fruit flavors or create unique tea blends by mixing various herbs and spices.
- 3.Adapt: adapt traditional tea-making processes or serving methods. like tea-infused ice cream or tea-based cocktails.
- 4.Modify: changing the brewing time or temperature to enhance the flavor, or experimenting with different steeping techniques like cold brewing.
- 5.Put to another use: tea as an ingredient in cooking or baking, or create tea-based skincare products such as tea-infused lotions.
- 6.Eliminate: tea product that eliminates the need for tea bags or develop a concentrate that requires less storage space.
- 7.Reverse/Rearrange: Think about reversing or rearranging the typical tea experience. tea-based desserts where the flavors mimic popular tea varieties or design tea tastings that focus on unusual pairings with food.