

Design Methods and Creativity

Portfolio

UA17BD140

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01FB16ECS356



**Creativity is
allowing yourself to
make mistakes.
Design is knowing
which ones to keep.**

- Scott Adams



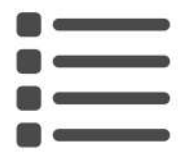
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- Tata Swach Case Study
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- Problem Statement
- Background
- Brainstroming
- Survey
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- Market Research
- Mood Board
- Osborn's Checklist
- Form Exploration
- Idea Generation and Concept
- Logo and Branding

Look around.

Assignment 1

Good Product Design



Neat and minimalist interface



Intuitive and easy to use



Personalized preferences and detailed customization



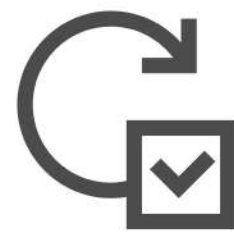
Smooth animations
Easy on the eye



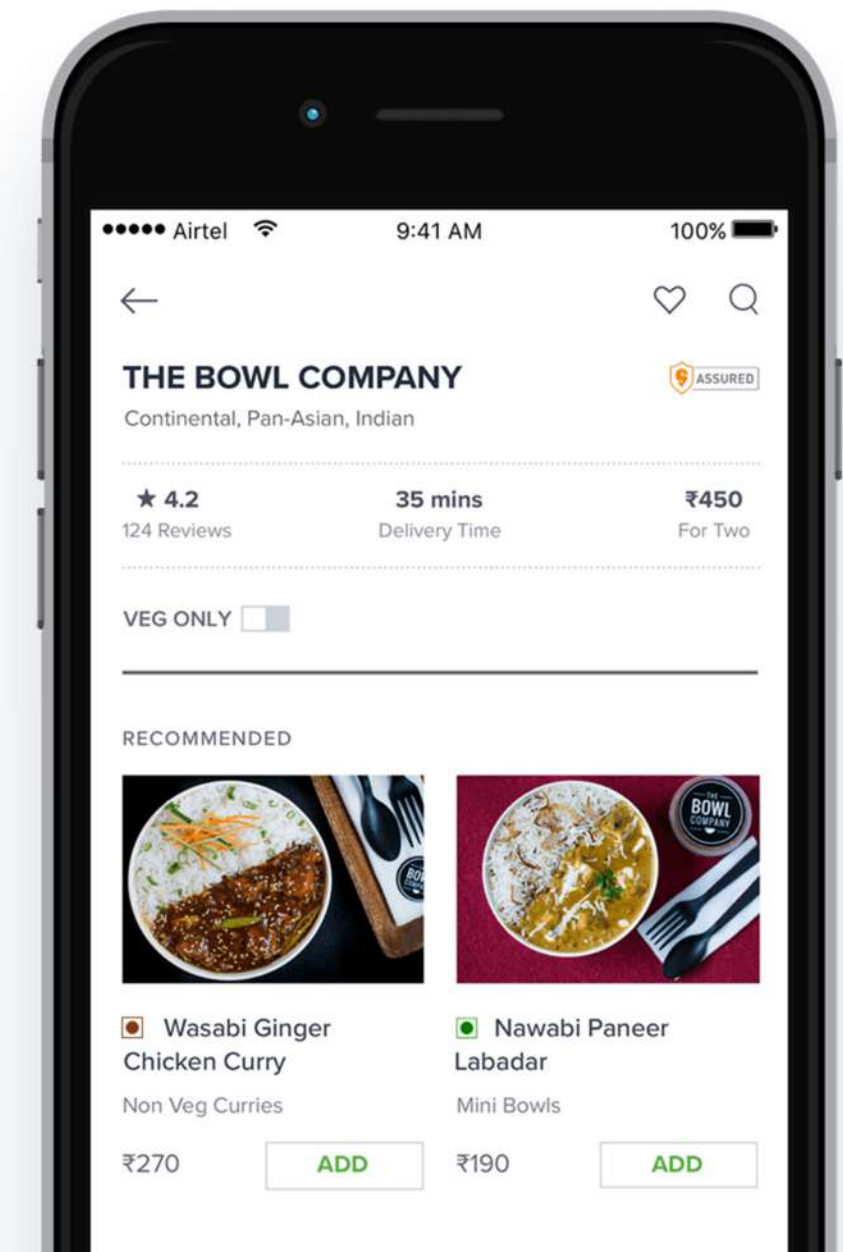
Accurate
delivery tracking



Many payment
methods making
it convenient



Regular updates
ensure glitch-free
experience



Good Product Design

Magnetic Tip Screwdriver Set



Multiple tool tips
Single body



Lightweight



Magnets ensure easy
attaching of tool
tip and tool holder



Rubber on the handle
gives a firm grip



Easy to carry
Fits in pocket



Special alloy tool tips
Strong and durable



Bad Product Design

JBL Wired Earphones

- The cable gets entangled easily.
- The cable tip frays too soon.
- It does not sit snugly in the ear canal.
- The 3.5mm jack angle is inconvenient.
- A slight accidental tug of the cable dislodges the earphones.
- The left and right ear markings are hard to find on the product.
- The silicone cups that sit in the ear are easy to lose.



Bad Product Design

Ceramic Tea Cup

- Pouring tea from the cup is cumbersome, very likely to spill.
- Spilt tea stains surfaces.
- Handle hole is small for the finger.
- Weight of the entire cup and beverage falls on two fingers.
- Cup being hot, cannot be held in any other way.
- Very difficult for children to use.
- Easily breakable material.



Successful Product

A Case Study



TATA
swach[®]

**Low cost purifier for
low-income Indian
groups, who lack access
to safe drinking water**

Facts and Figures – Problems

- **380,000** children die every year because of **Diarrhoea**
- **85%** of India's population does not filter water before drinking
- **400 million** people in India **not connected** to electrical grid
- Conventional water delivery systems were very **expensive**



Source: mentalfloss.com

Introduction

- Initial Tata product **Sujal did not** have **bactericidal** properties
- Sujal could not remove inorganic substances like lead, iron etc.
- Therefore, **Swach** was conceptualised by **Tata Consultancy Services** and produced by **Tata Chemicals**
- Launched in **2009** in **Maharashtra** and **Karnataka**

Source: wikipedia.org

The Vision

- To ensure **safe** drinking water to the masses
- To **reduce** incidence of **water-borne** diseases
- **Point-of-use** purification
- **Affordable** rates
- **Low maintenance** and **user friendly** purifier
- **Expand** to thousands of **Indian households**



Facts and Figures – Swach

- Tata Swach unit holds **9.5 litres** of water at a time
- Purifies **3 to 4 litres** every hour
- A filter cartridge can clean **3000 litres** of water
- A cartridge lasts for a **family of 5** for a **month**

Source: mentalfloss.com

Facts and Figures – Swachh

- Sells for **Rs. 1000** per unit
- Replacement filters cost **Rs. 30**
- **No boiling, zero chemicals** and **zero wastage**
- More than **1,000,000** units sold every year



Source: mentalfloss.com

Technology

- Purification carried out using **rice husk ash** impregnated with **nano silver** particles
- Silver reacts with **sulfydryl** groups in bacteria
- Nano particles **increase surface area** for increased **reaction time**
- Has **upper reservoir** where **unaltered** water enters. And a **lower reservoir** with **pure** water
- Bulb with **filter cartridge** in the middle

Emotional Connect and Marketing

- **"Pledge of Purity"**
- Tata representatives **personally** went to **rural** areas to demonstrate the **benefits** of Swach
- **"Safe drinking water for the masses"**
- Customer **feedback** taken regularly from users
- **Awareness** programs conducted by Tata



Emotional Connect and Marketing

- **Distributed** hundreds of Tata Swach purifiers to **villages** as part of Tata's **CSR activity**
- Main **Customer Segment: Homes without electricity or running water**
- That makes it **195 million** homes, which makes it a **huge market**
- Marketed as the **only product** where people can buy the **filtration bulb** even from a **grocery store**, just like an electric bulb
- **Creating fields** where none existed, converting **non-users to users**, and not aimed at getting people to switch brands

Tata Swach - Achievements

- **Product of the Year - 2012**
- **Member of India Water Quality Association**
- **WSJ Asian Innovation Awards**
- **ICIS Best Product Innovation Award**
- **'Gold' IDSA Design of the Decade Award**

Tata Swach – Achievements

- **IF Product Design Award**
- **Economic Times - Best Promising Brands**
- **Major contributor to water purifier market**
in India, which had grown at a **CAGR** of **21.24%**
between 2009 and 2015

DESIGN BRIEF

Design a sporty water bottle.

PROBLEM STATEMENT

To design a sporty bottle for gym goers and athletes to use during their workout.

BACKGROUND



Goat Skin
1600s



Metal
Bottles
1800s



Plastic
Bottles

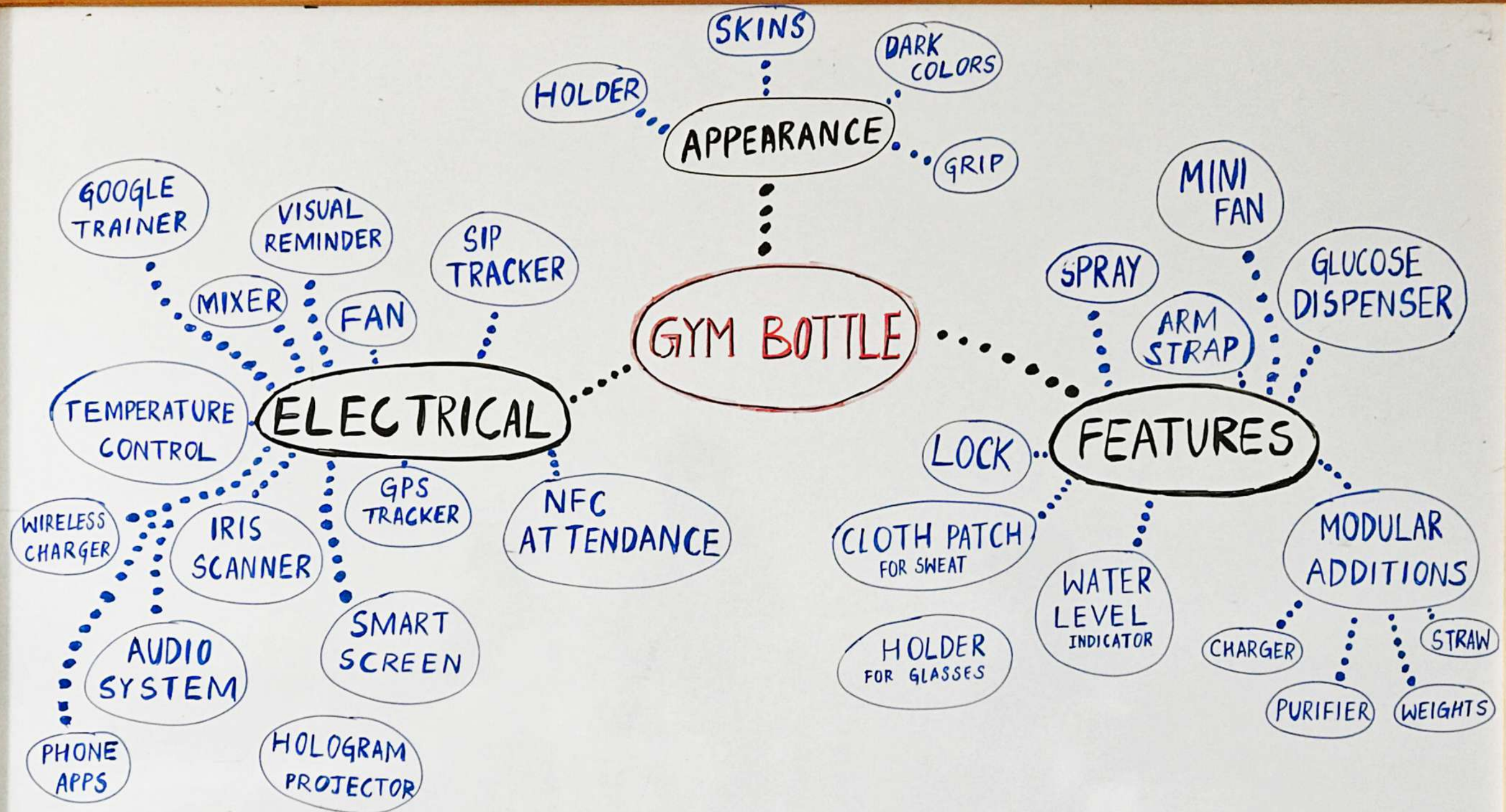


Leather
1700s



Glass Bottle
1900s

BRAINSTORMING



SURVEY FINDINGS



“...I don’t have a compartment to store my protein shake. I have to carry 2 bottles, very **cumbersome.**”

- Sanat



“...I am a **forgetful** person. I would love it if I don’t lose my bottle this often.”

- Vishal



“...I’d like it if my bottle had **better grip.** Sweaty hands and slippery bottles...you know, not a very good combination.”

- Shrushti



SURVEY FINDINGS



“...I mix **glucose** at home. I’d like it if I could do that in the gym.”

– Roshni



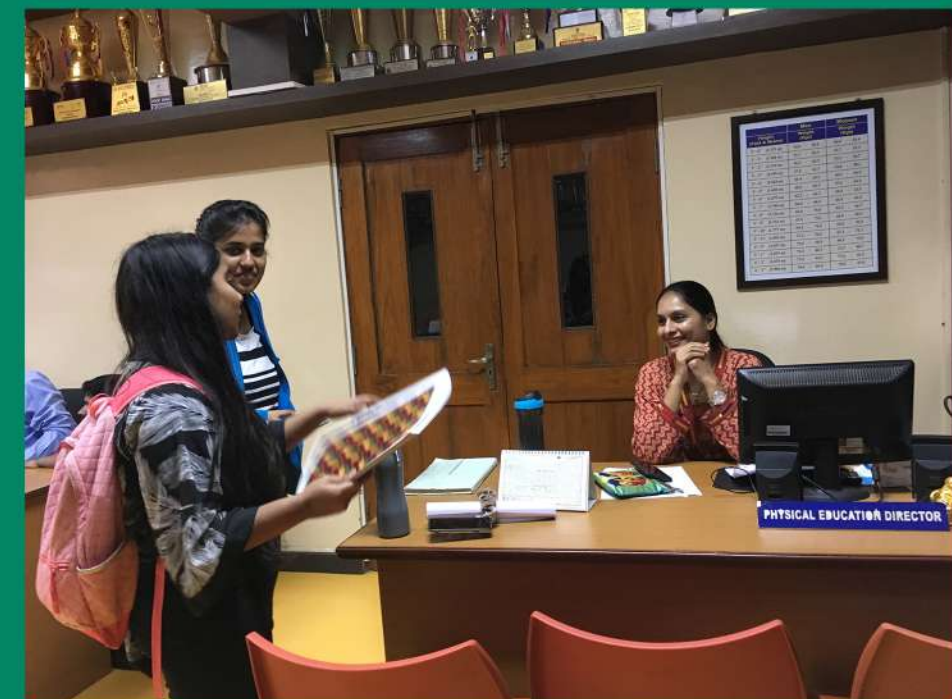
“...I prefer **cold** water, but the water tends to get **hot** and doesn’t remain cool long enough.”

Gagan



“...**looks** over durability. I like the concept of having a storage **compartment** to keep biscuits and protein powder.”

– Rashmi



SURVEY ANALYSIS

Key Insights

- 11 out of 13 people have **forgotten** their bottles on several occasions at the gym or at home.
- All of the interviewees felt that it was necessary to **keep track** of their water intake, although 9 out of 13 did not have the means to do so.
- 10 out of 13 people preferred **sippers**, but compromised because cleaning sipper bottles was difficult.
- **Temperature** preference varied, but all of them struggled with maintaining their preferred temperature.
- Most of the interviewees kept their bottles inside their bags and said **“durability over looks.”**
- 9 out of 13 people did not have a separate gym bottle.
- **Red, black, neon** and **blue** were considered sporty colours.

PERSONA

Primary User

Name: Mrs. Rashmi

Age: 40-45

Behavior:

Mrs. Rashmi is a working mother of one who loves staying fit. She seemed organised and methodical in her ways. She also emitted an aura of professionalism while still being fun and approachable.

Key Characteristics:

Physical Education instructor in a reputed educational institution. You will find her in the gym at least 5 days in a week.

Pain Points:

- She will not drink water that's not to her liking of temperature and prefers warm water while working out.
- Wants to store bite sized snacks to keep her energy levels up while gymming.
- She would like to be more aware of her water intake.



PERSONA

Secondary User

Name: Vishal. S. Rao

Age: 19

Behavior:

Vishal is a fun-loving, jovial person. He is an extrovert. He was very fidgety during the interview. He also claims to be a very forgetful person.

Key Characteristics:

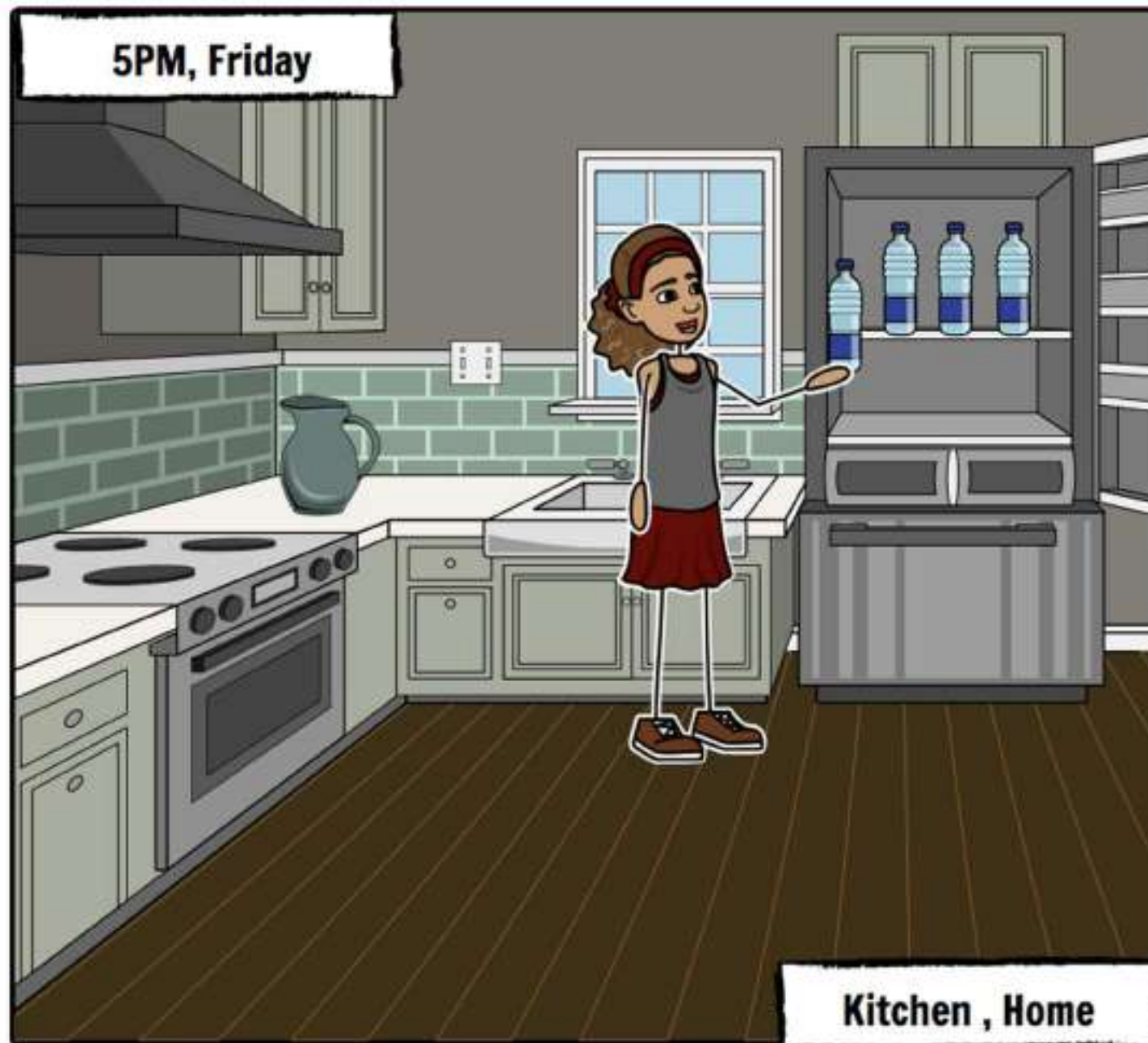
- Football player
- Team captain
- Class topper
- Practices before and after college, 1.5 hours per session

Pain Points:

- Forgets his bottle.
- Needs cold water while playing.
- Even though Vishal prefers a sipper, he compromises due to cleaning issues.



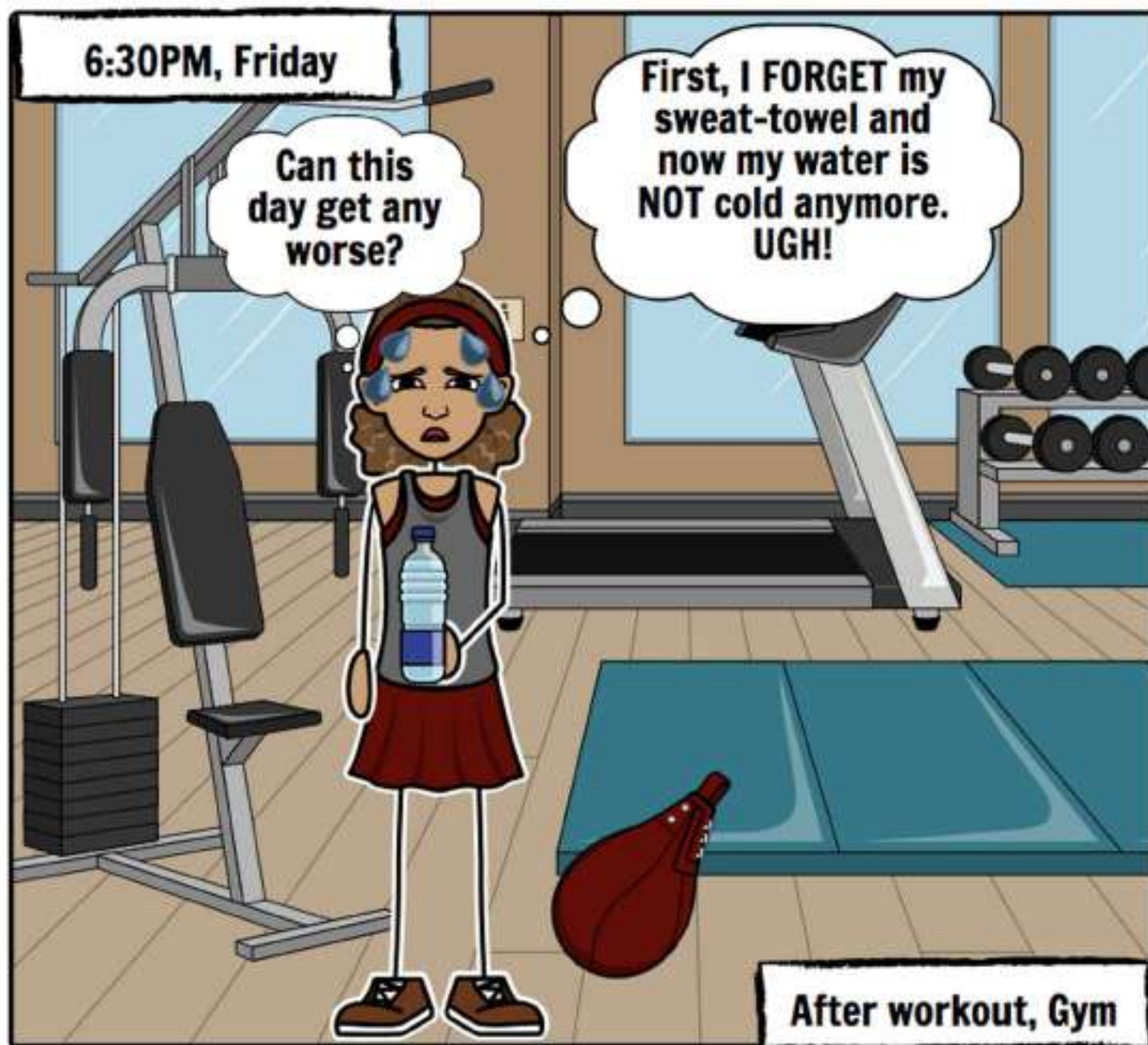
JOURNEY MAP



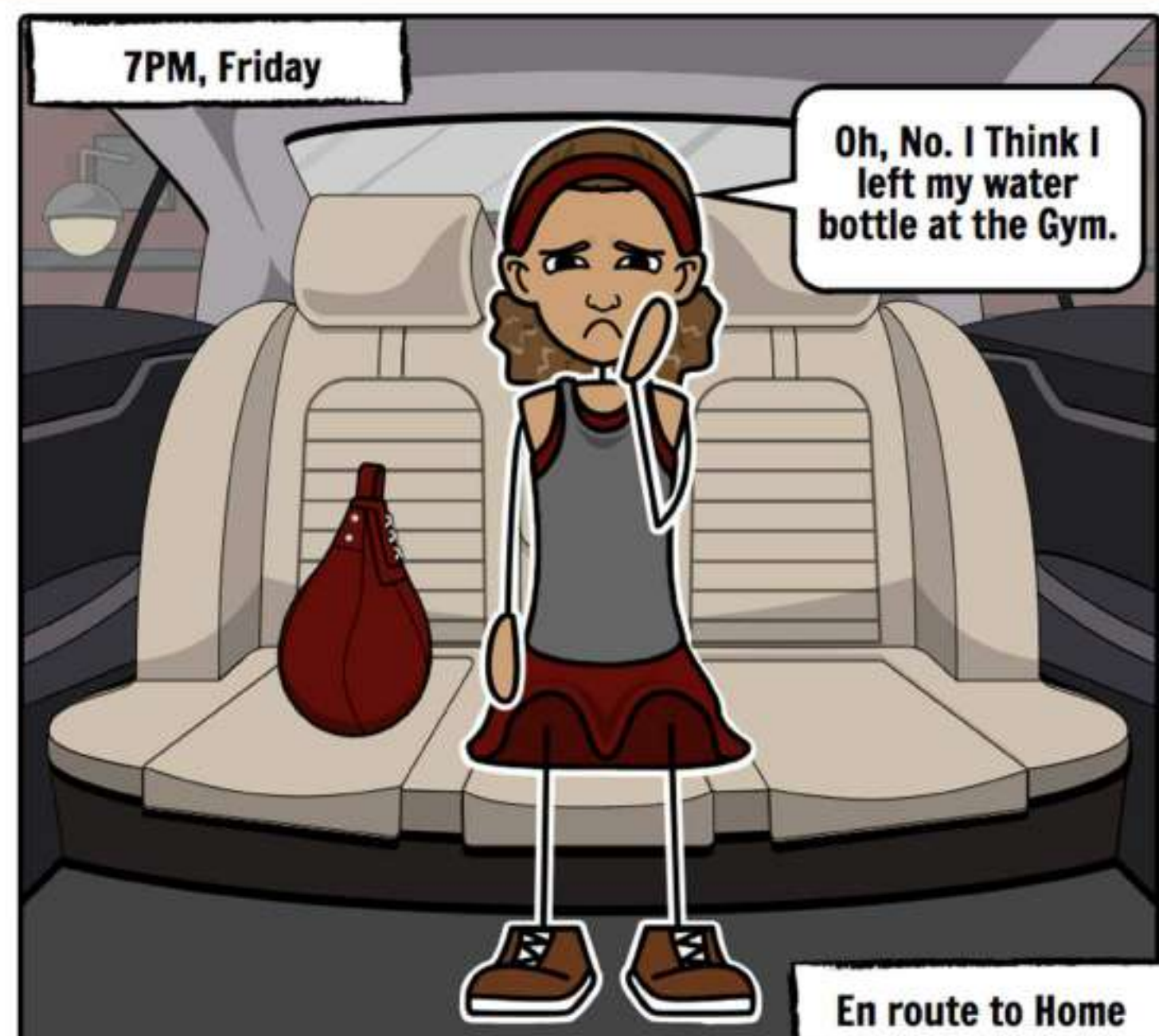
This is Ria. She needs cold water while working out.



Ria forgets to take her sweat towel.



Although Ria finished a good workout, she is **UNHAPPY**.

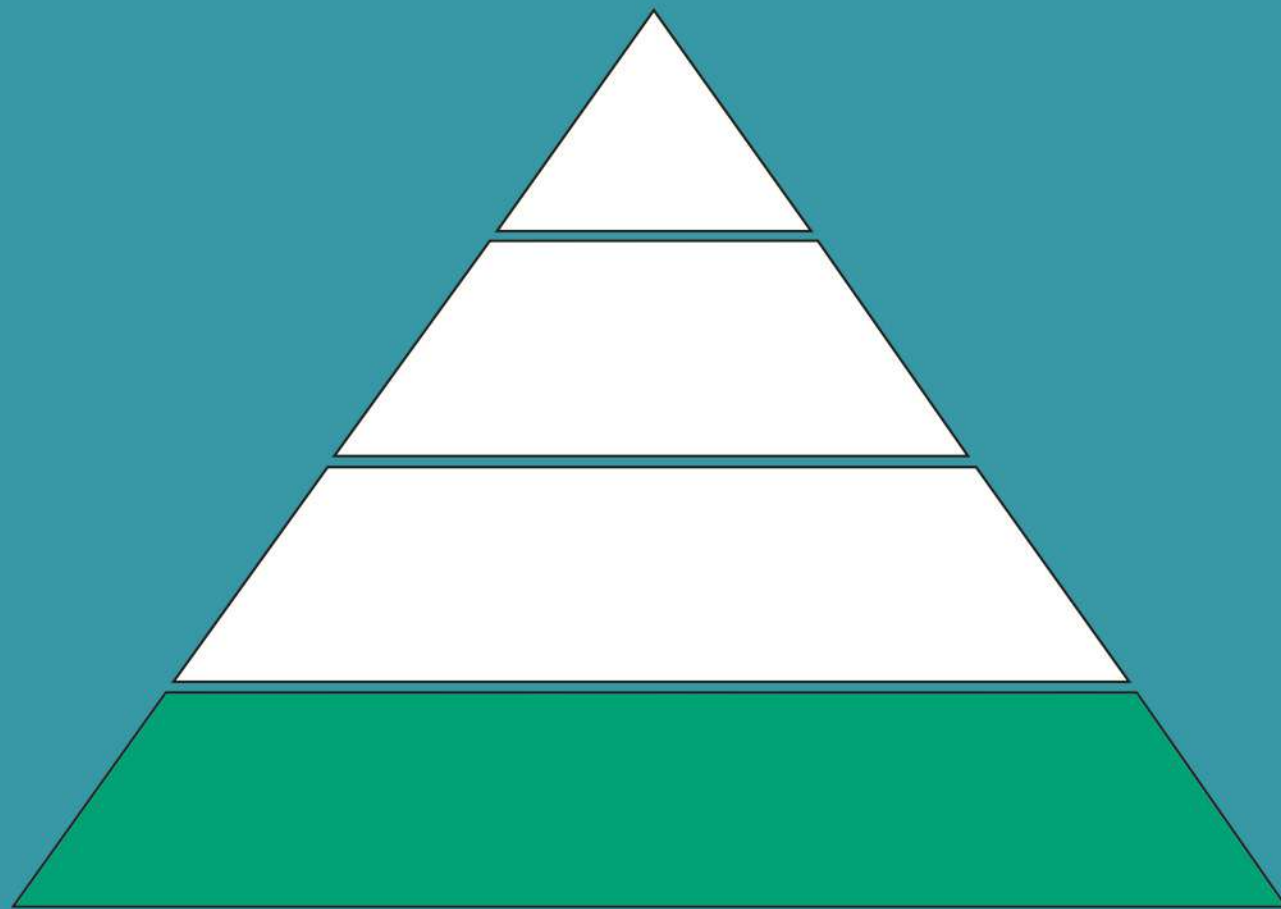


The gym is closed every weekend so Ria will have to wait to get her bottle back.

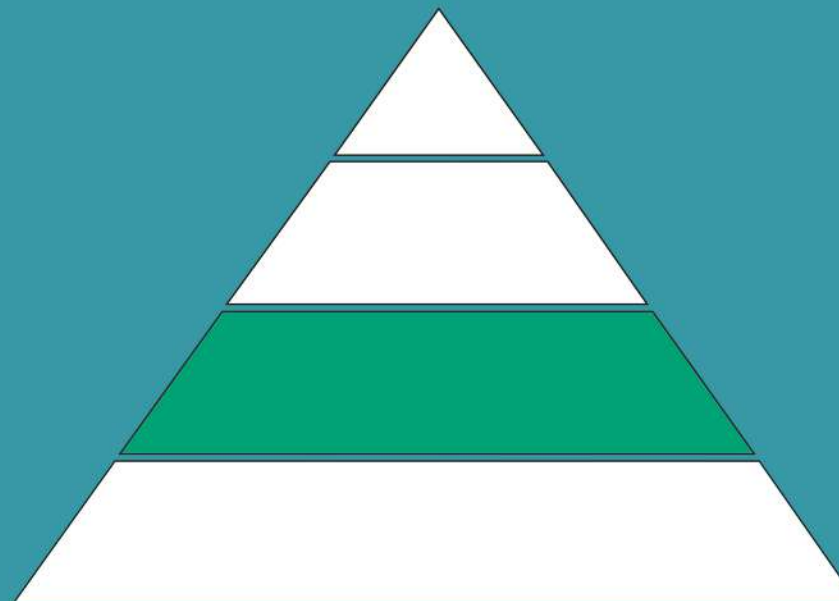
TREND ANALYSIS

Mega Trends (30-40 years)

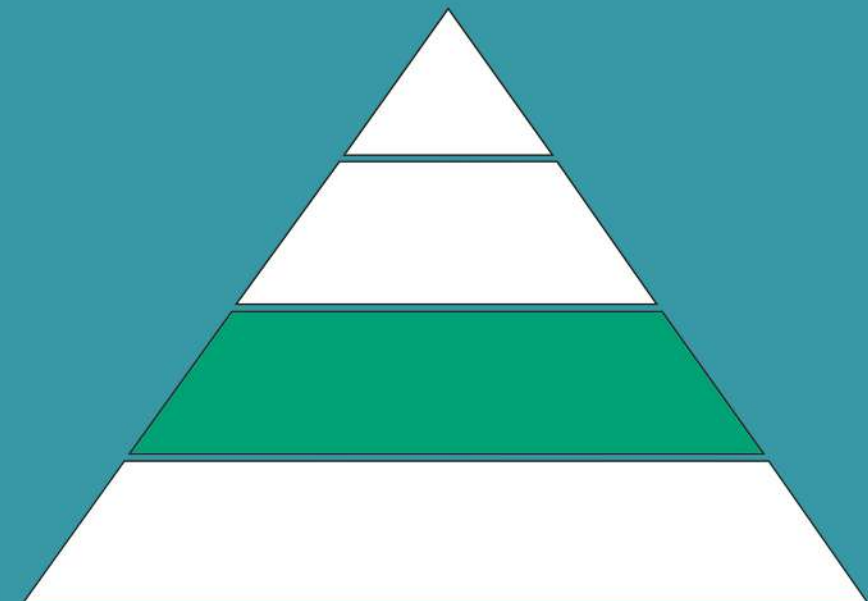
- Apple



Technological



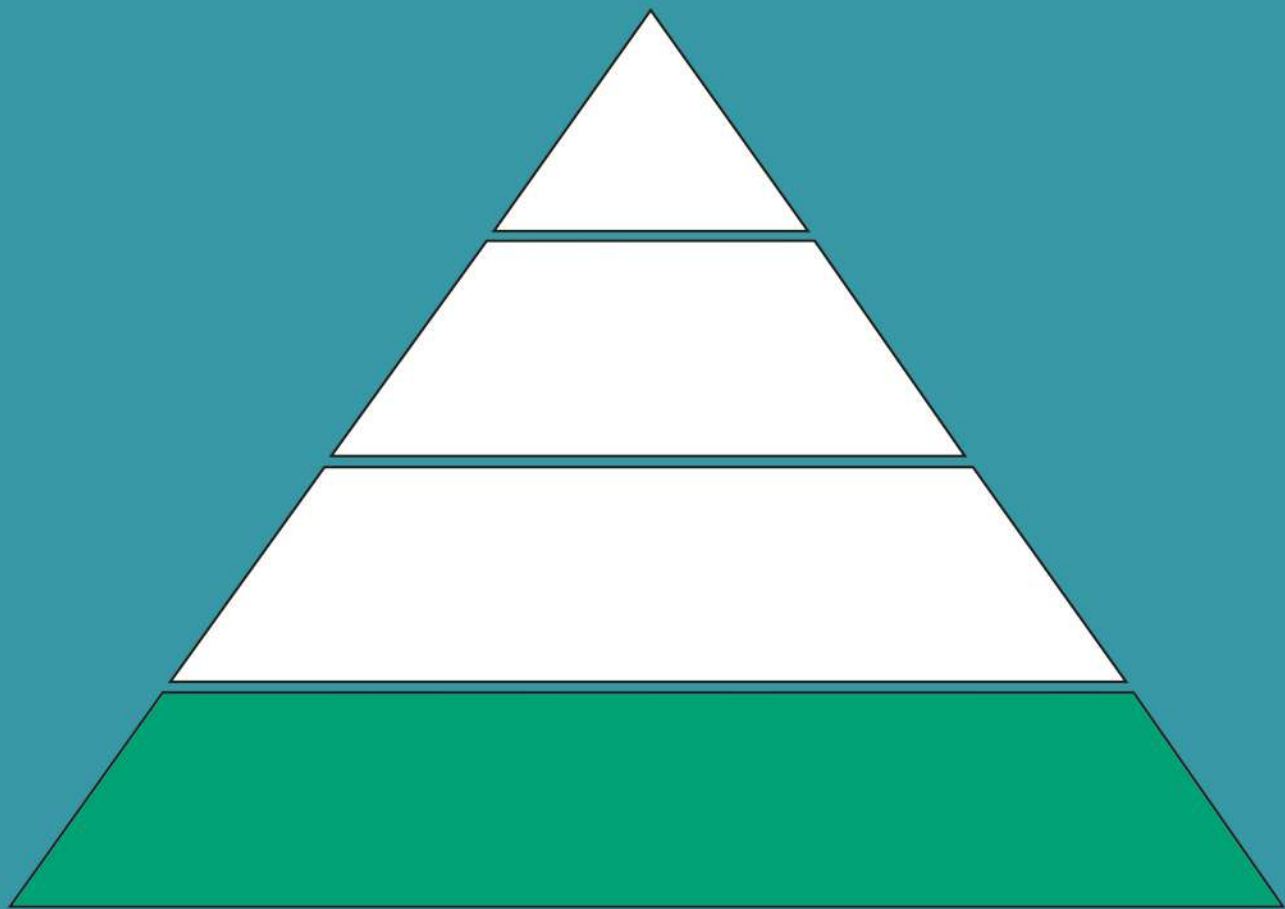
Demographic



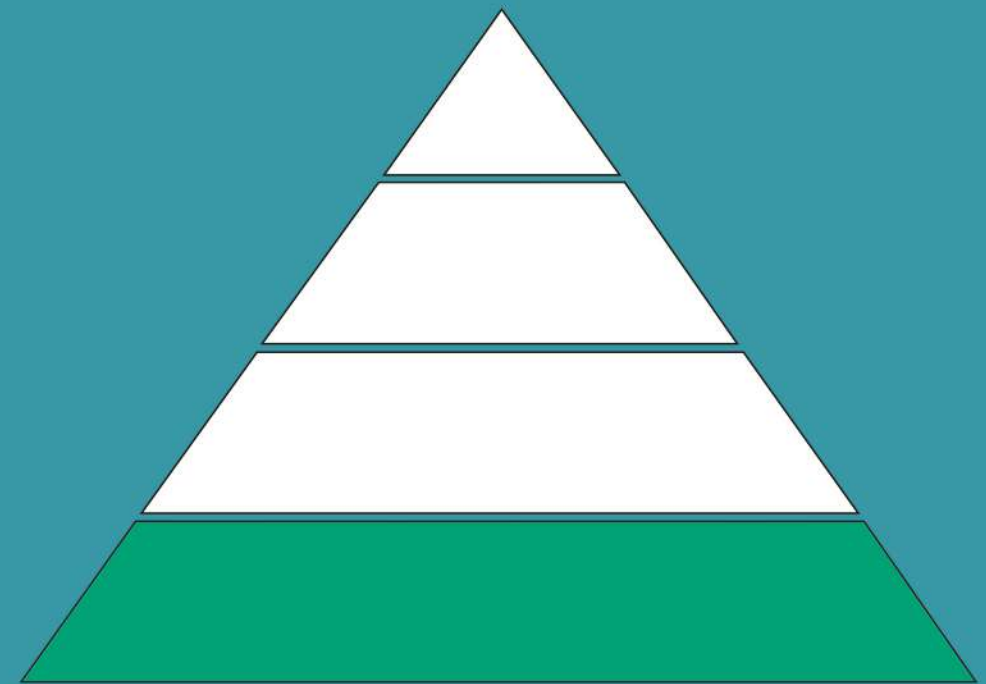
Social

Mega Trends (30-40 years)

- Color



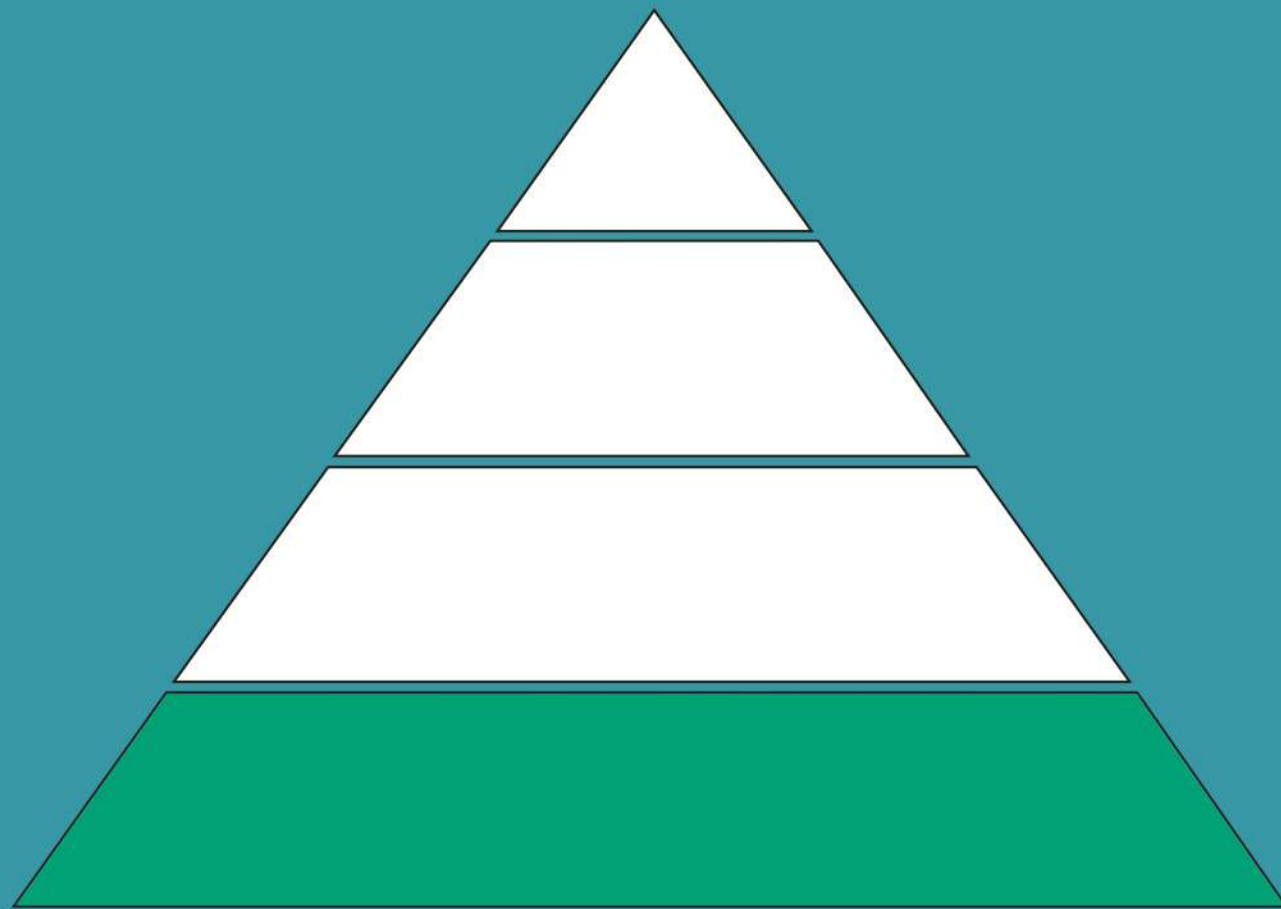
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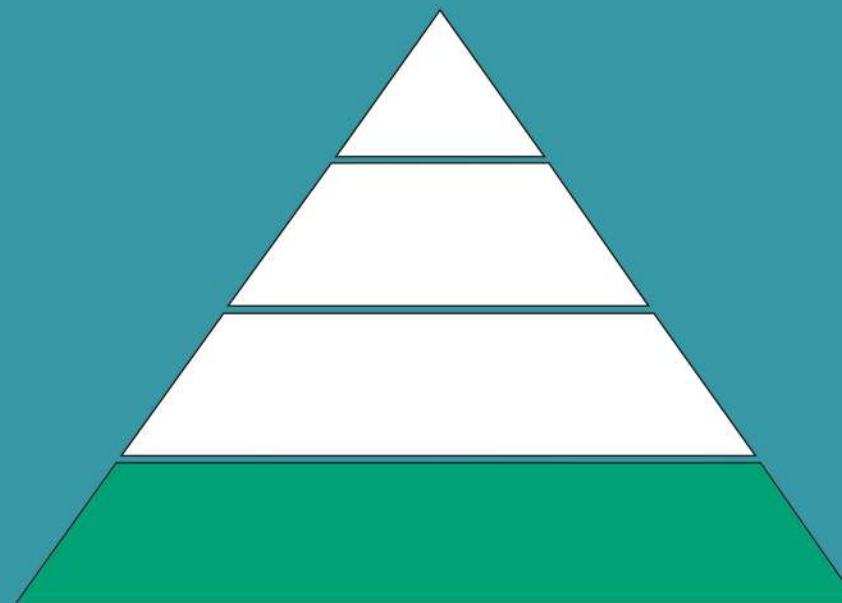
Social

Mega Trends (30-40 years)

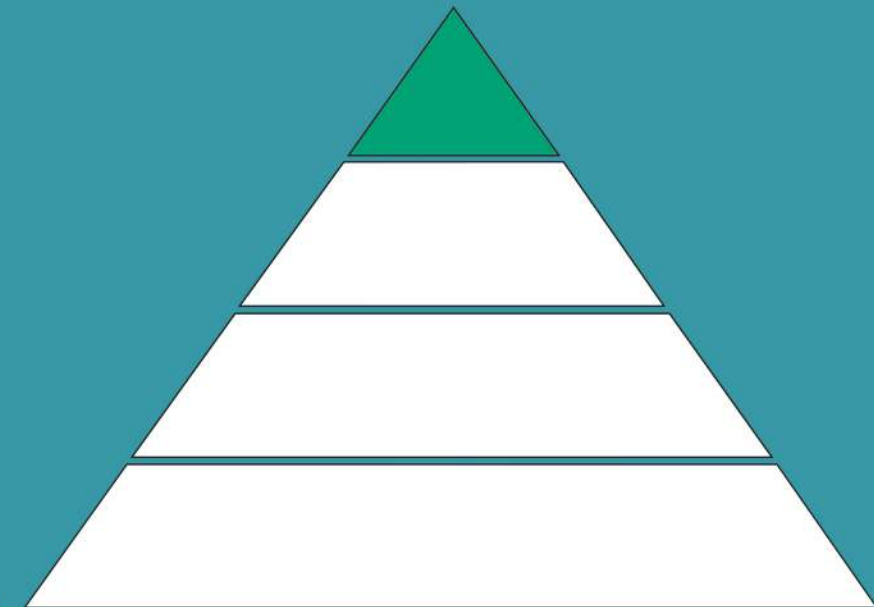
- IIT Coaching



Social



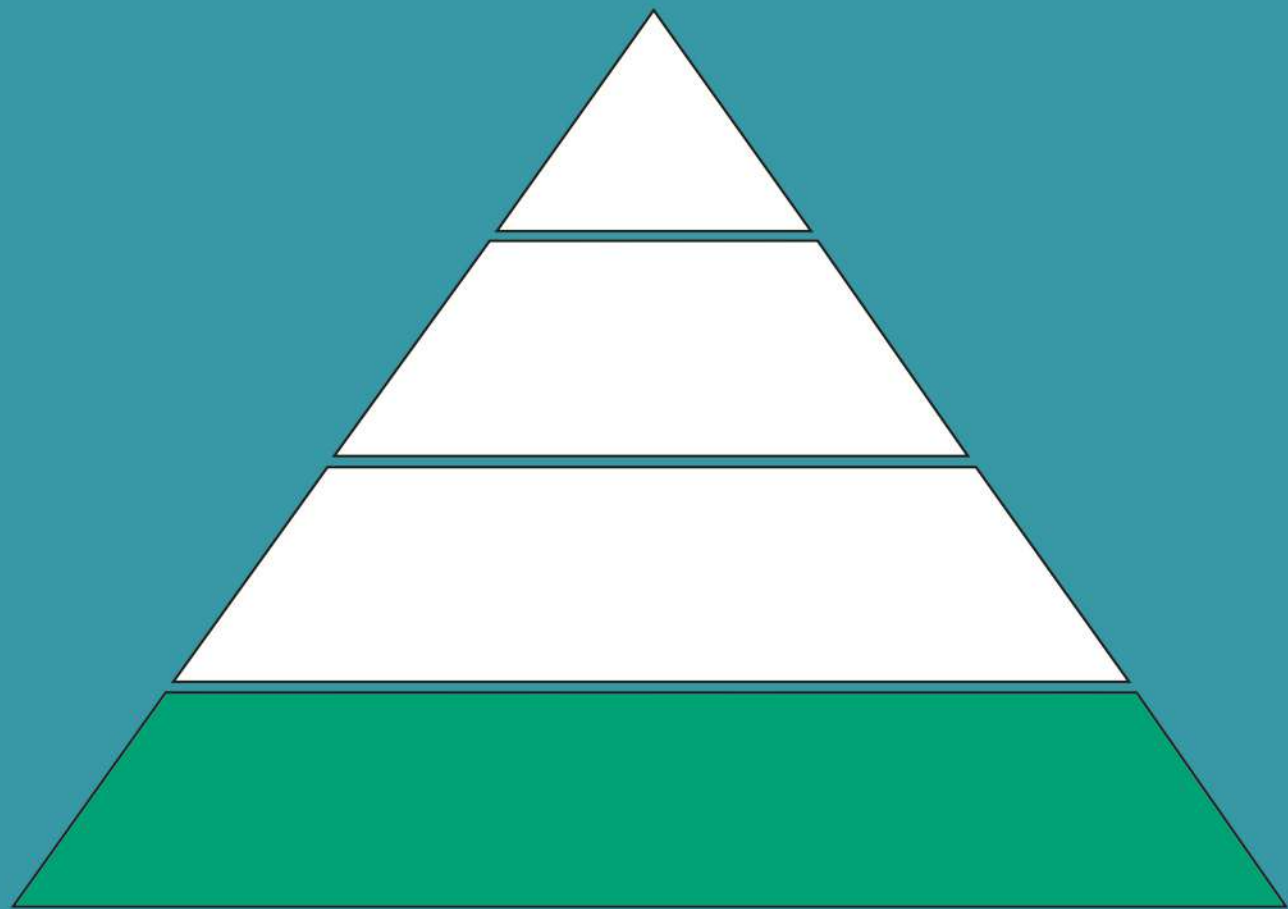
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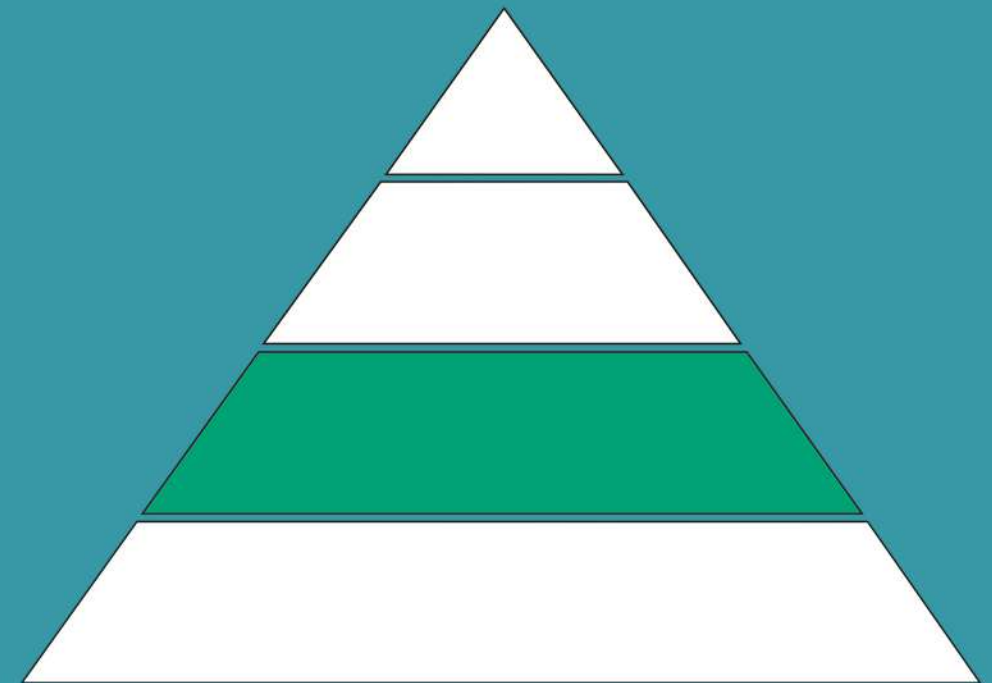
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Mega Trends (30-40 years)

- Jeans



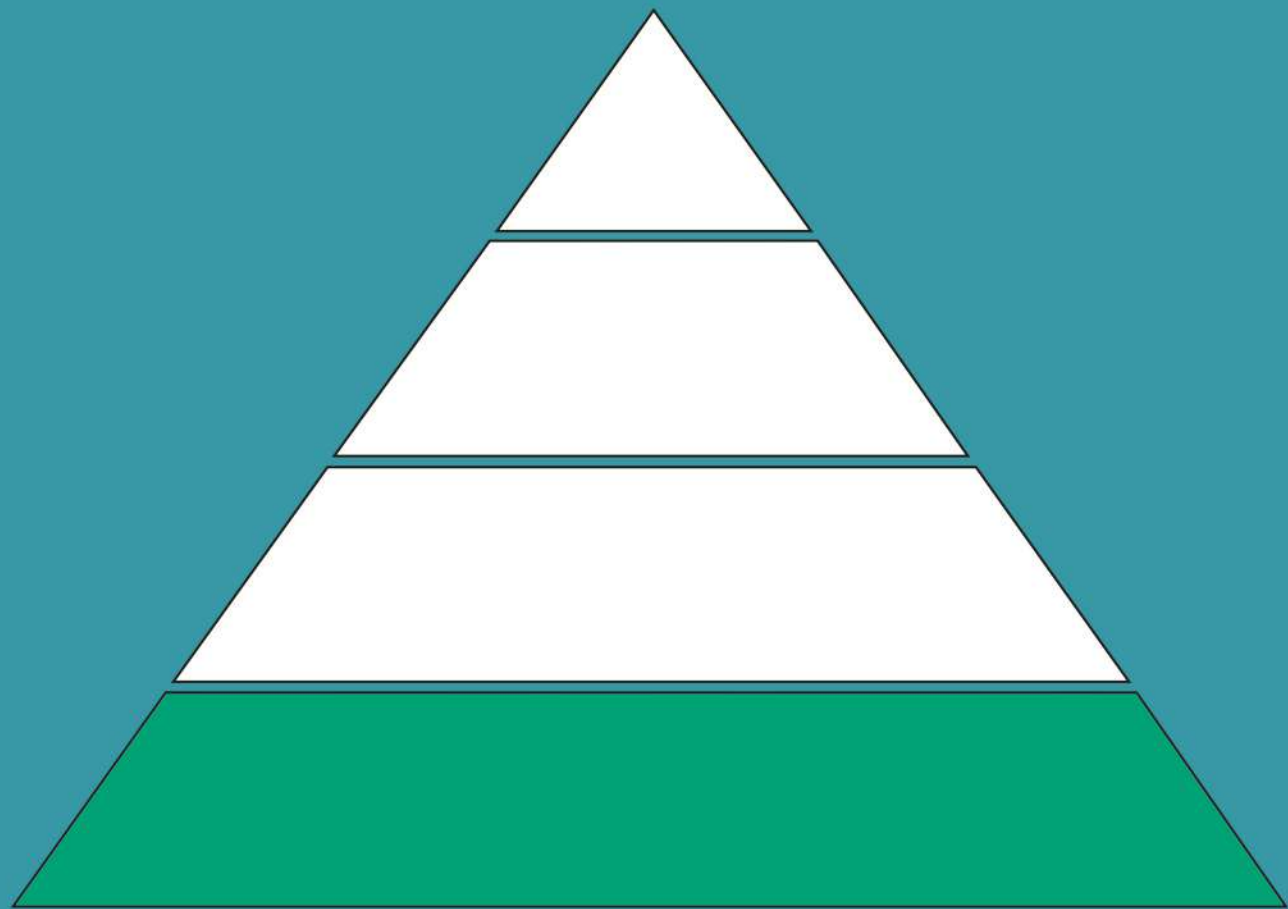
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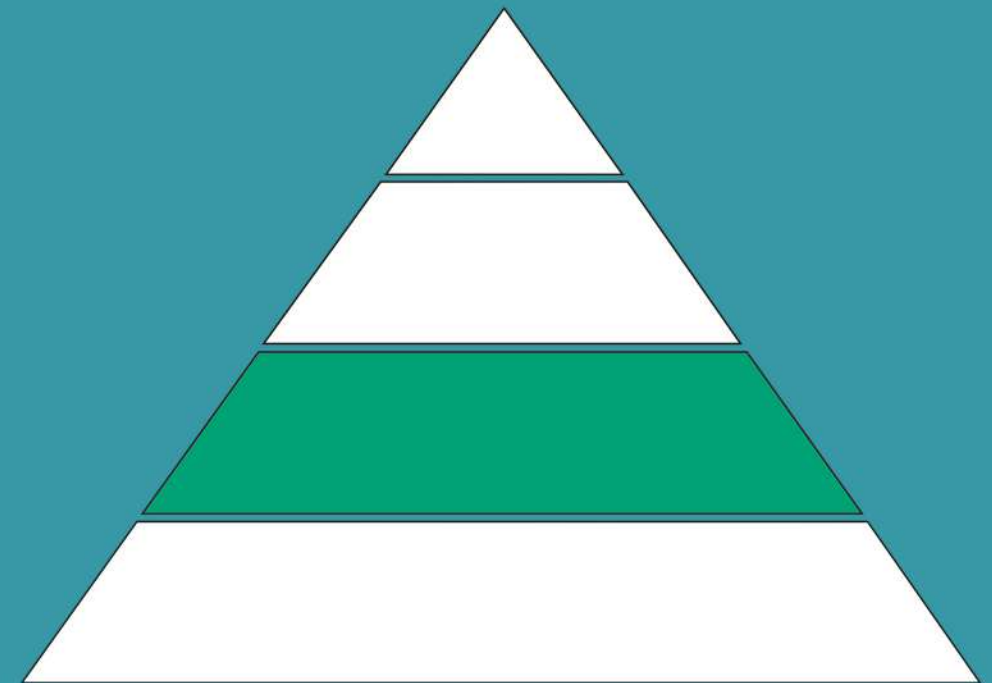
Demographic

Mega Trends (30-40 years)

- Swivel chairs in offices



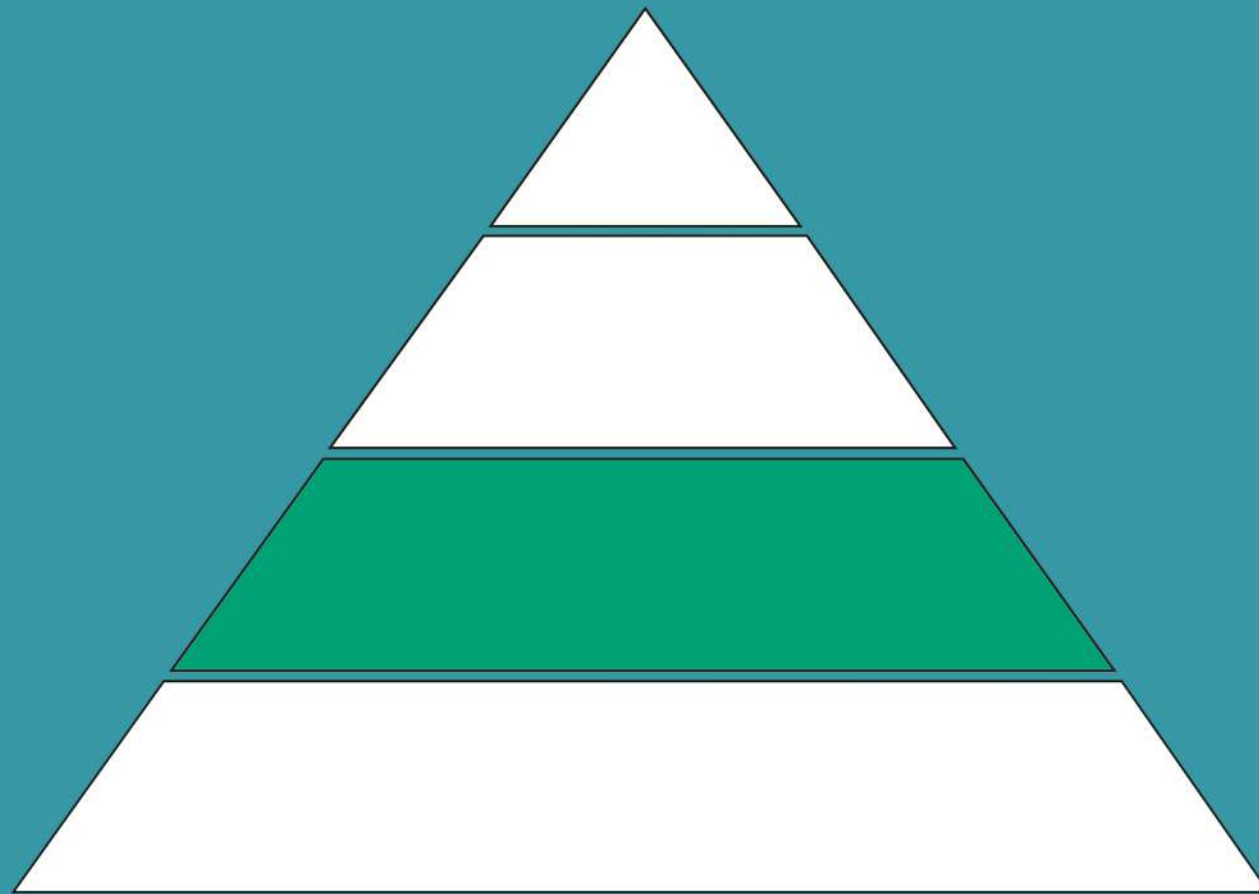
Social



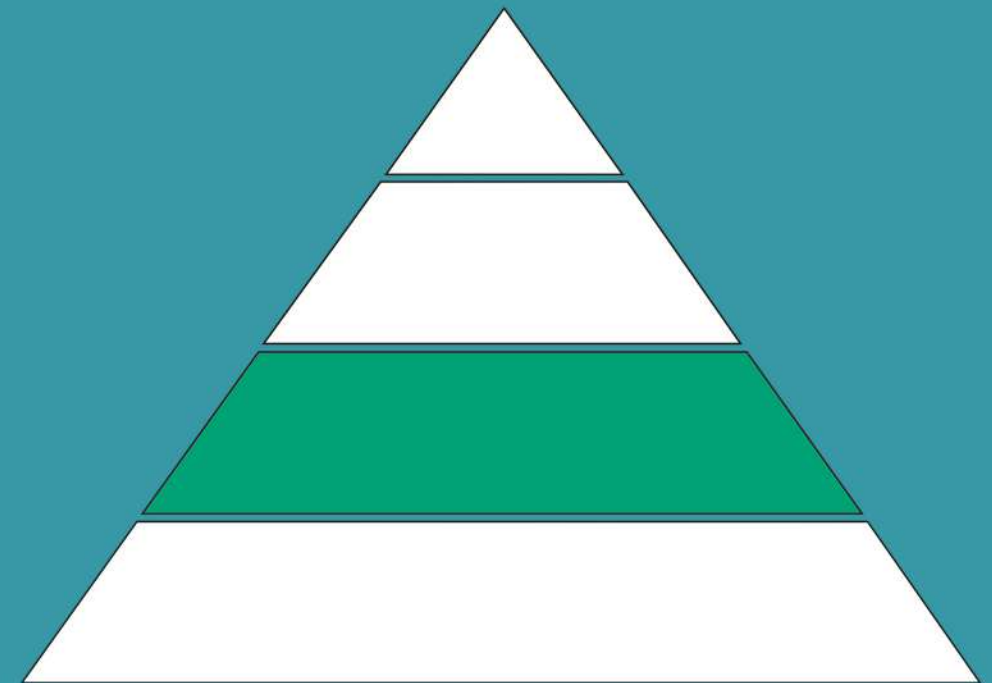
Technological

Maxi Trends (5-10 years)

- Crocs



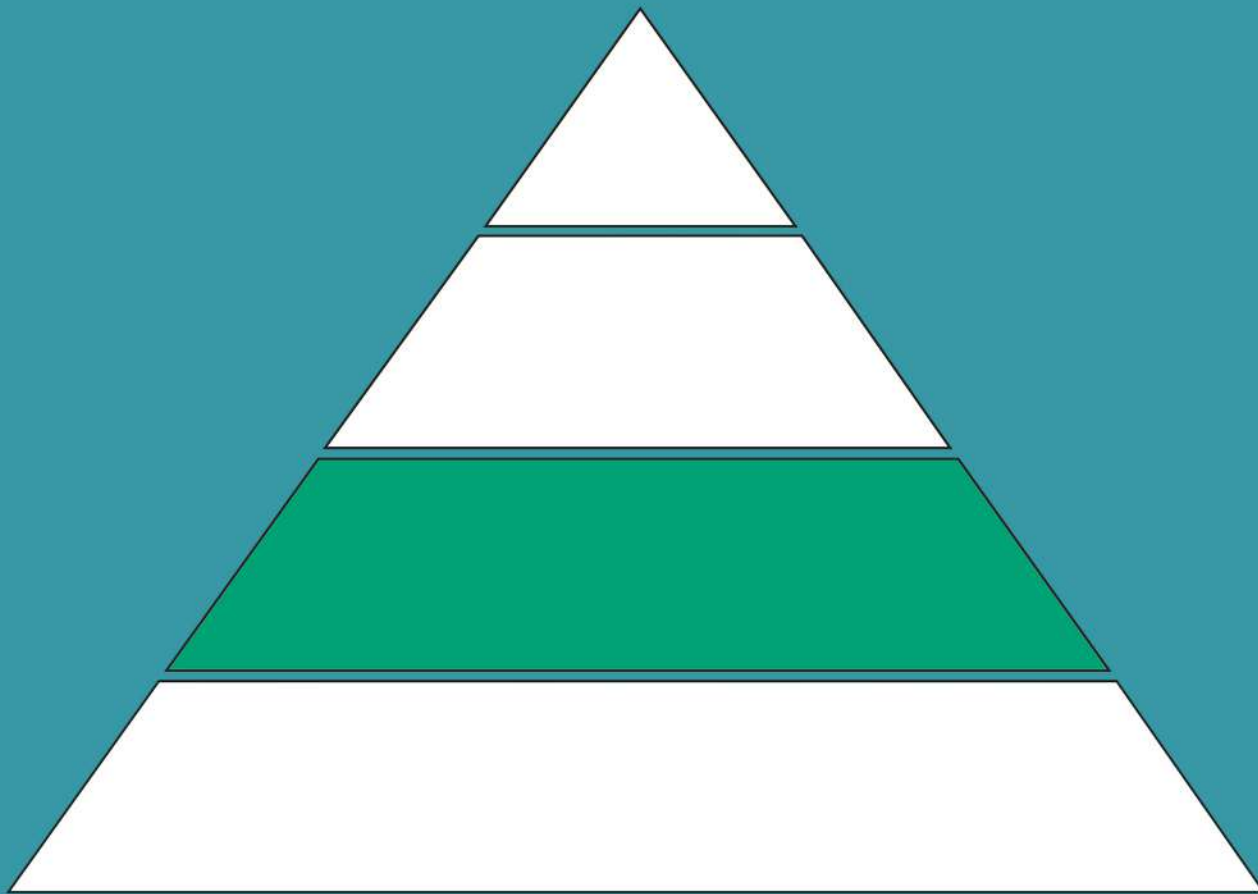
Social



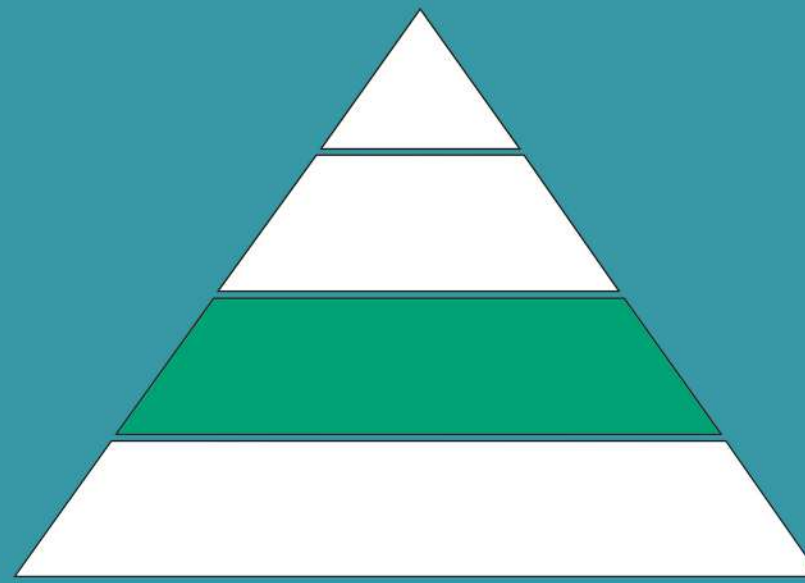
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Maxi Trends (5-10 years)

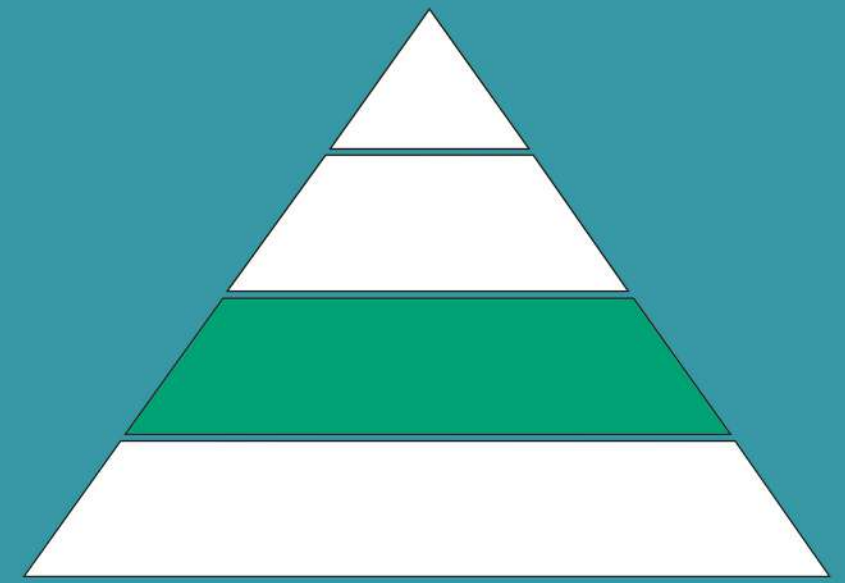
- Graphic Design



Technological



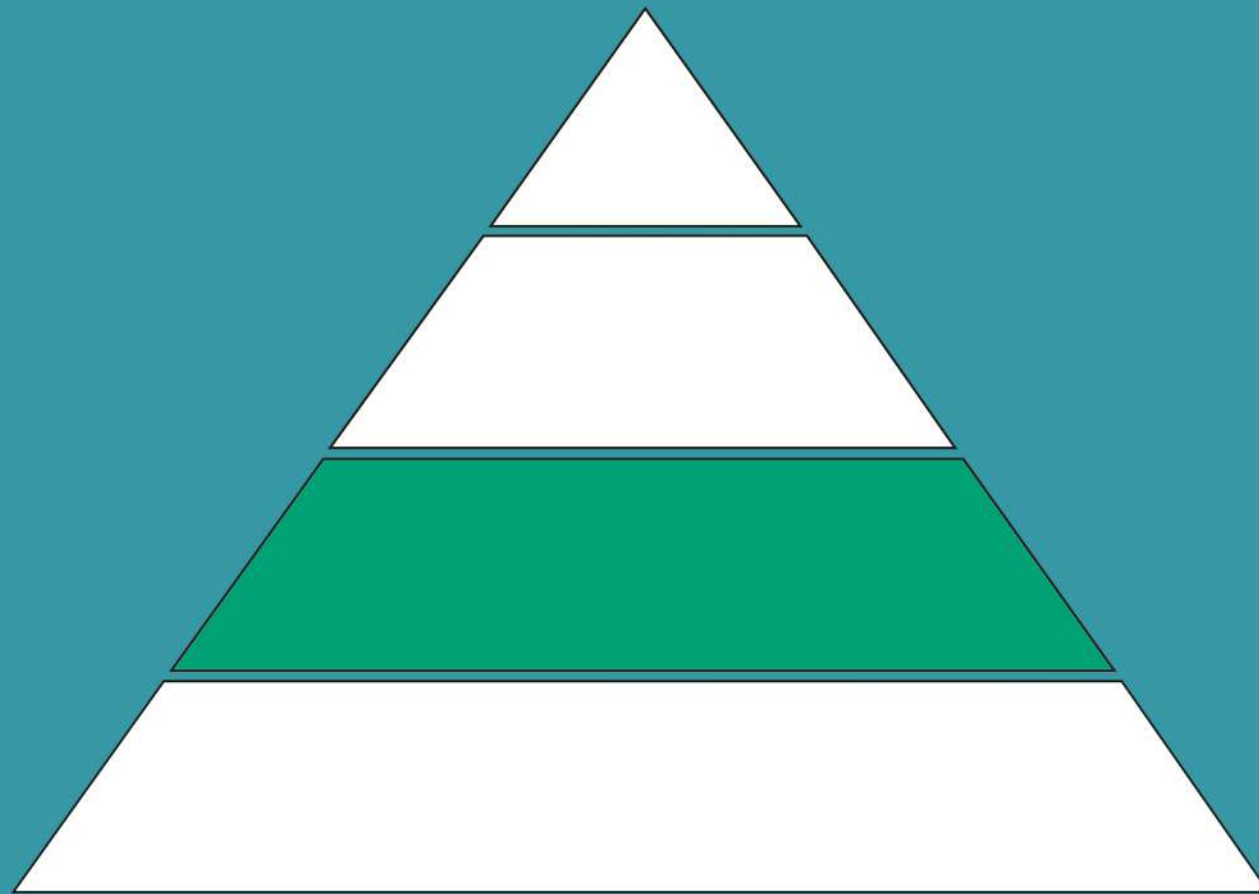
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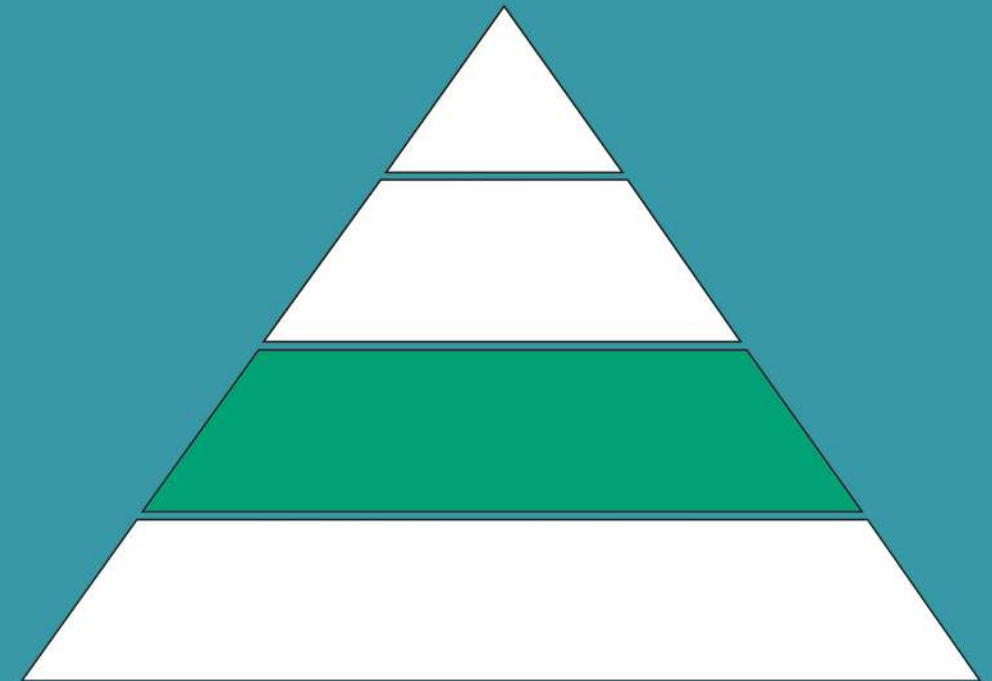
Social

Maxi Trends (5-10 years)

- iPod



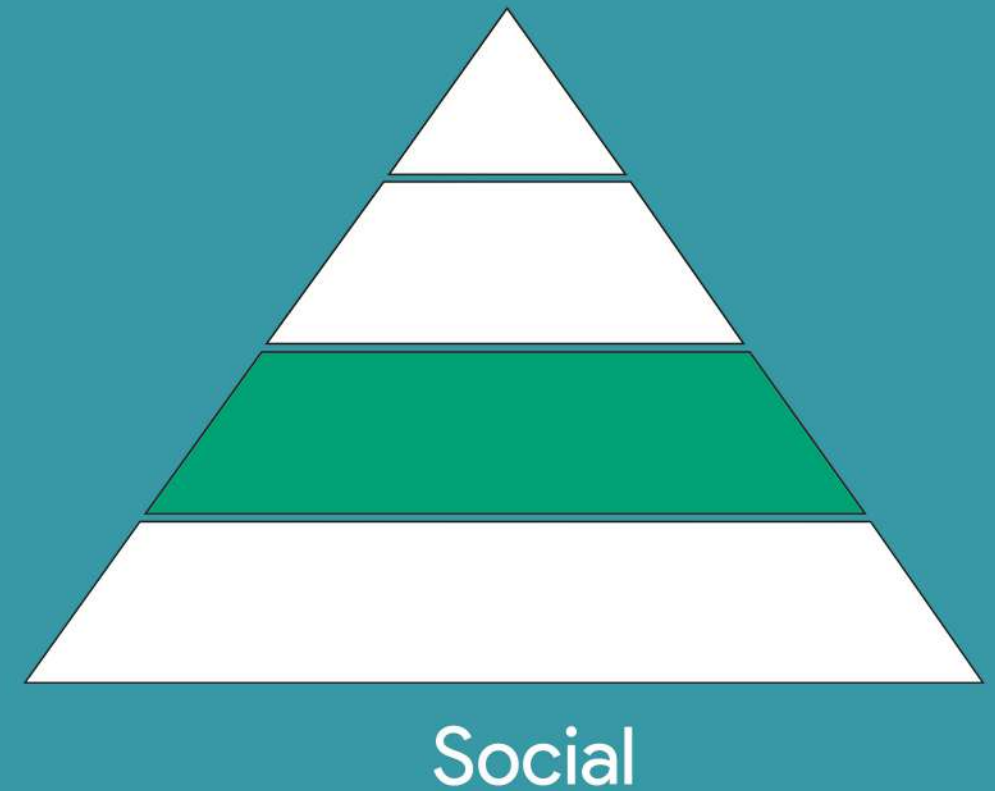
Technological



Social

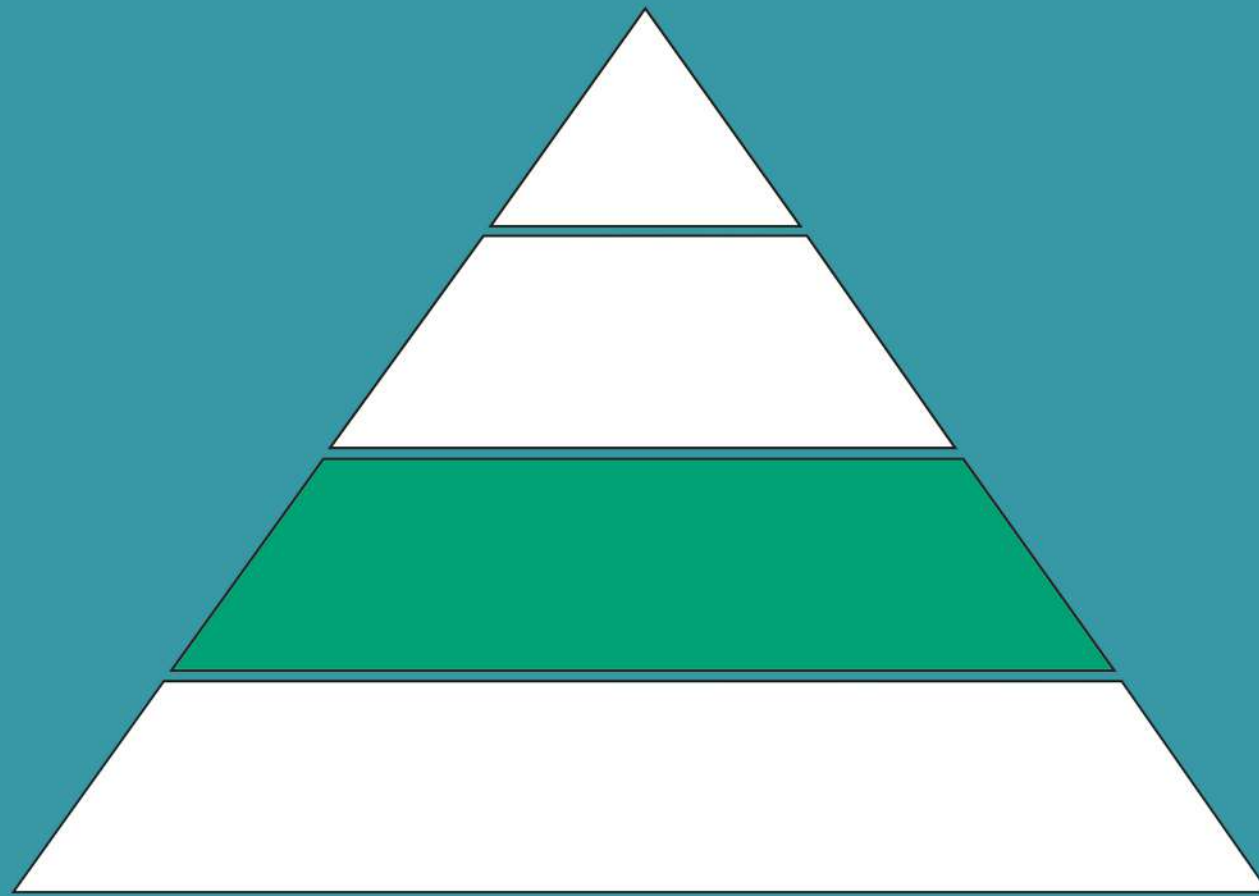
Maxi Trends (5-10 years)

- Mobile phones

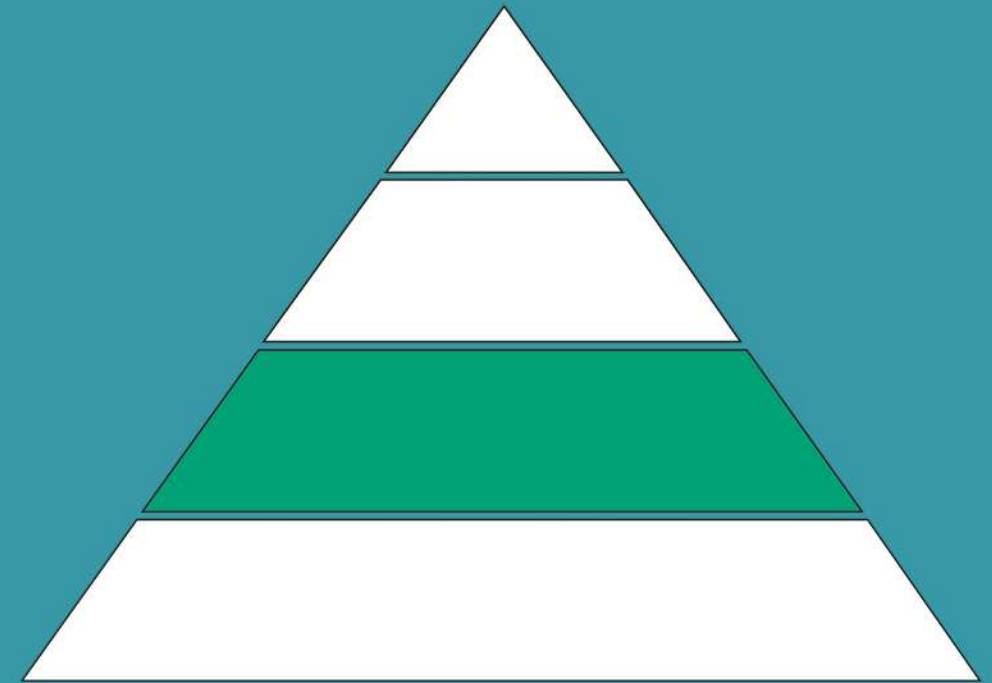


Maxi Trends (5-10 years)

- Pulsar bikes



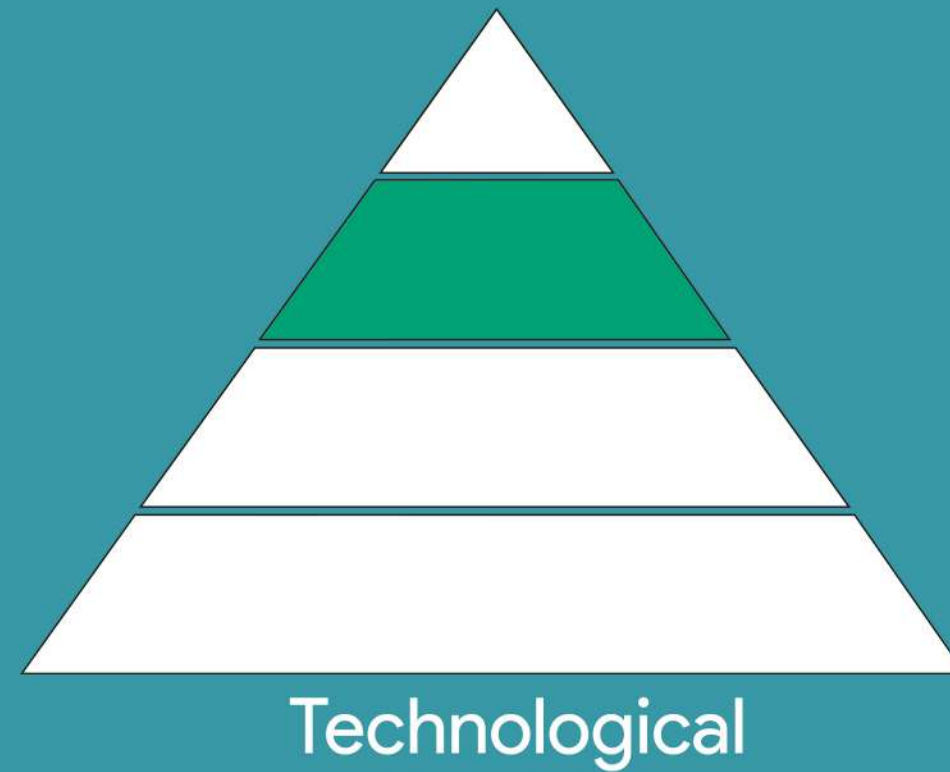
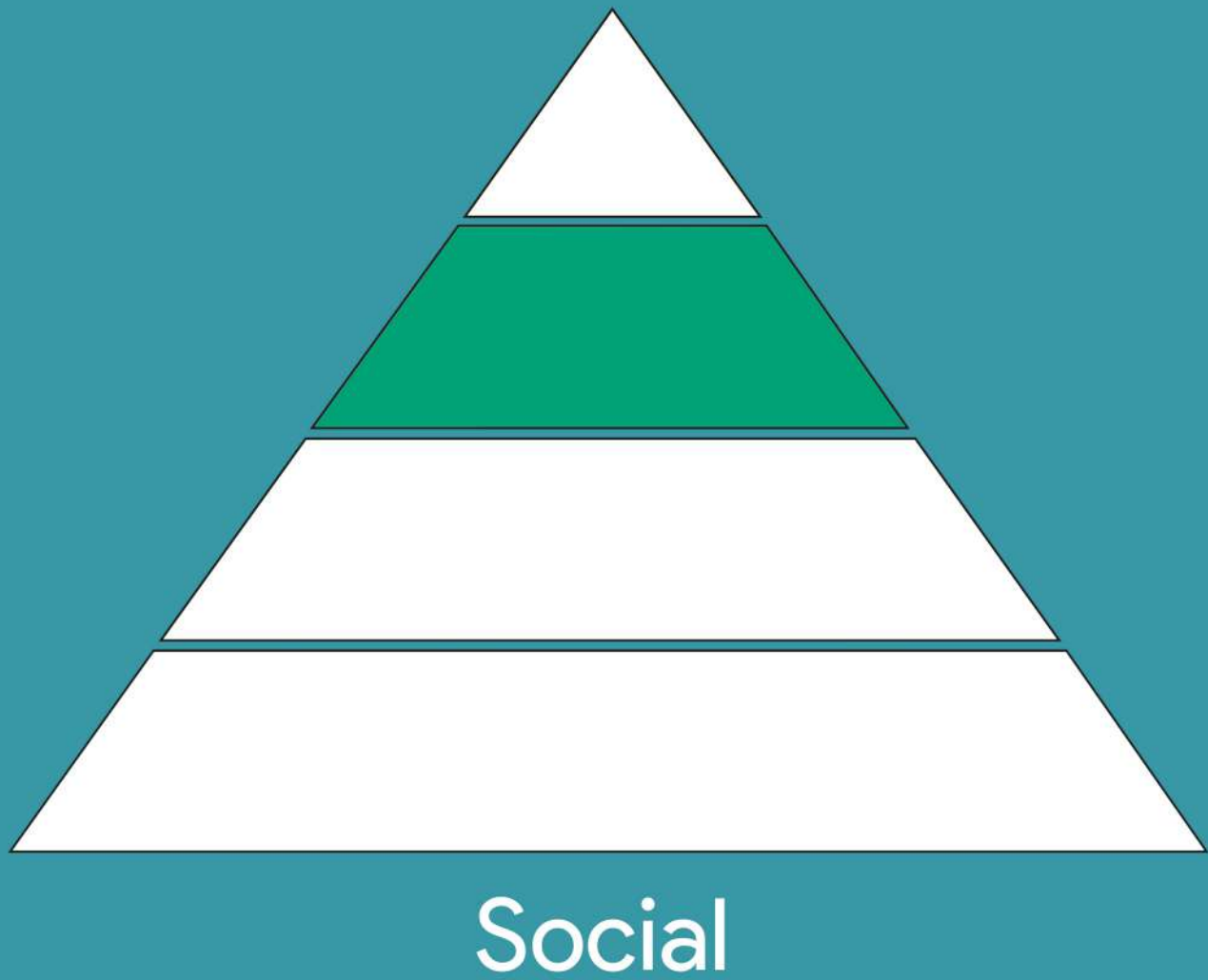
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Demographic

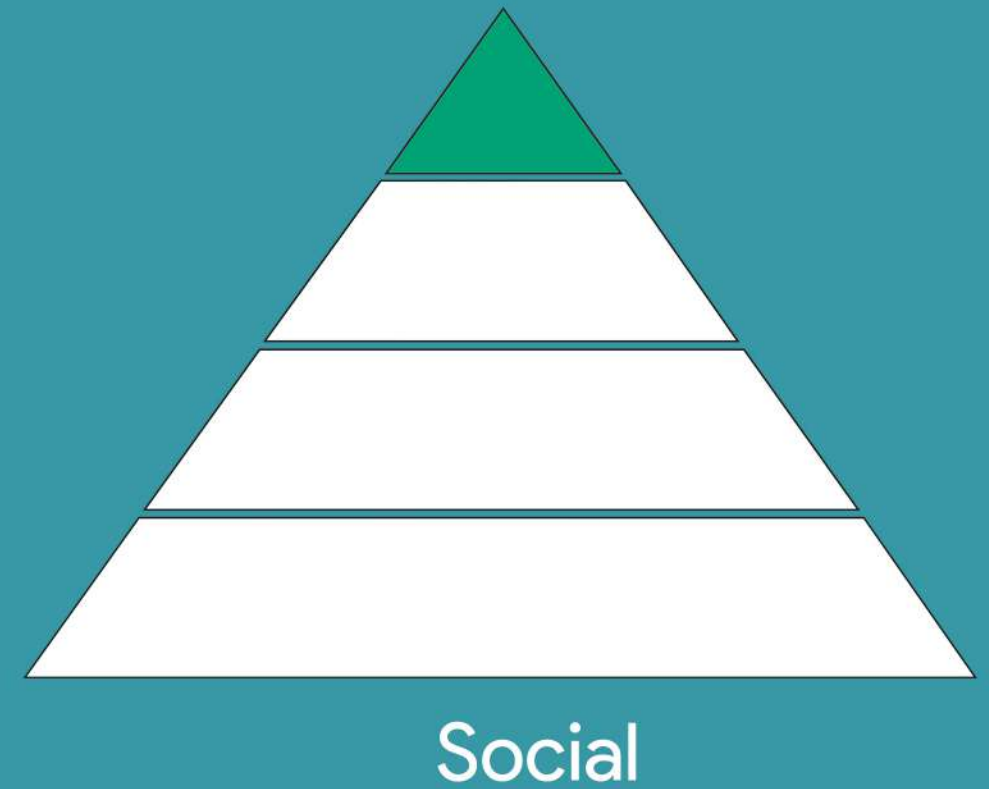
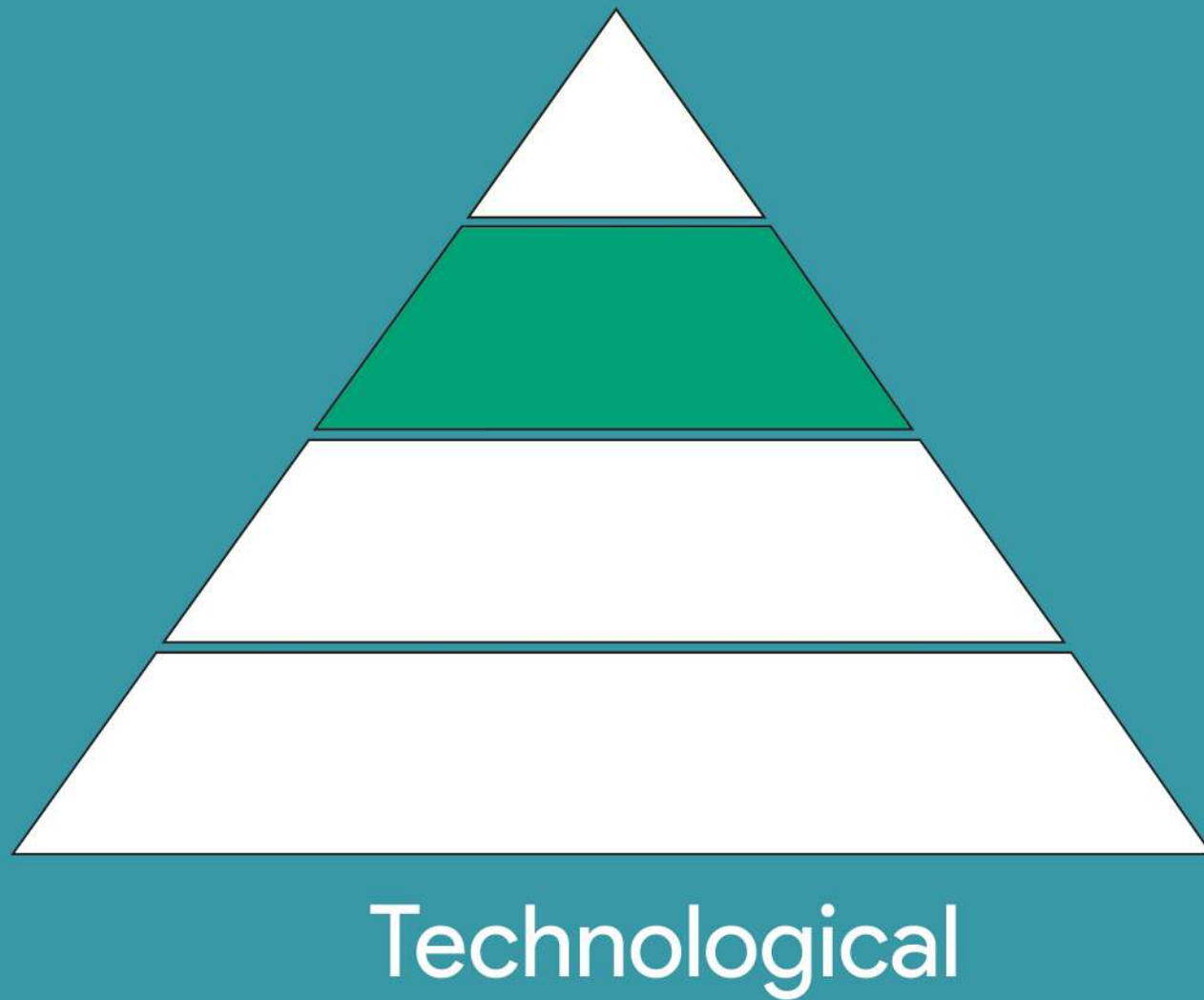
Mid Trends (1-5 years)

- Emojis



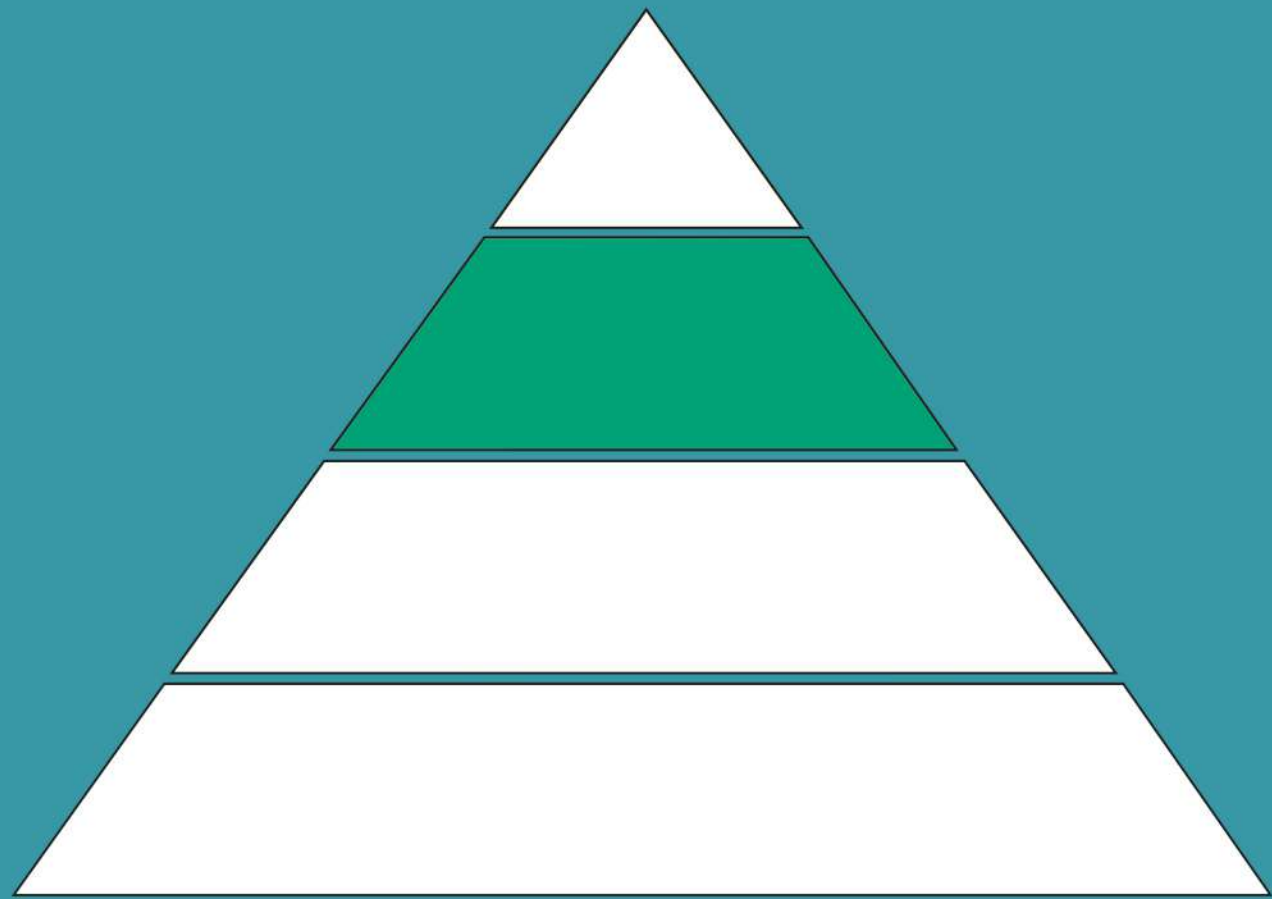
Mid Trends (1-5 years)

- Finger print scanner on phones

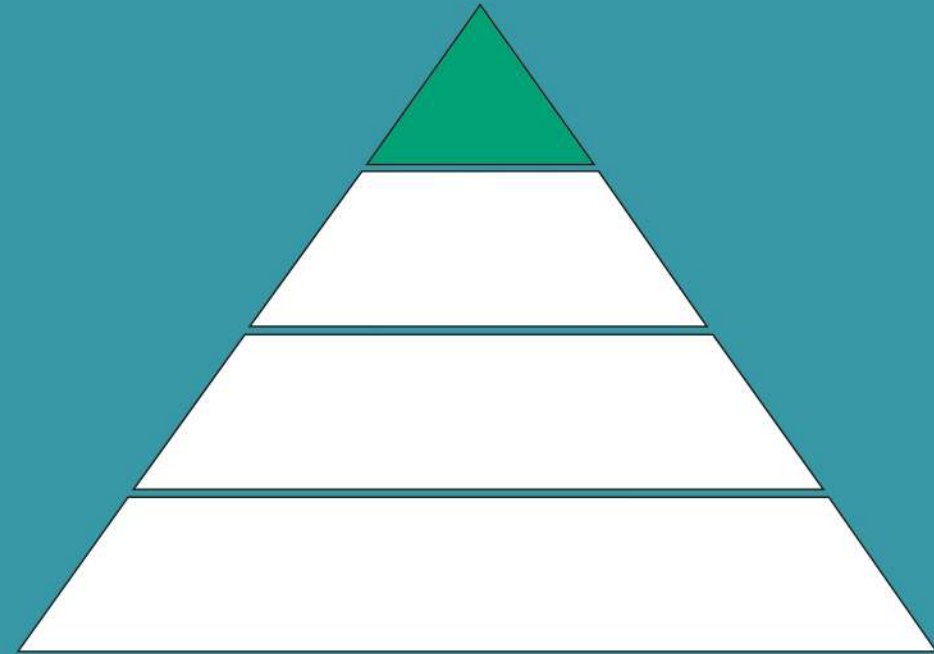


Mid Trends (1-5 years)

- Fitness trackers and watches



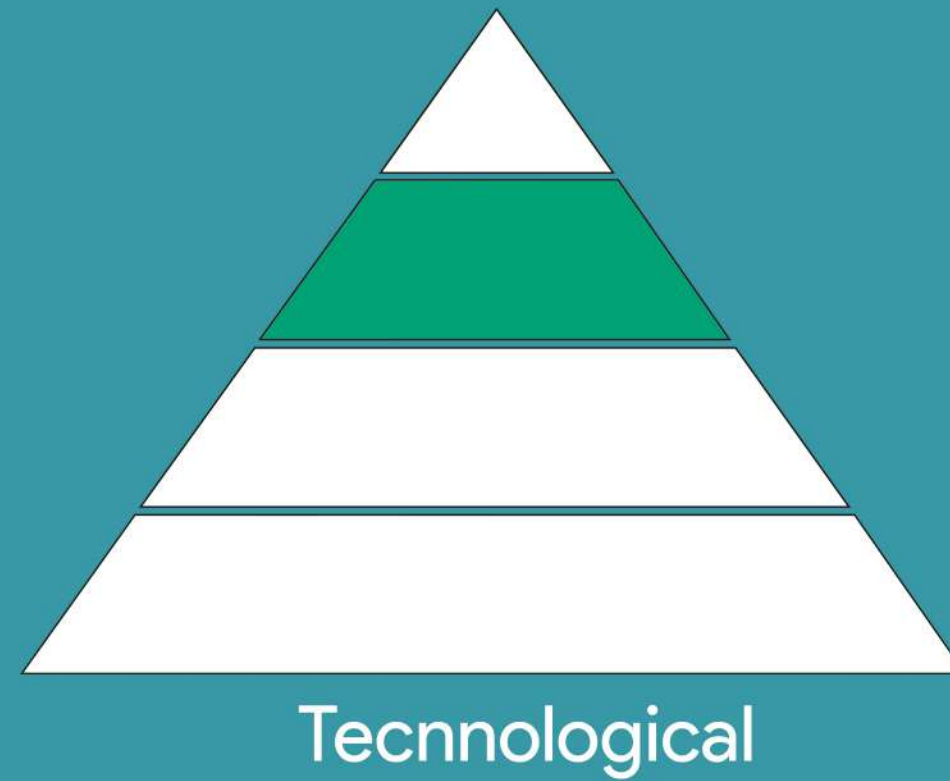
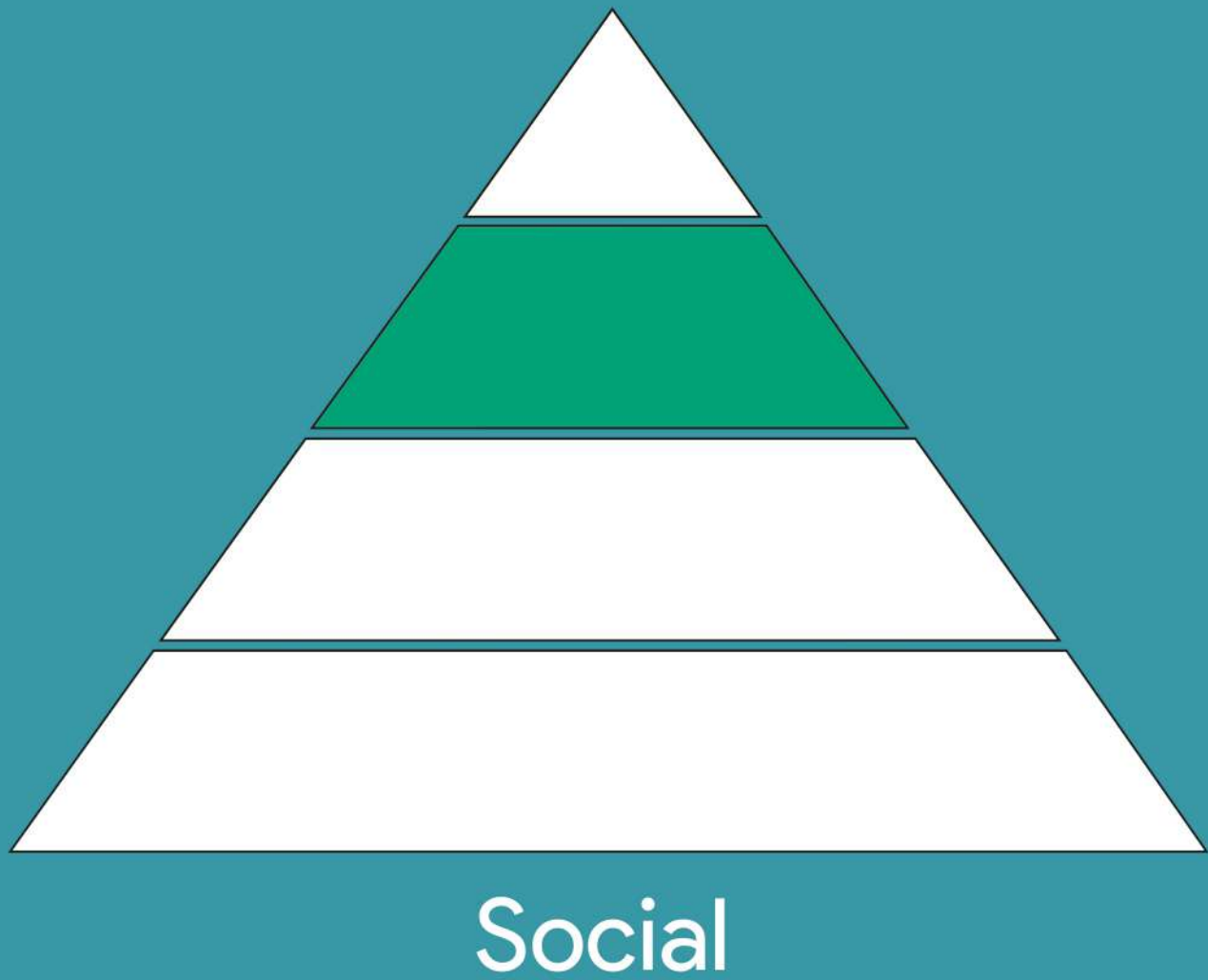
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Social

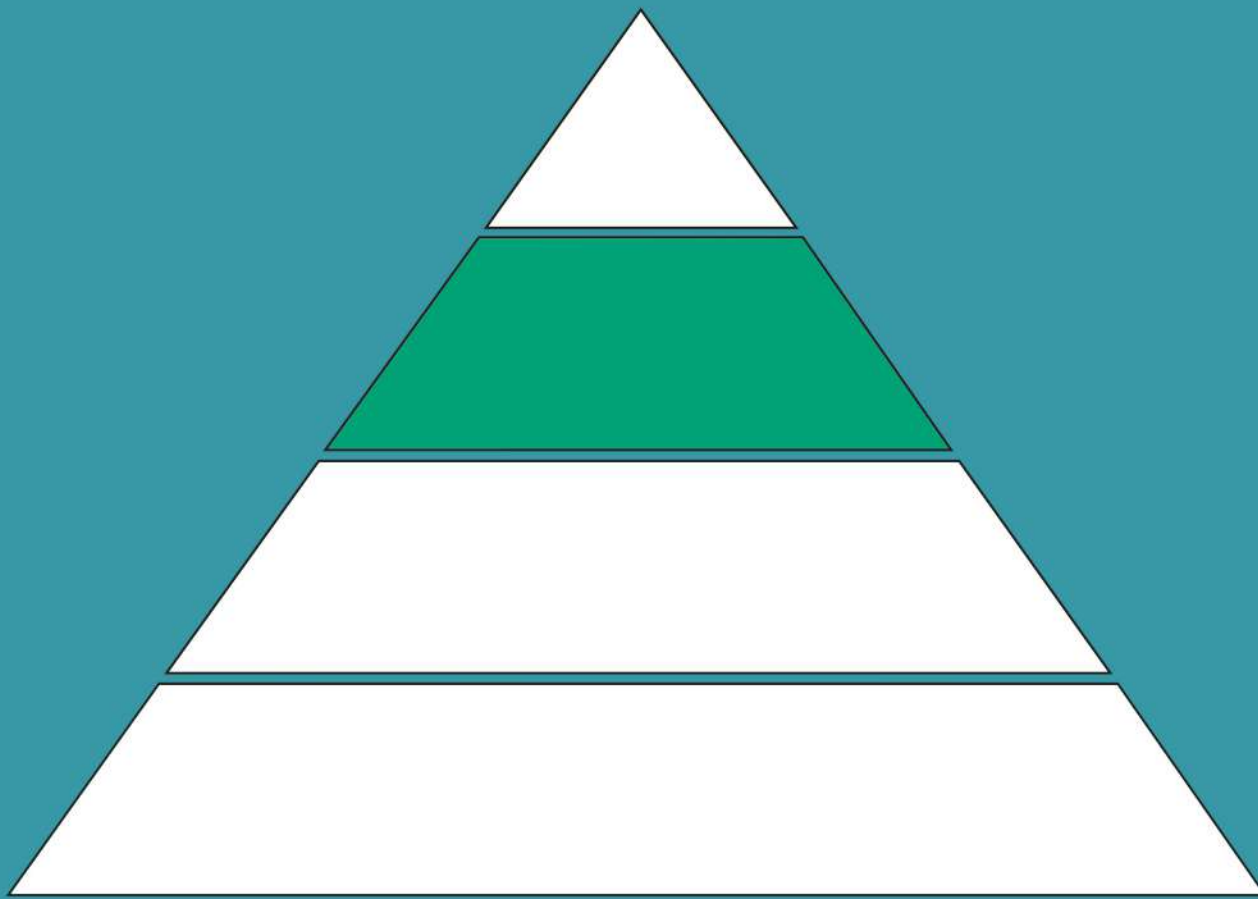
Mid Trends (1-5 years)

- Snapchat

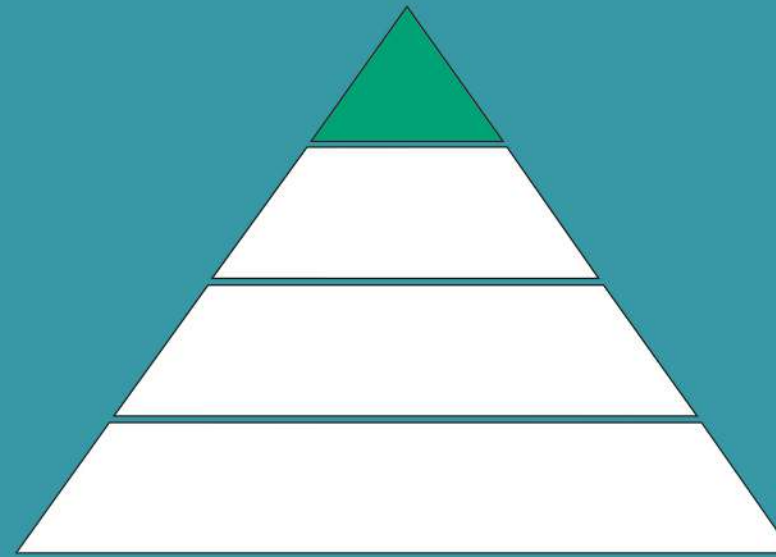


Mid Trends (1-5 years)

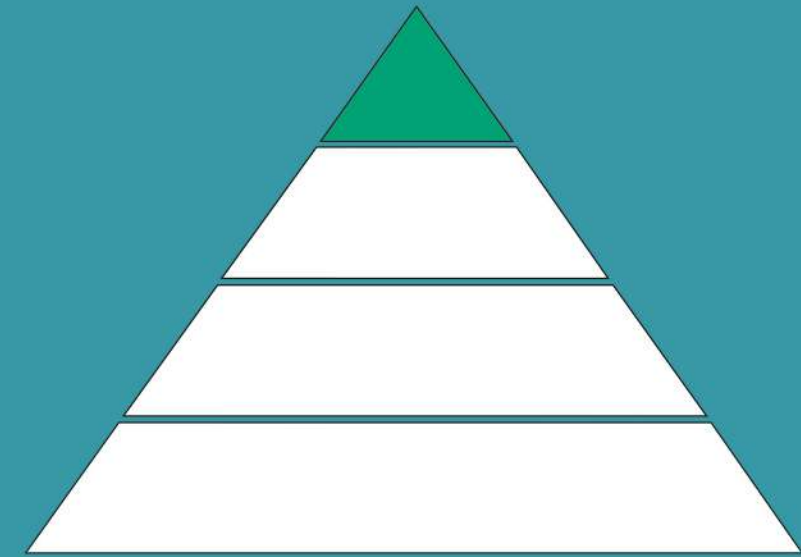
- Uber



Technological



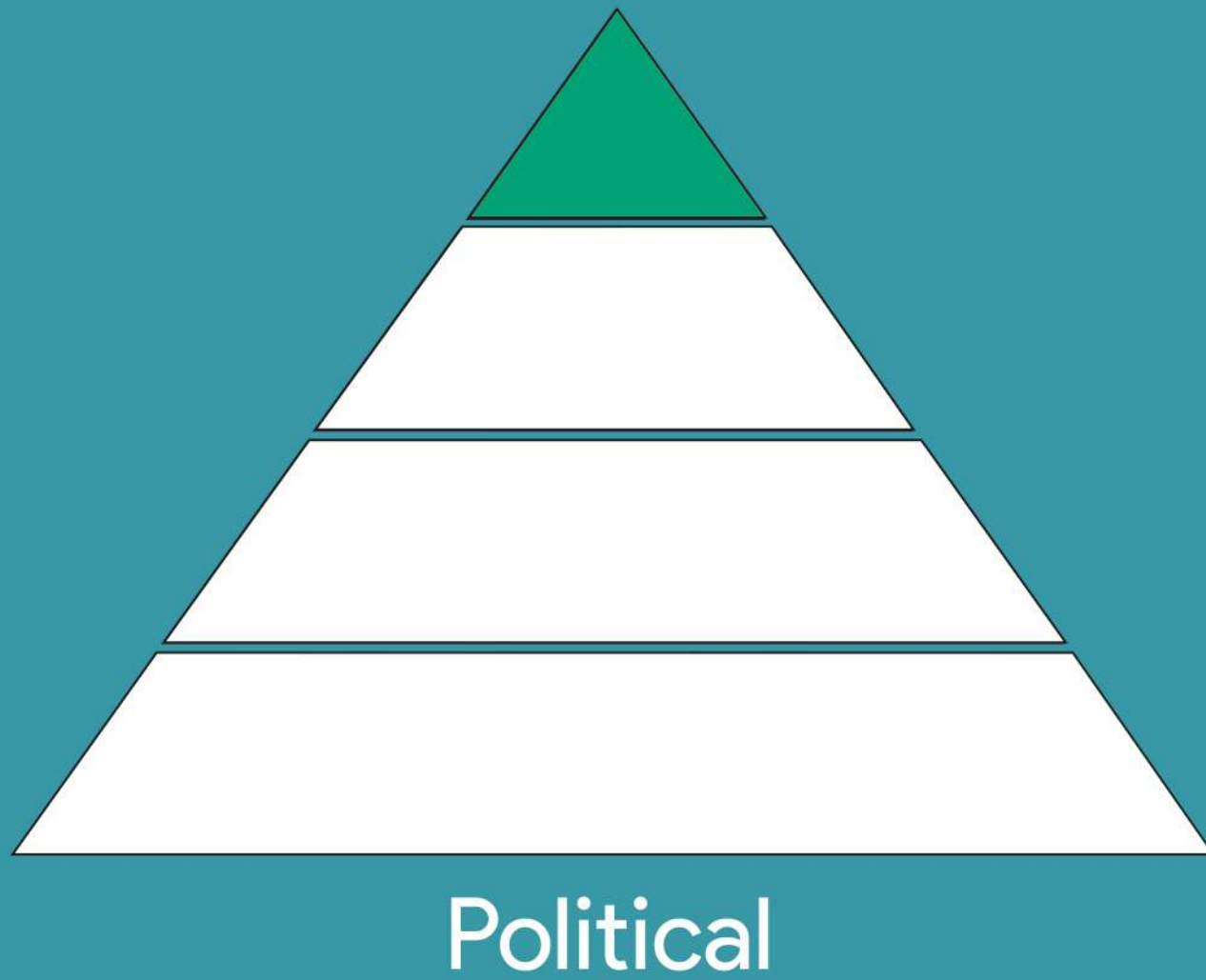
Social



Economic

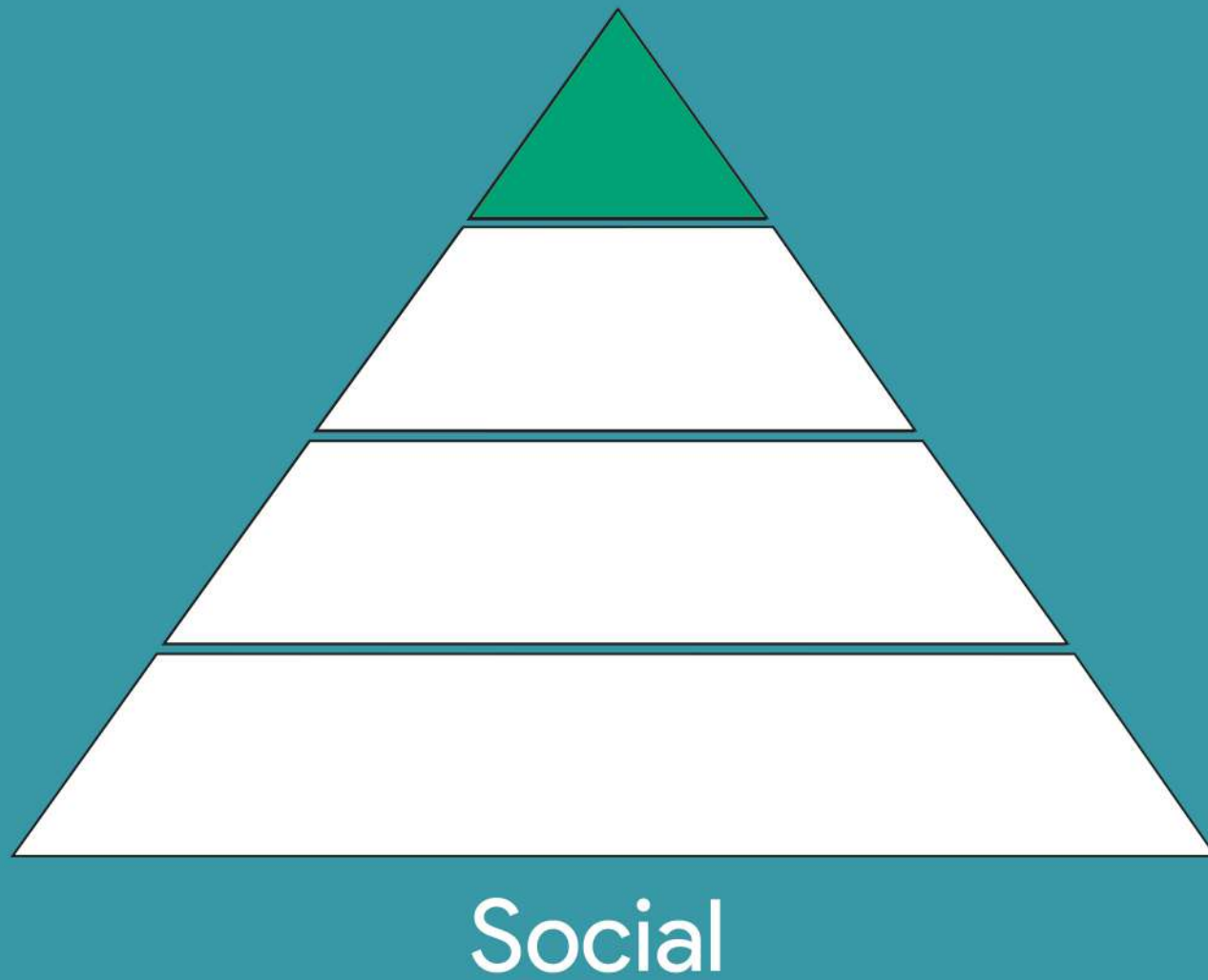
Micro Trends (1 year)

- AAP



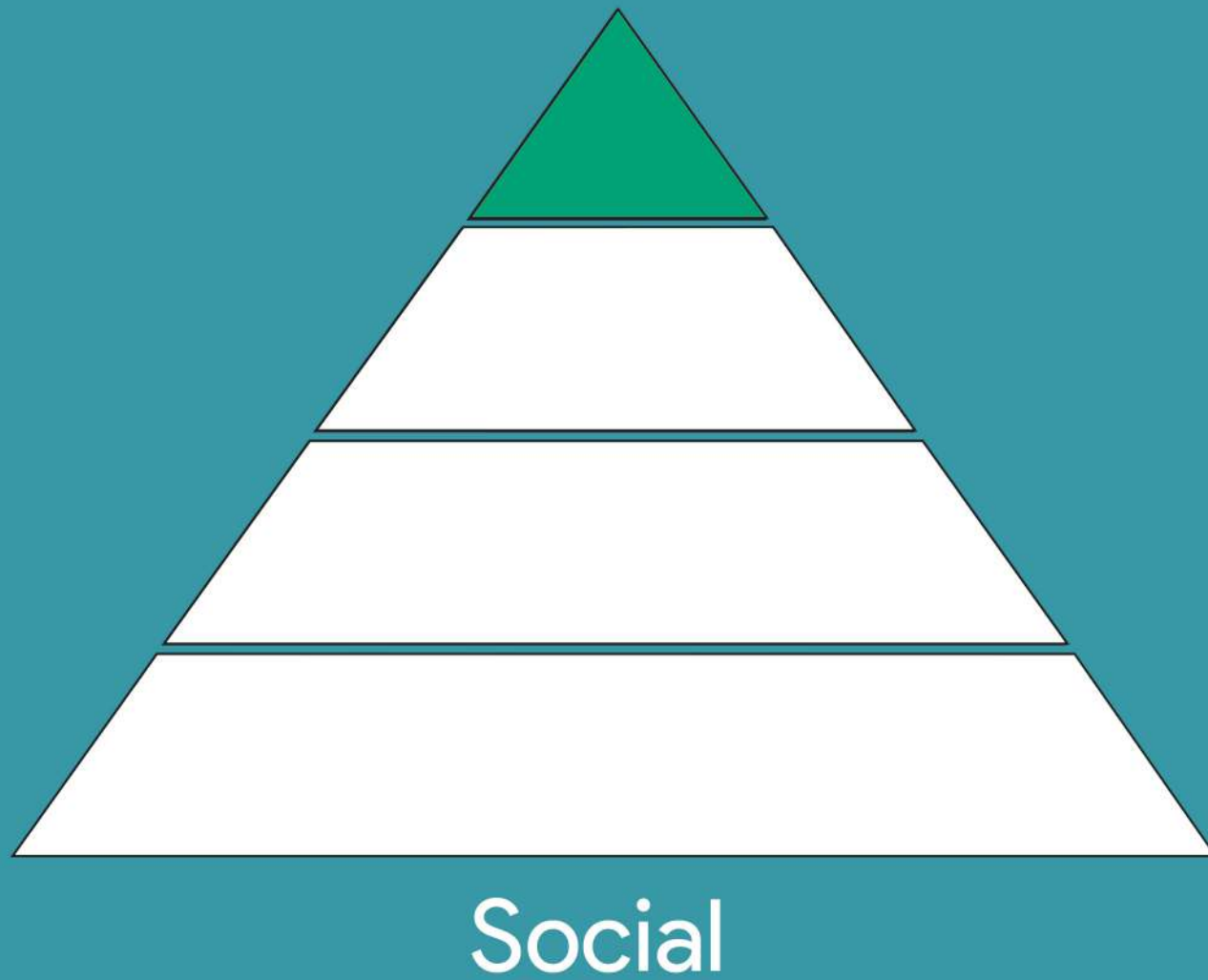
Micro Trends (1 year)

- Bottle-flip Challenge



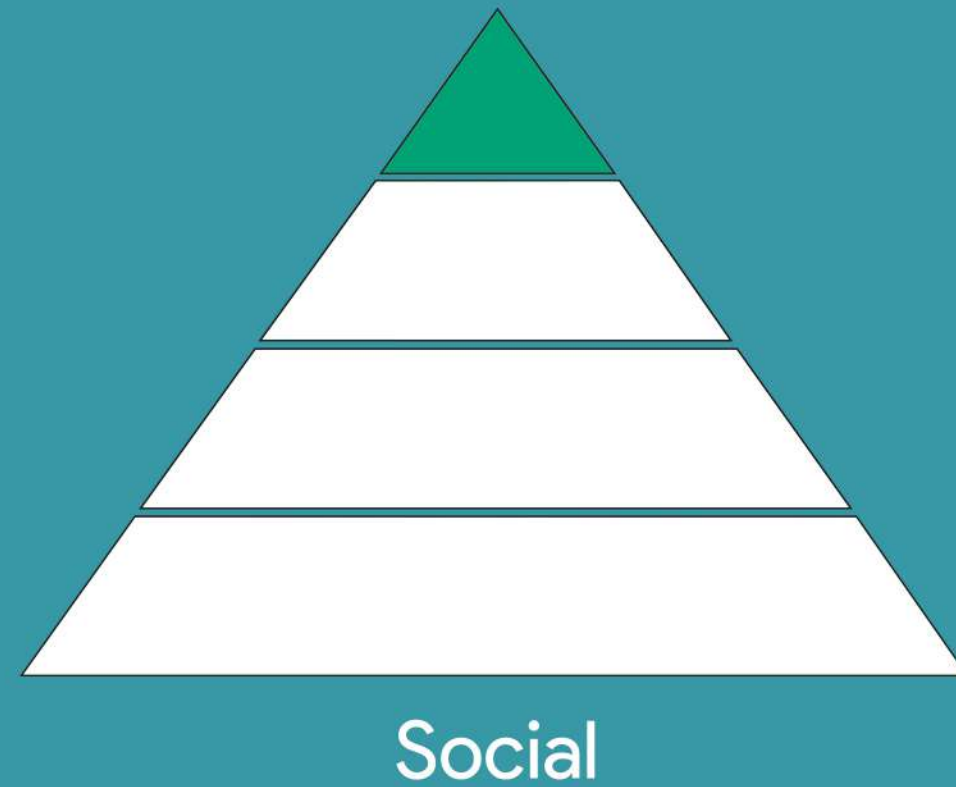
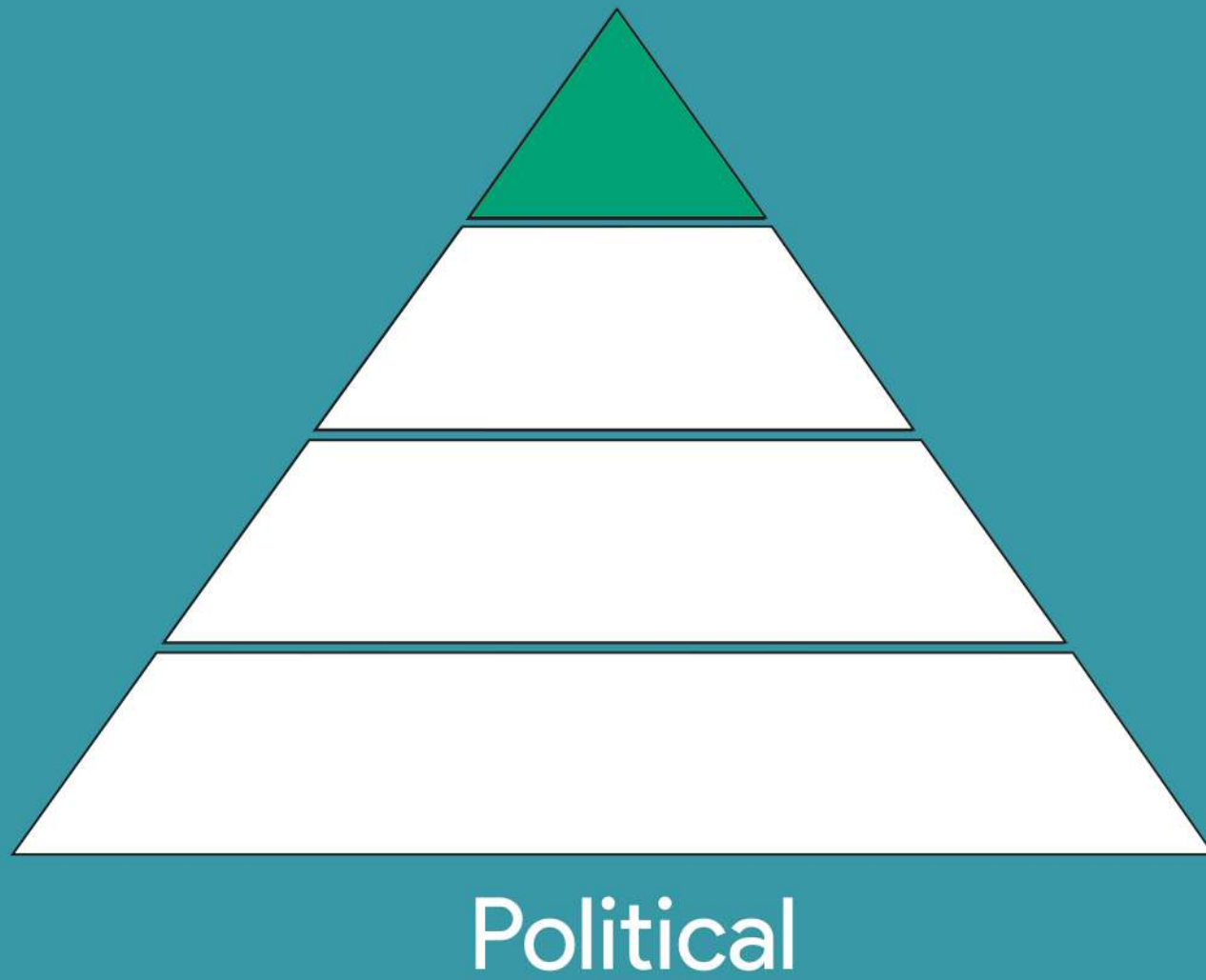
Micro Trends (1 year)

- Fidget Spinner



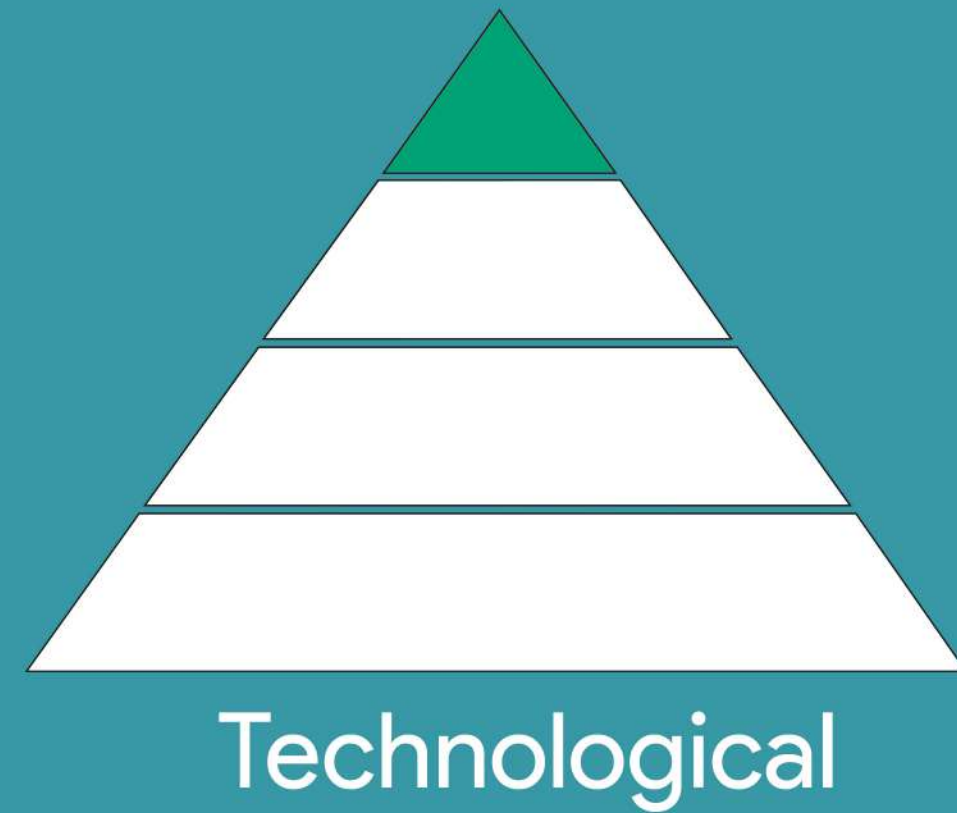
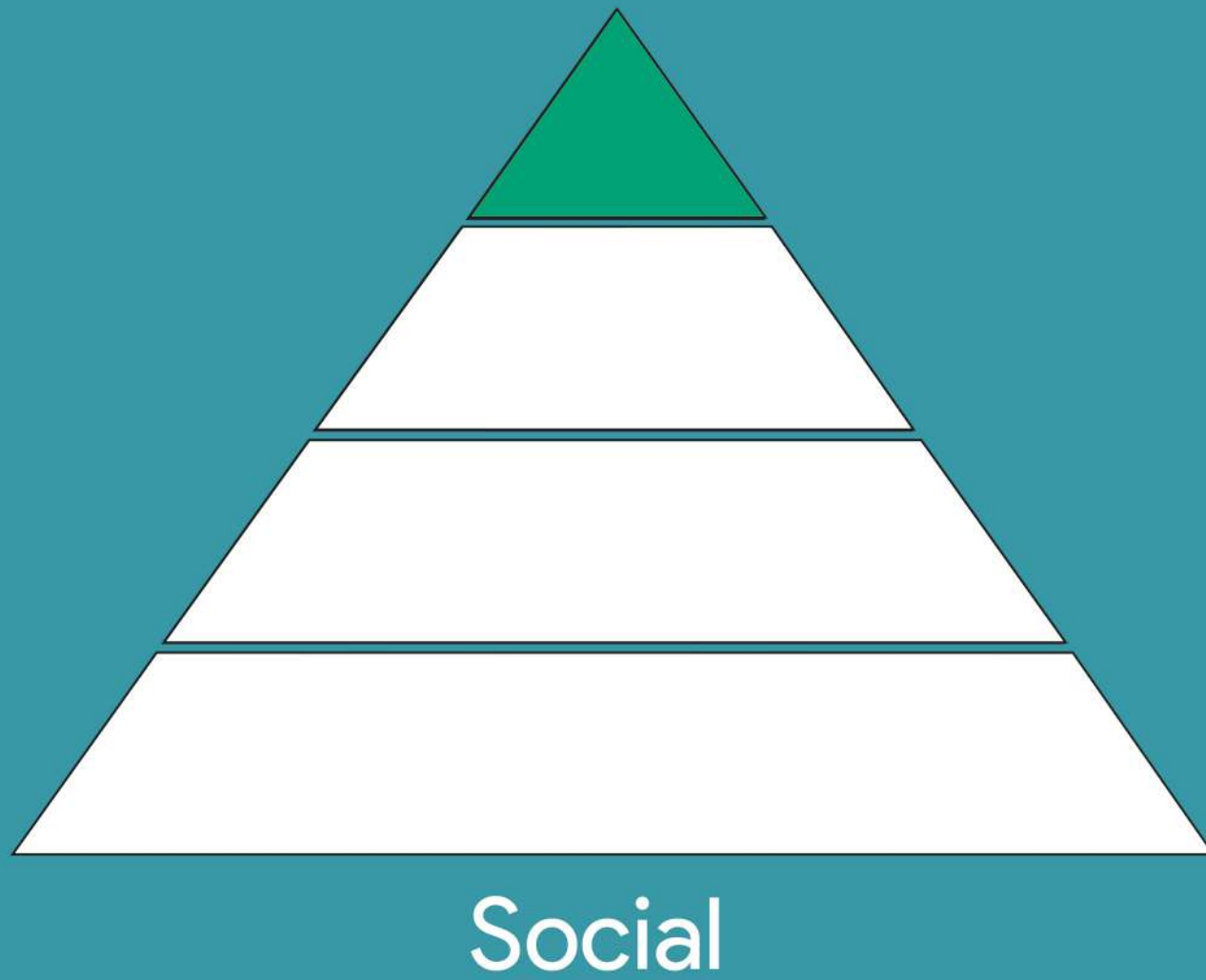
Micro Trends (1 year)

- Trump vs Hilary



Micro Trends (1 year)

- Vine



What is in the stores

MARKET RESEARCH

CELLO TRACK SPORTS BOTTLE

- **Capacity:** 700ml
- **Dimensions:** Height 22cm, Diameter 7.4cm
- **Weight:** 109g
- **Material Details:** BPA-free, Polycarbonate plastic body, Polypropylene cap
- **Features:** Food grade, claims to be unbreakable, freezer-safe, suitable for hot and cold beverages, spill-proof silicone seal, has carrying strap
- **Cost:** Rs. 370



B-TWIN CYCLING WATER BOTTLE

- **Capacity:** 600ml
- **Dimensions:** Height 20cm, Diameter 7.8cm
- **Weight:** 95g
- **Material Details:** Polypropylene body and cap, polyethylene teat, silicone rim
- **Features:** Food grade, soft nozzle for drinking, no taste or odour, screw top with seal ensures it is spill-proof
- **Cost:** Rs. 499



B-TWIN ISOTHERMAL SIPPER WATER BOTTLE

- **Capacity:** 500ml
- **Dimensions:** Height 25cm, Diameter 6cm
- **Weight:** 90g
- **Material Details:** 66% Polyethylene and 34% Low Density Polyethylene body, Polypropylene cap, Polyethylene foam, Thermoplastic Polyethylene teat
- **Features:** Isothermal bottle keeps liquid hot or cold for longer, good handling and cap that's easy to open and close
- **Cost:** Rs. 599



QUECHUA QUICK OPEN WATER BOTTLE

- **Capacity:** 500ml
- **Dimensions:** Height 19cm, Diameter 7cm
- **Weight:** 82g
- **Material Details:** Tritan body, 55% Polypropylene and 45% Styrene Ethylene Butadiene Styrene cap
- **Features:** Food grade, break-resistant, odour-free, wide mouth, carry handle, can be used for hot and cold drinks, water-level indicator
- **Cost:** Rs. 299



QUECHUA ALUMINIUM BOTTLE

- **Capacity:** 750ml
- **Dimensions:** Height 23.6cm, Diameter 8cm
- **Weight:** 140g
- **Material Details:** Aluminium body, 80% Polypropylene and 20% Styrene Ethylene Butadiene Styrene cap, Polyamide coating
- **Features:** Food grade, sturdy and lightweight, odour-free, cap with hook
- **Cost:** Rs. 699



MOOD BOARD



OSBORN'S CHECKLIST



Put to
other uses

Storage

Grip, sipper - Nike
Handle - Quechua

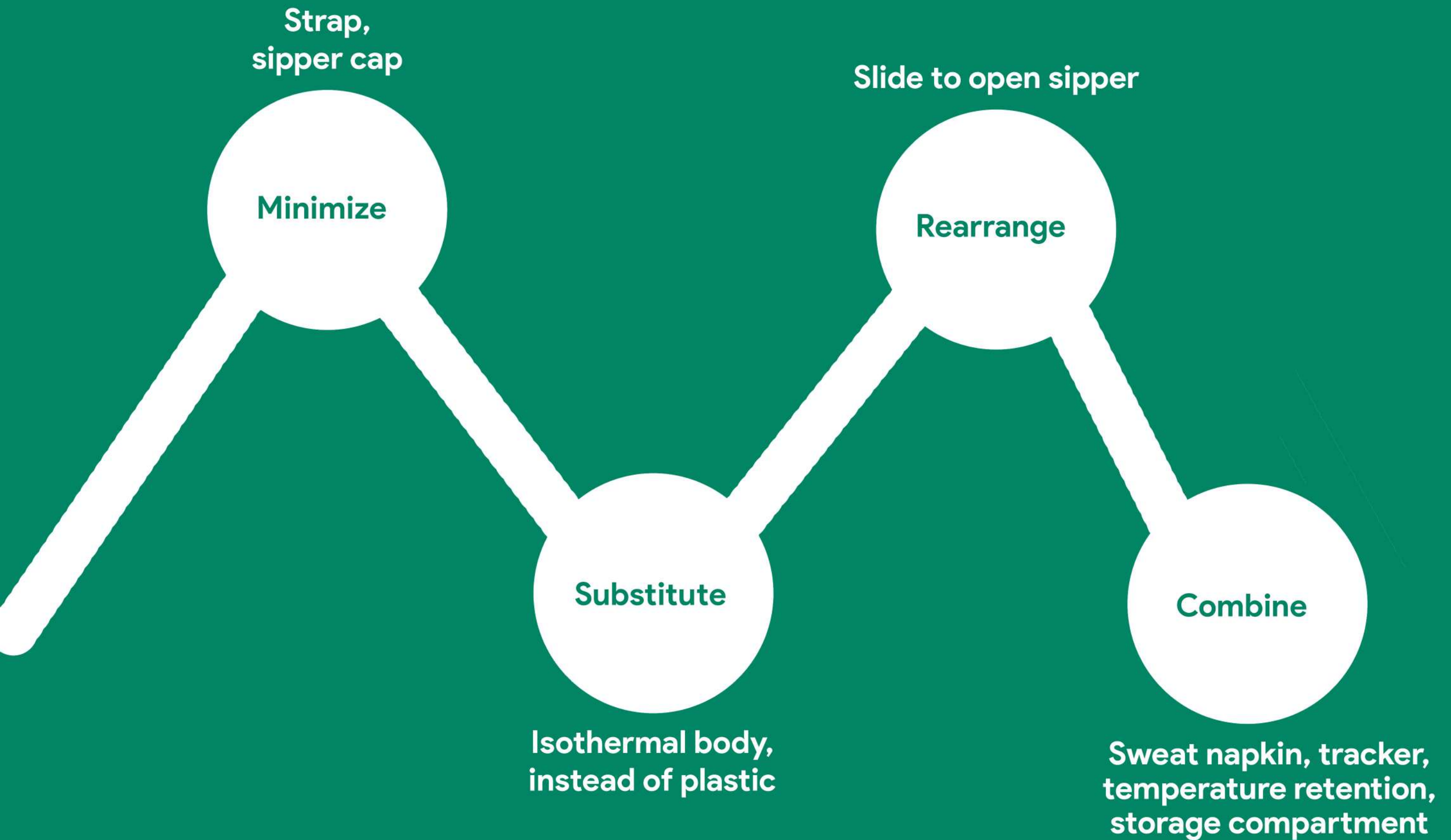
Adapt

Magnify

Storage, tracker
sweat napkin

Transparent strip,
isothermal

Modify

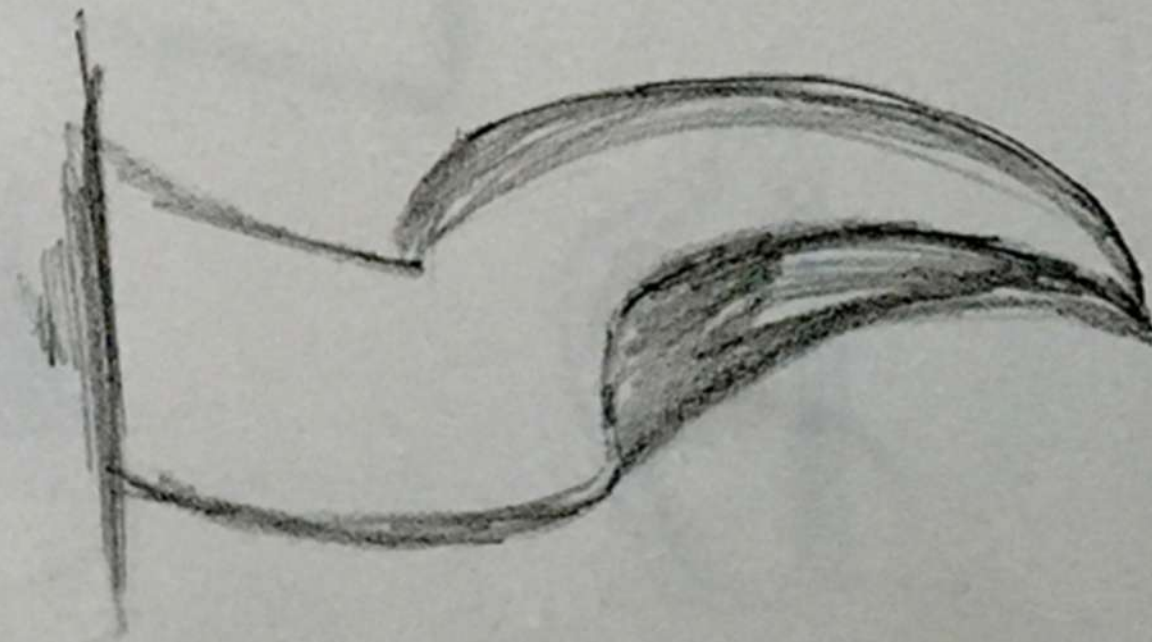
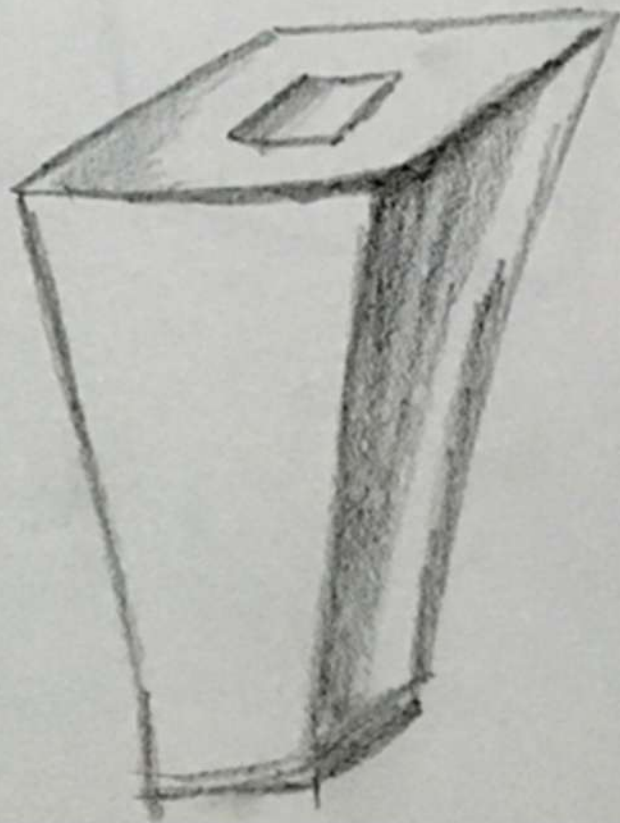
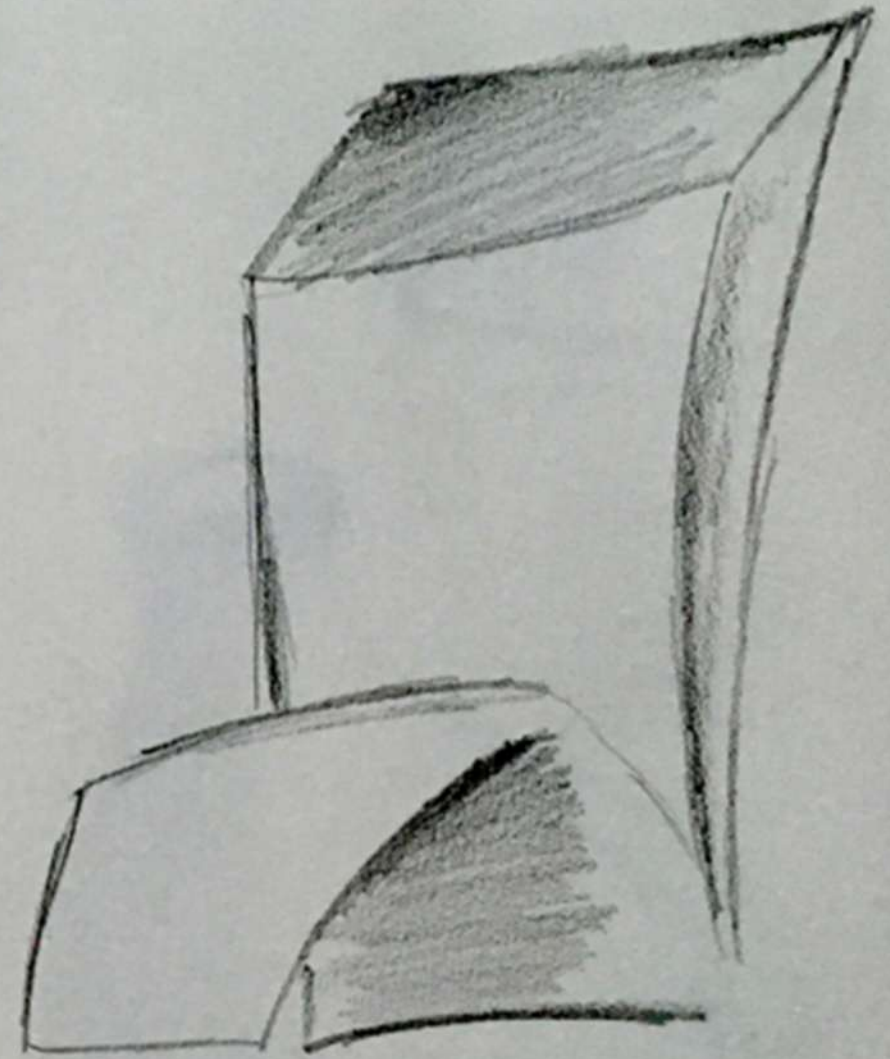


THE CHECK

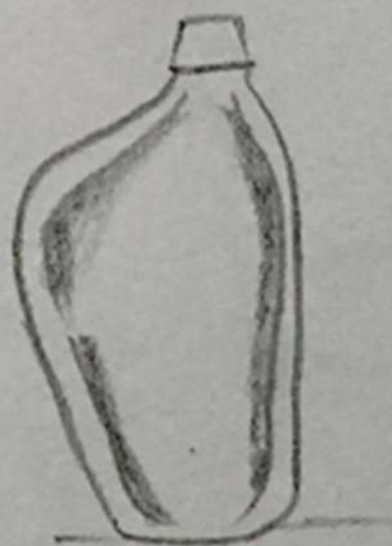
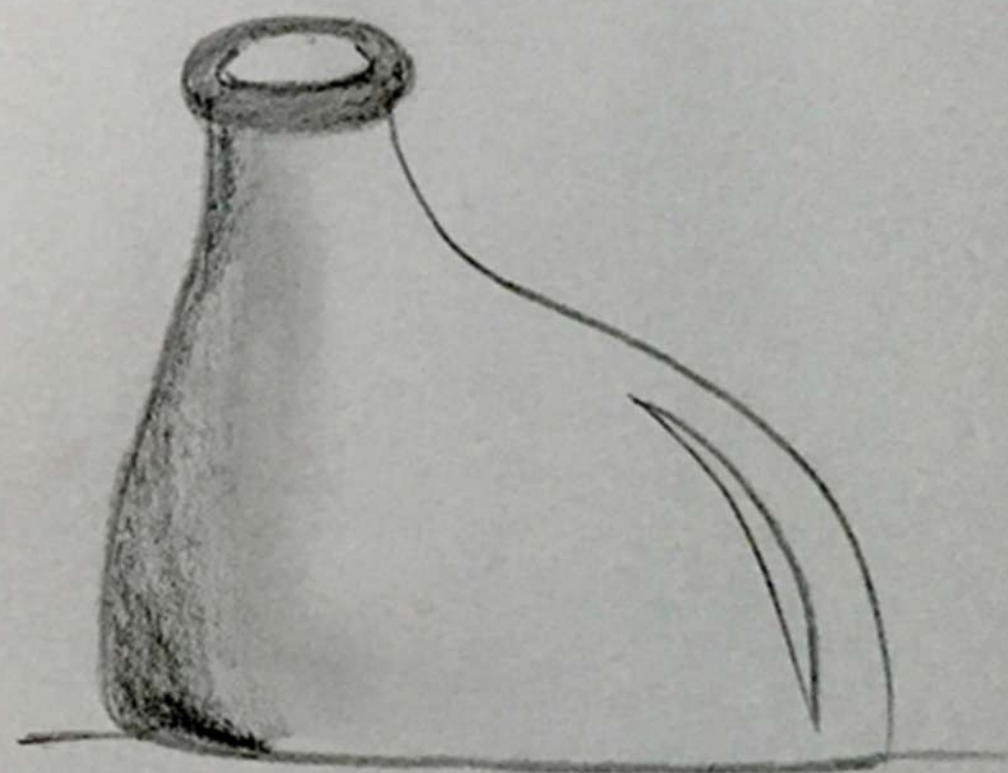
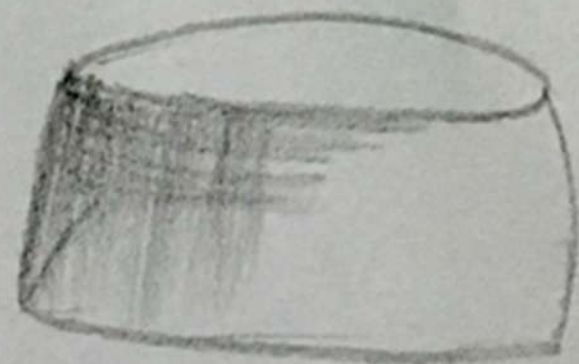
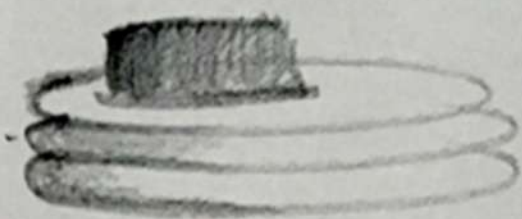
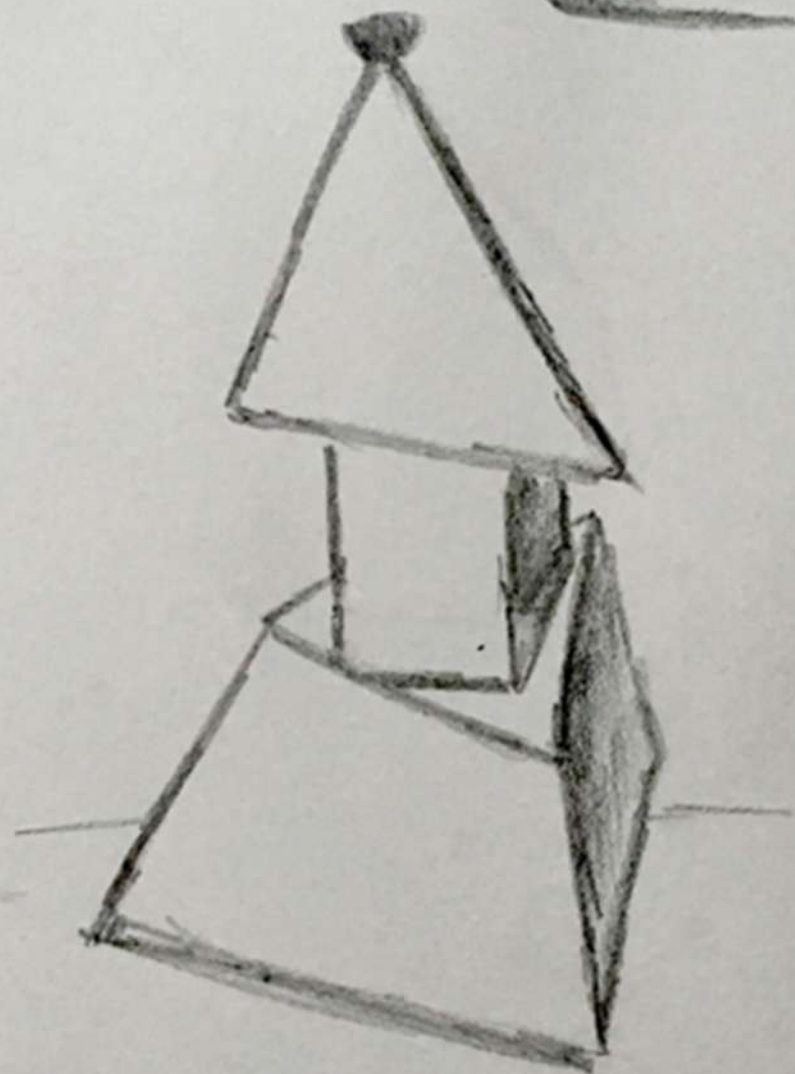
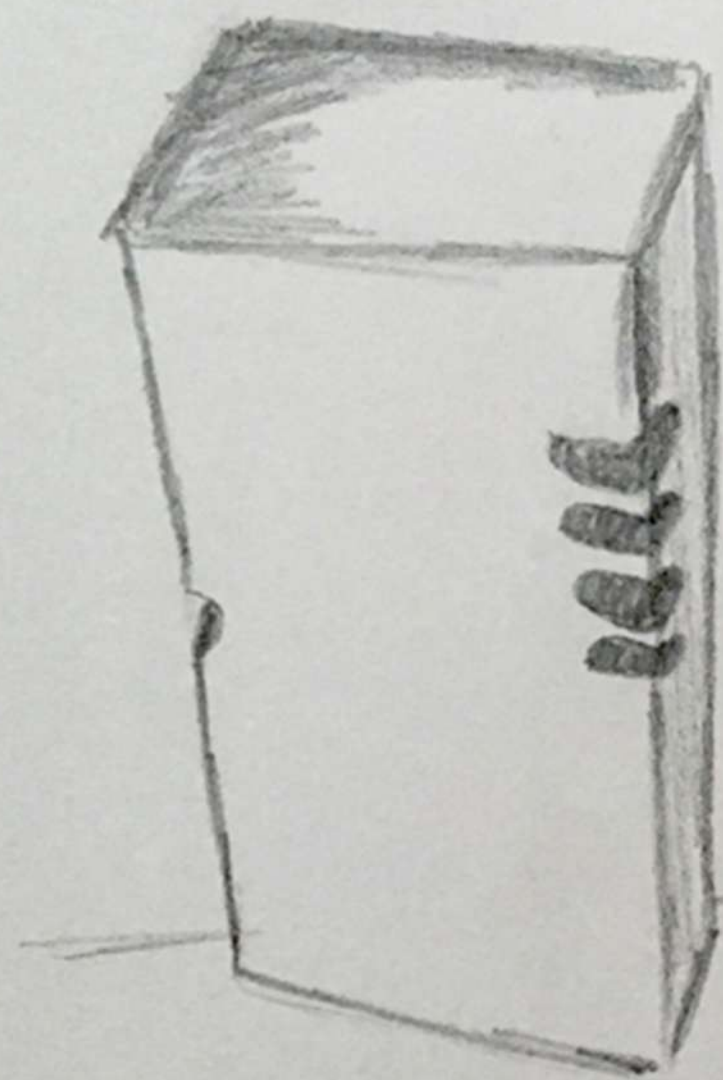
- Temperature retention
- Easy to clean
- Hard to lose
- Costs less than Rs. 900
- Firm grip
- Sporty colors and look
- Storage compartments
- Sweat napkin holder

FORM EXPLORATION

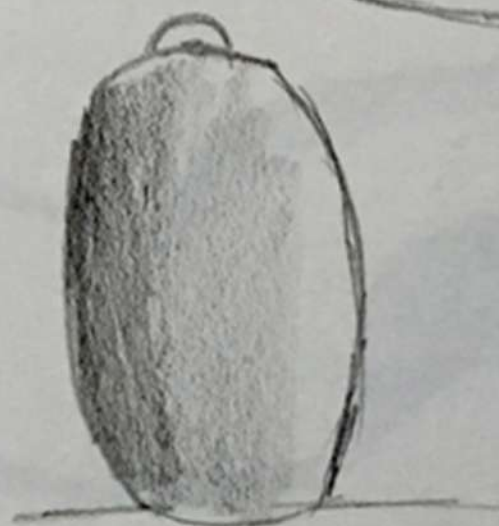
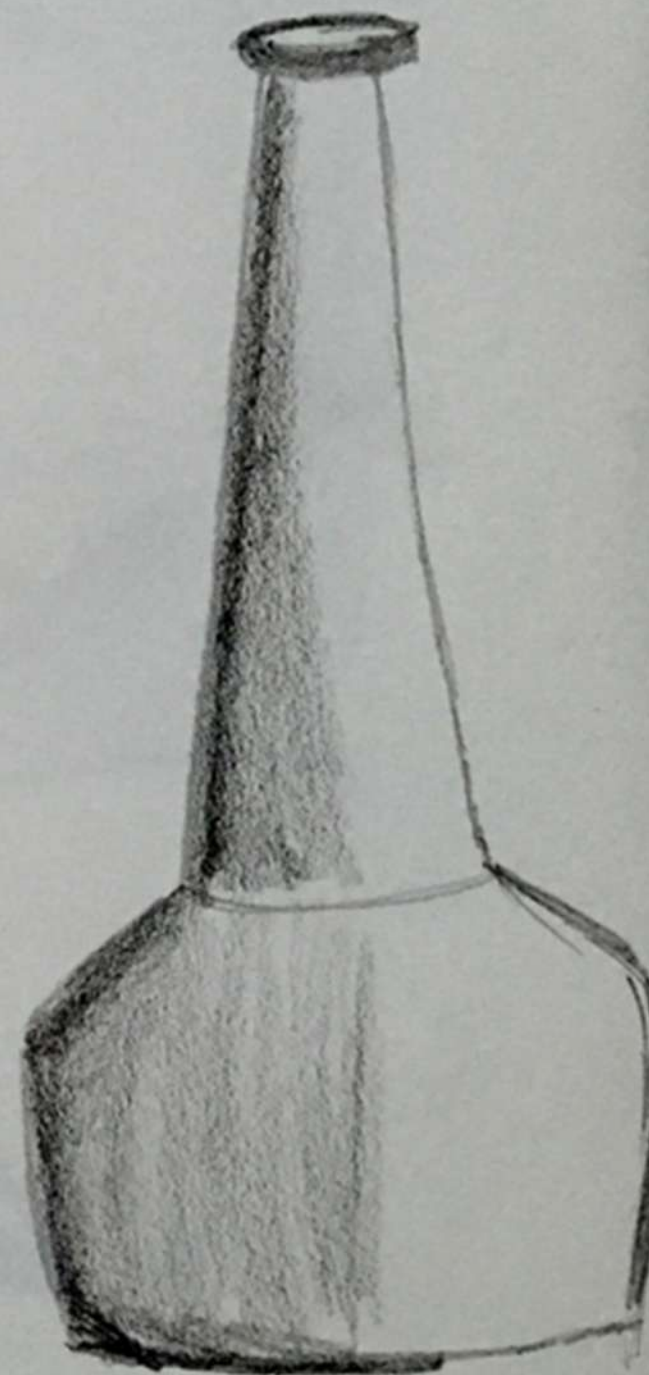
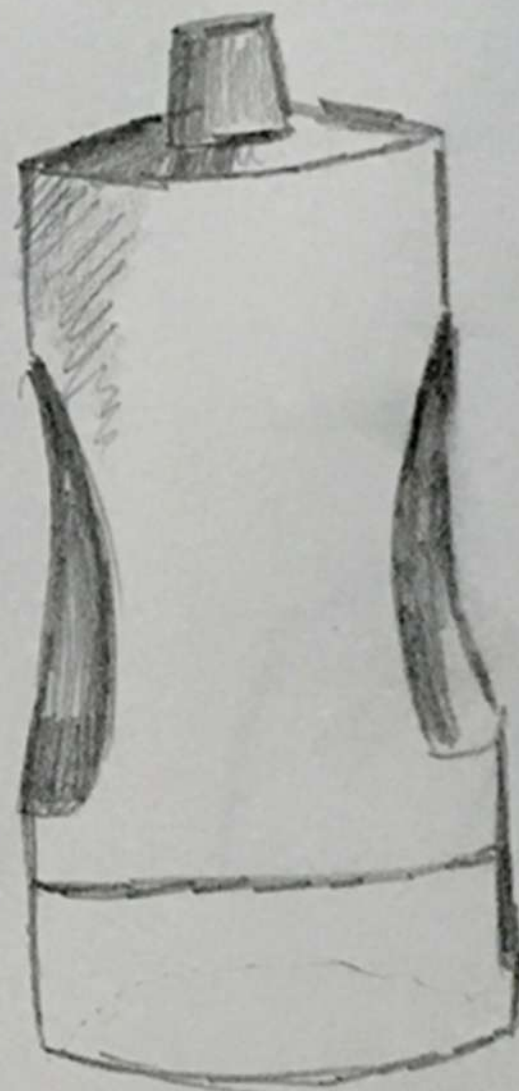
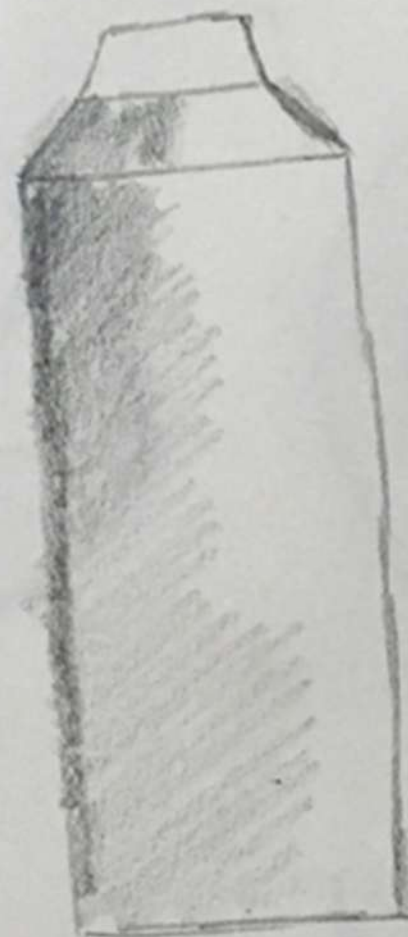
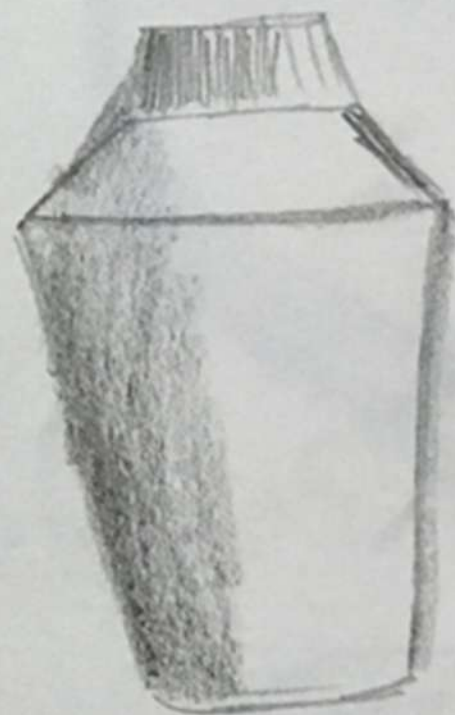
FORM EXPLORATION



FORM EXPLORATION



FORM EXPLORATION



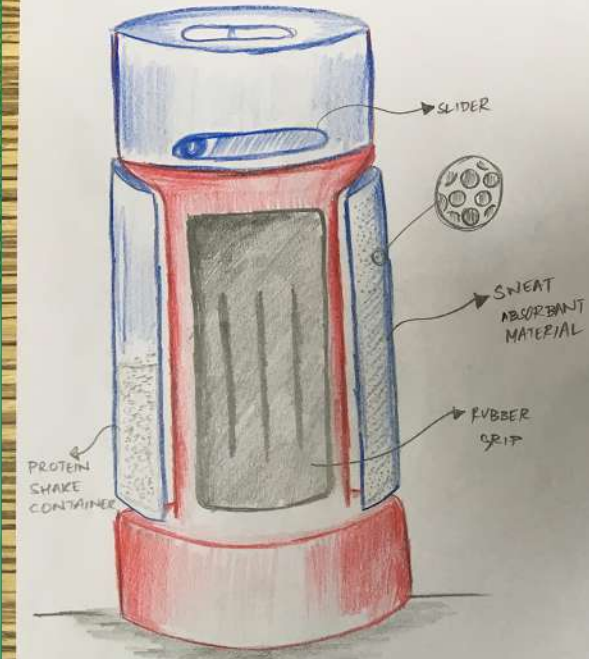
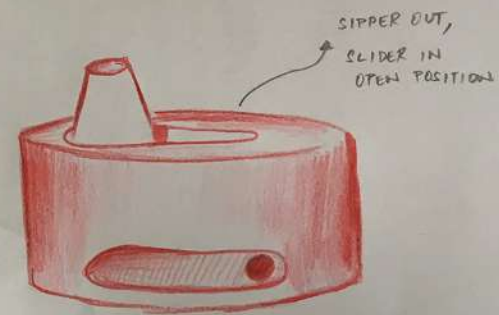
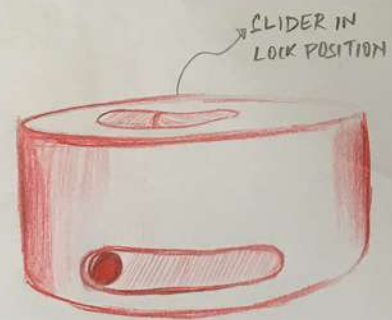
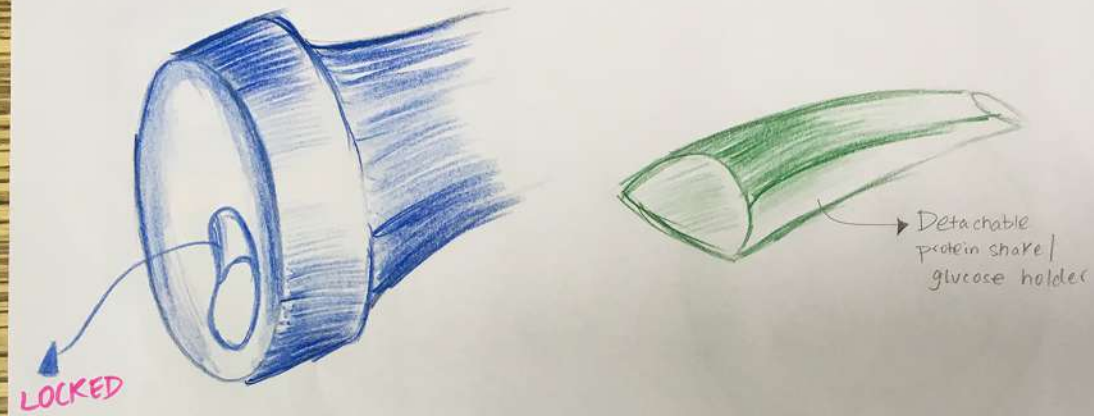




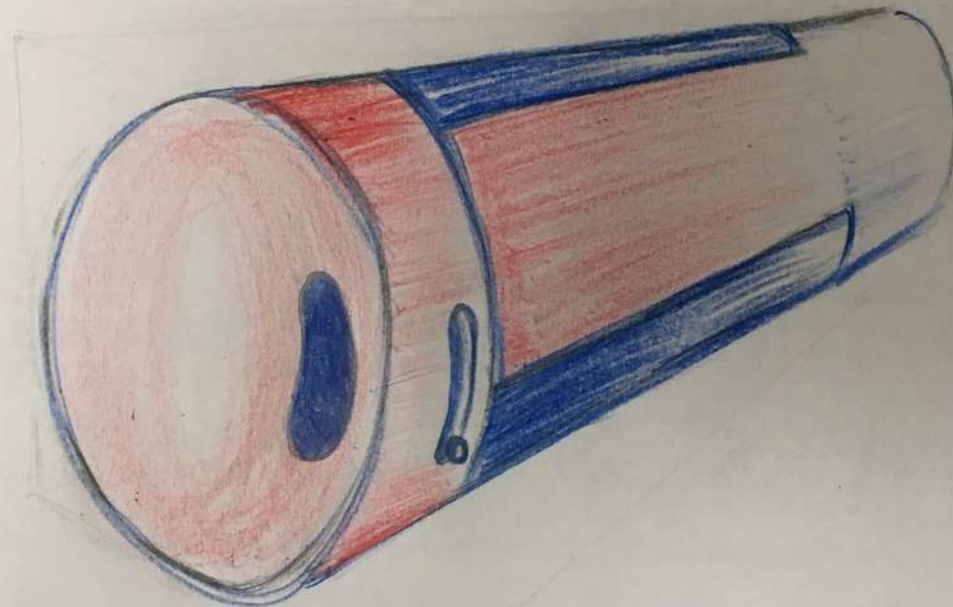
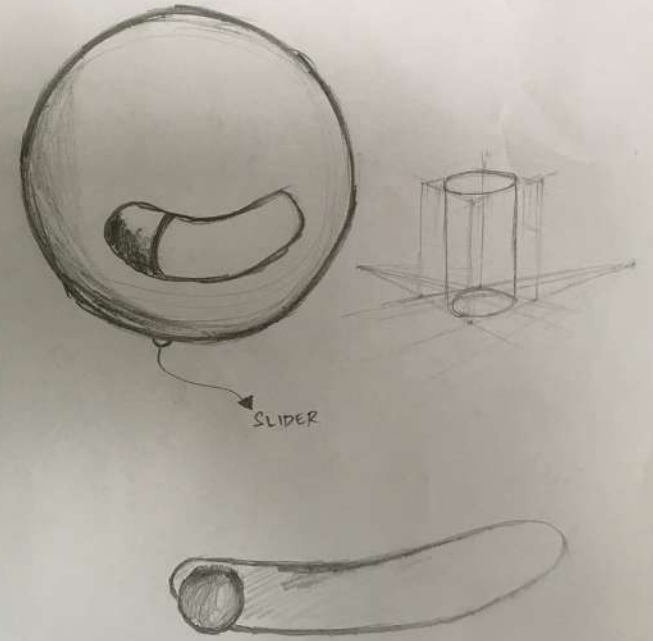


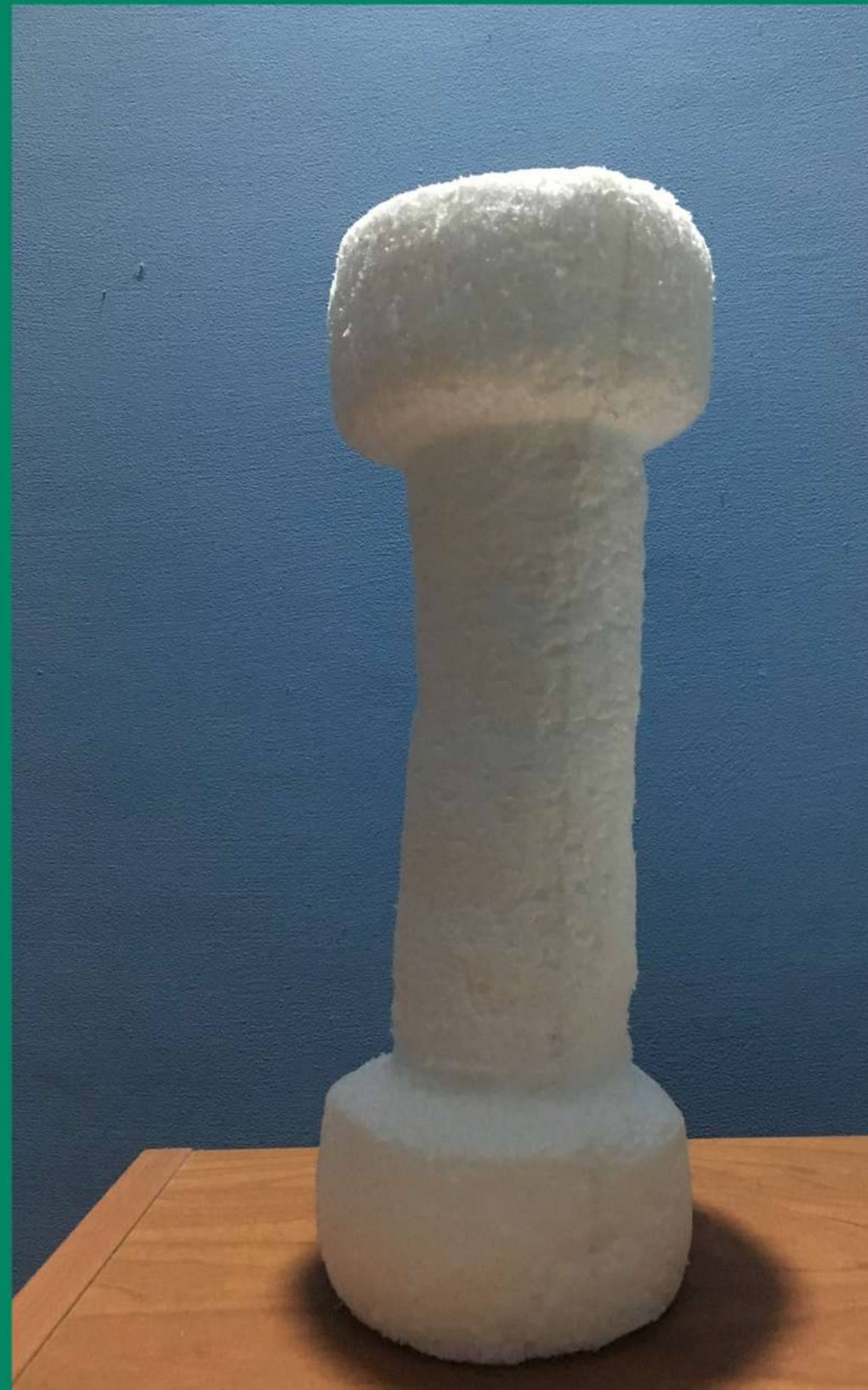
IDEA GENERATION AND CONCEPTS

SHASHANK PRABHAKAR
DIF816ECS356



SHASHANK PRABHAKAR
DIF816ECS356





PRODUCT SPECIFICATIONS

Material:

- Polyethylene and Low Density Polyethylene body
- Polyethylene foam covering (for temperature retention)
- Polypropylene cap
- Thermoplastic Polyethylene + rubber sipper

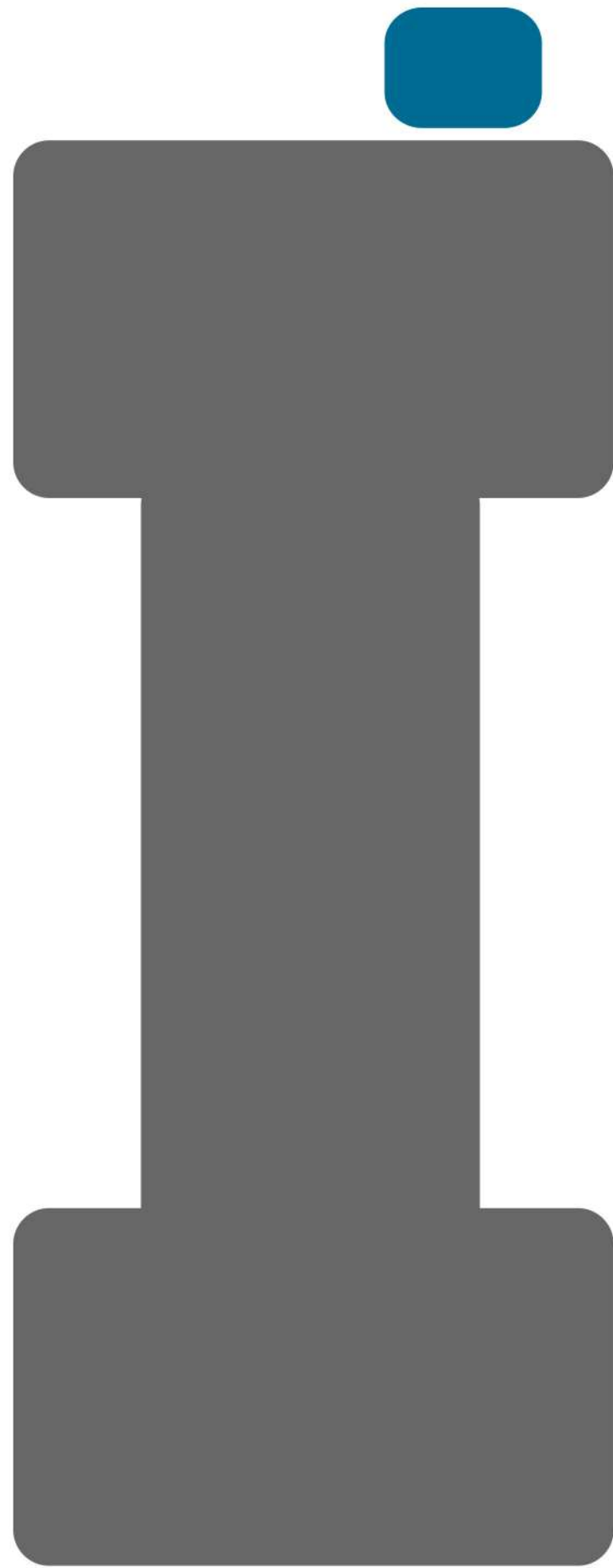
Dimensions:

- Height: 22 cm
- Diameter of base: 9 cm
- Height of sipper: 2.3 cm
- Diameter of sipper: 1.8 cm

Weight:

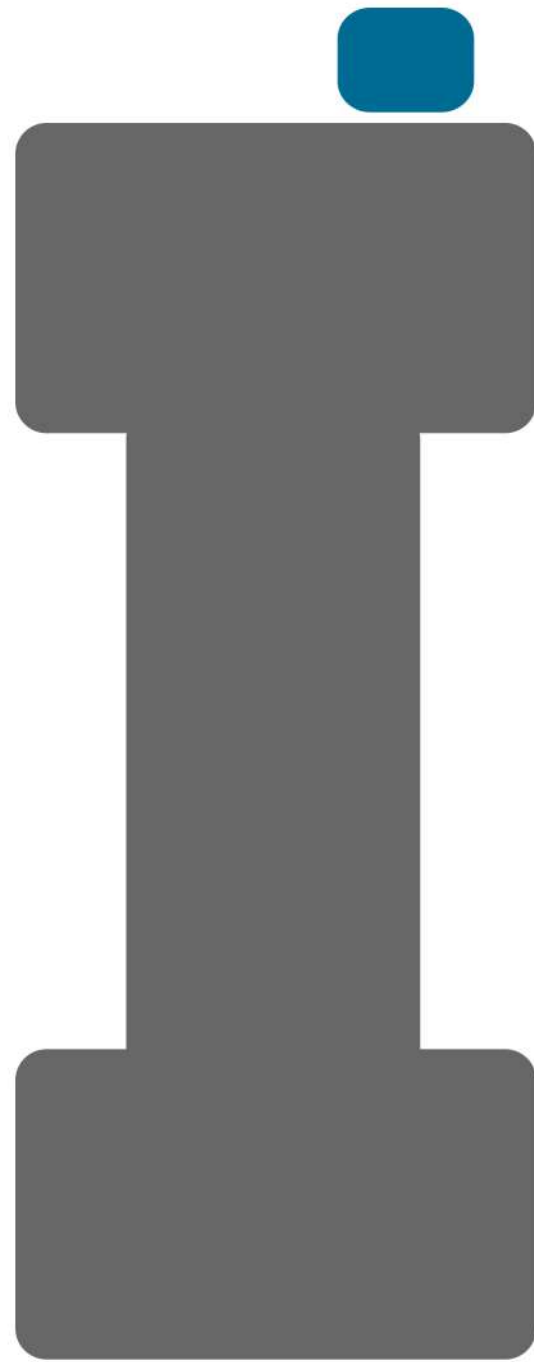
~ 110 g

Logo & Branding



Fitneer

Sip happens.



Fitneer

Colors

#676767

#006c94

Font

Helvetica

**Tracking
-50**

VISITING CARD



Fitneer

Front



Shashank
CEO
9980611410

Back

LETTERHEAD



THANK YOU