



Non-Toxic Cleaning Agents

MVP Journey



Developed in collaboration with Vidhathri Institute for Chemical Education, an ISO 9001:2015 firm

We initially started with bioenzyme formulations and subsequently developed an MVP from biosurfactant 1, followed by further enhancements with biosurfactant 2.




Bio Enzyme



Bio Surfactant 1



Bio Surfactant 2

A top-down view of various cleaning supplies arranged on a light grey surface. On the left is a tall, teal-colored bottle. Next to it is a white bottle. In the center, there is a yellow sponge and a brush with a wooden handle and light-colored bristles. To the right of the brush is a white bottle with a green cap. Further right is a clear glass dish containing a green liquid. On the far right is a tall, green bottle. A semi-transparent orange rounded rectangle is overlaid in the center, containing text.

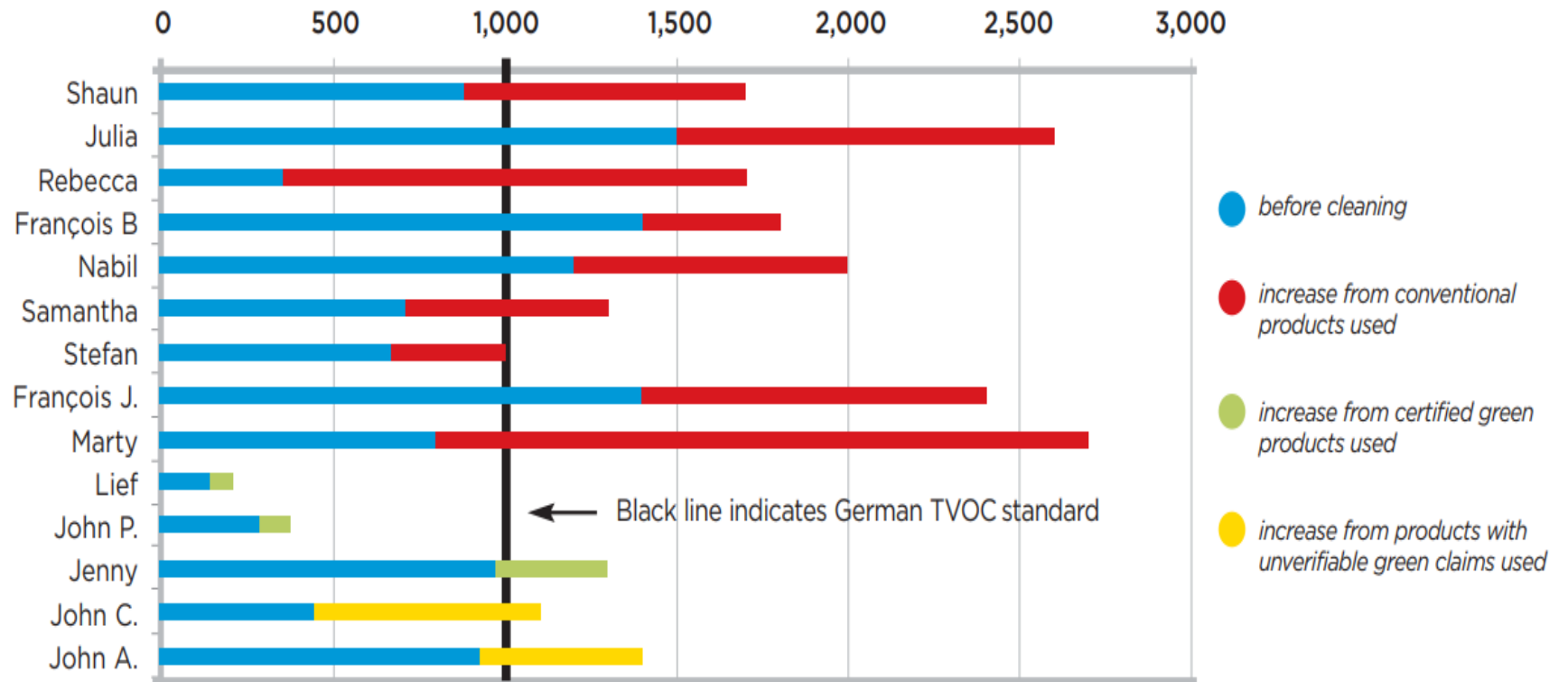
The need for biodegradable and non-toxic cleaning agents to effectively combat dirt and germs and are kind to both consumer and the planet.

We have developed a **habit** of using **chemical cleaners**, often unaware of the significant impacts and harms these products pose.

VOCs, Ammonia, chlorine, phosphates, EDTA, bleach, triclosan and artificial colors

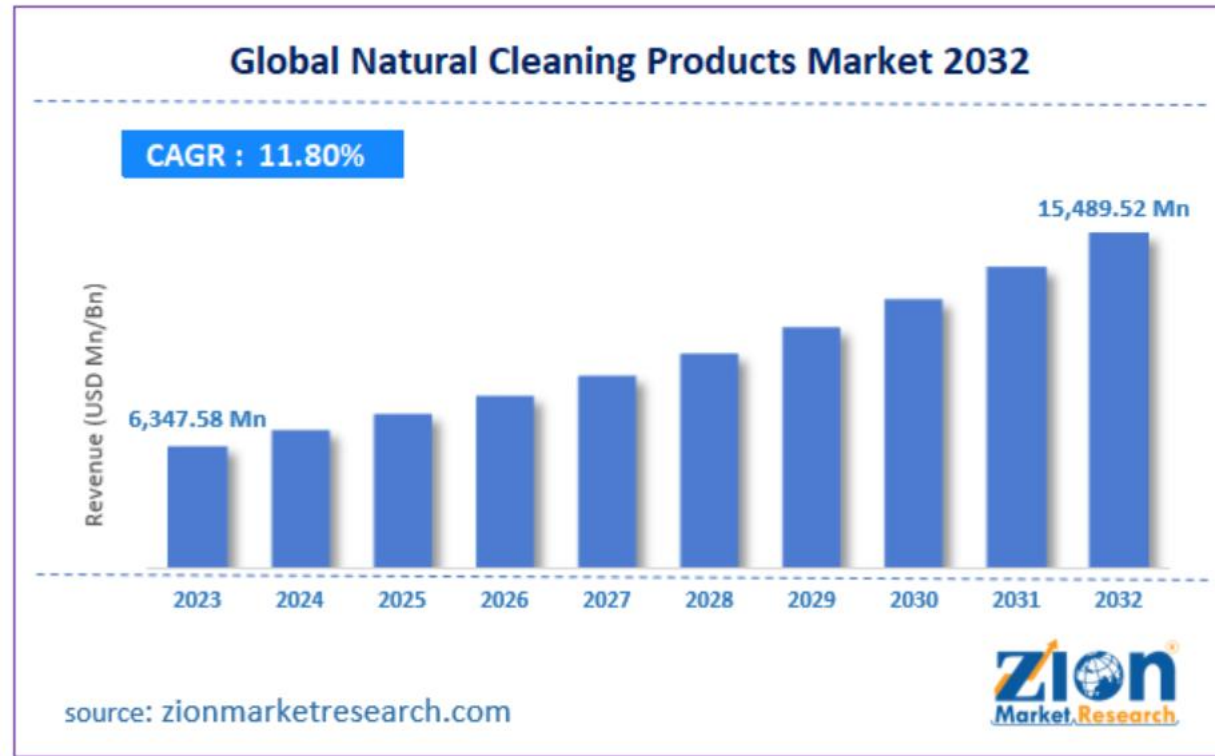
- Eutrophication by chemicals
- Soil contamination
- Air and water Pollution
- Infiltration of drinking water
- Endocrine disruption
- Eye and skin irritation
- Not kid or pet friendly

TOTAL VOC LEVELS BY VOLUNTEER



Why Non – Toxic ?





The eco-friendly home hygiene products market in India was valued at \$13.98 million in 2023 and is expected to grow at a compound annual growth rate (CAGR) of 33.01%.

What did we do?

Discussed the problem with existing players who are into natural cleaning solution

1. A consultant helping others to setup Bio enzyme product plant and working on multiple use cases
2. A couple of Founders who established organic solution in the market
3. User survey on the product awareness

Insights from Consumer Survey

- 60% of consumers are not aware of Bio enzyme cleaners, 36% heard of it but never tried. (76 consumers)
- Current products used:

● Vim	54
● Pril	18
● Exo	20
● Giffy	3
● Presto	3
● Other	3

● Effectiveness	15
● Residue	16
● Harshness on skin	25
● Filter Clogging	6
● Lack of Eco-Friendly Options	16
● None of the above	21

Insights from Consumer Survey

- Brand and price are also major factors, as these products are often viewed as commodities, resulting in less deliberation during purchase.
- Harshness on skin, Cleaning Efficiency, Residue are primary concerns during a purchase decision
- Most purchase happen through supermarkets, local markets.

People are aware of the problem of using chemicals, but this is not a major concern for them as they haven't found an efficient alternative.

Insights from Industry members

Preciseness while
manufacturing

Acceptance of the
product due to less
foam, froathing

Awareness of the
product

Product Shelf life

User Acceptance

Sensitivity in
Manufacturing

TARGET SEGMENT: B2B



Corporates
(Sustainable
procurement
policy)



Educational
institutes



Healthcare



Hospitality
industry

Why are natural cleaning agents not widely used in India?



Consumer Habits
and preferences



Market
Dynamics:
Commodity
product, price-
sensitive

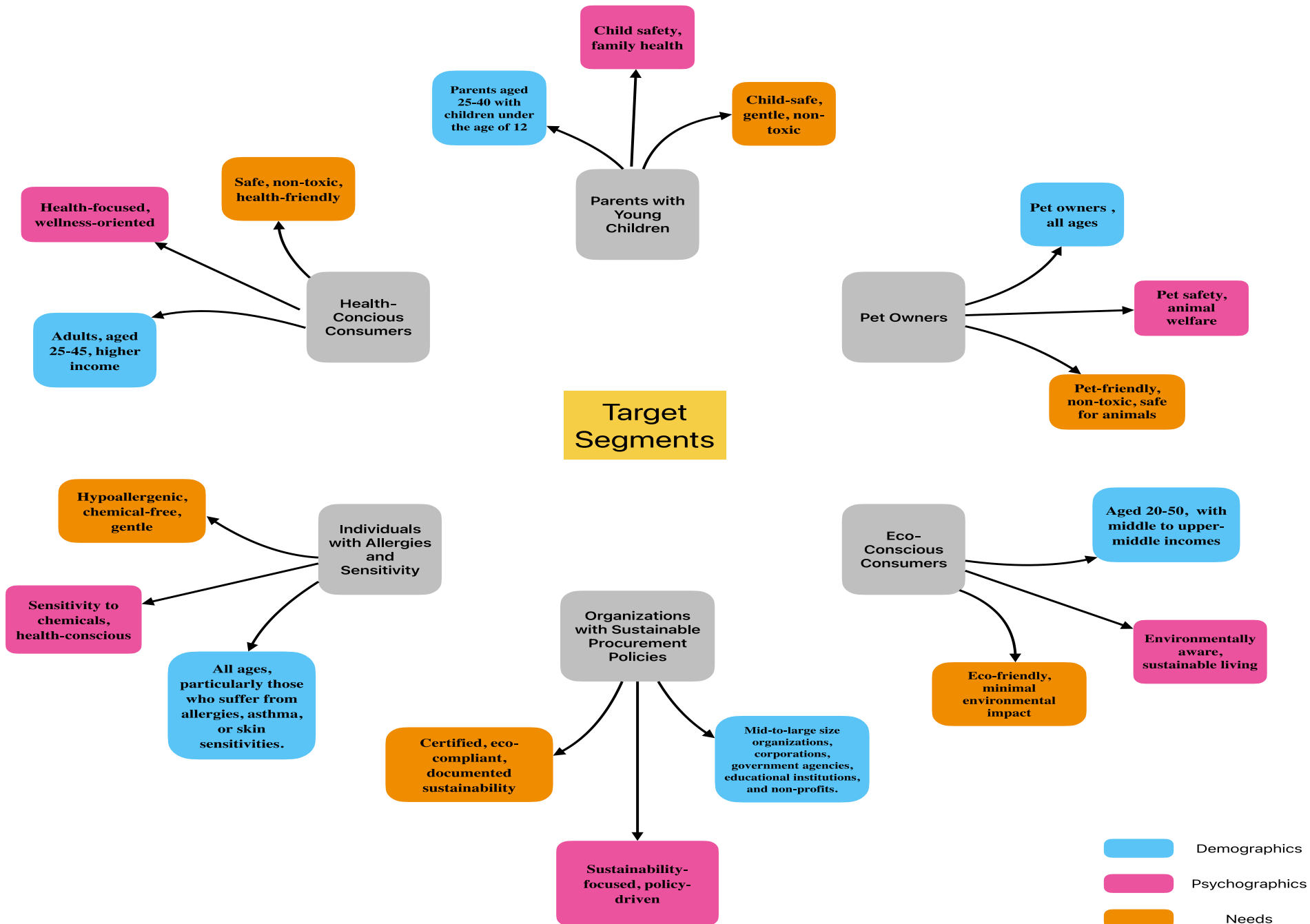


Perception of
Efficiency



Lack of Awareness
of alternatives

TARGET SEGMENTS



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Bio Enzyme



Bio Surfactant 1



Bio Surfactant 2

Business Model Canvas

Key activities

Production
R&D
Quality control
Sales

Customer relationship

Community
Engagement
Education and training
Sustainability initiatives in corporates

Customer Segments

Industry clients
Eco-conscious consumer

Key Partners

Raw material Suppliers

Technology partners for fermentation and extraction

Value Proposition

Eco-friendly
Effective
Performance
Regulatory compliance

Key resources

Manufacturing facilities
Equipment
Scientists, researchers and production staff

Channels

Direct sales
Online
Trade shows

Cost structure

Production costs	Operational costs
Distribution costs	R&D costs

Revenue

Product sales
Consulting services offering sustainable cleaning practises in companies

Sparkling Clean Homes

We make your home sparkle from top to bottom!

— GET A QUOTE —

G-ENZY



Eco-Friendly Home Cleaning Solutions

G-Enzy provides biodegradable and non-toxic cleaning agents that effectively combat dirt and germs, while being kind to both consumers and the environment. Our mission is to satisfy the growing demand for sustainable home cleaning products.

G-ENZY



SPOTLESS HOME GALLERY



Informational Website Mock-Up

<https://g-enzy.godaddysites.com/>

Our Product Brochure



Lemon Fruit (Citrus limon)

Lemon juice and its extracts provide sufficient acidity and act as complexing agent with metal ions associated with dirt



Vegetable Glycerin (Glycine Max)

The certified organic vegetable glycerin removes stains from the clothes and reduce static cling. The use of fabric softener is not essential and avoids the cost



Coconut Oil (cocos nucifera)

Waxy, non-ionic and ultra-mild surfactant is produced naturally from coconut oil. The derivative is readily biodegradable, and possess good wetting, decontamination and dispersing properties

Rock Salt (Halite)

Salt is employed as an inexpensive thickener to enhance viscosity and consistency. It helps remove stains and armpit discoloration, and keeps colors bright



Wood Pulp

Cellulose extract acts an anti-redeposition agent; to prevent dirt particles from adhering to fabrics & clothes during the washing cycle and for whiteness retention though soil suspension



Palm kernel (Elaeis guineensis)

The minimally processed detergent alcohols from palm kernel produces hard soaps that lather well in all kinds of water. They form micelles with dirt and detach the surface bonded particles



Organic Certified Cane Sugar (glucose derivative)

Through natural process, this ecologically derived Glucose derivative is a very mild and has moderate foaming Properties. Good for all kinds of skin including babies and is an excellent viscosity builder



The Pouch Contains



HIGHLIGHTS

- ❖ Organic Natural Cleaner
- ❖ Green, ecologically derived and carbon negative
- ❖ Skin friendly & non-toxic
- ❖ Minimally derived from natural feedstock
- ❖ No endocrine disrupting or hormone regulating agents
- ❖ Contains no dioxanes, phosphate, chloride or formaldehyde
- ❖ Free from Benzene or other petroleum distillates

DIRECTIONS TO USE

- ❖ Transfer 1 TBS (4ml) of liquid to a bowl containing water(50ml)
- ❖ Use the scrubber to mechanically dislodge the dirt and rinse with sufficient water for a shiny surface
- ❖ For hard stains, use the liquid in concentrate form
- ❖ It is recommended for cookware and tableware

SAFETY TIPS

- ❖ Keep out of reach of children
- ❖ In case of accidental contact with eyes, rinse with copious water under a tap for 15 minutes and seek medical advice
- ❖ Spillage on a walking area must be immediately cleaned using a cloth soaked in water and wipe off the surface to dry to prevent slippery surface

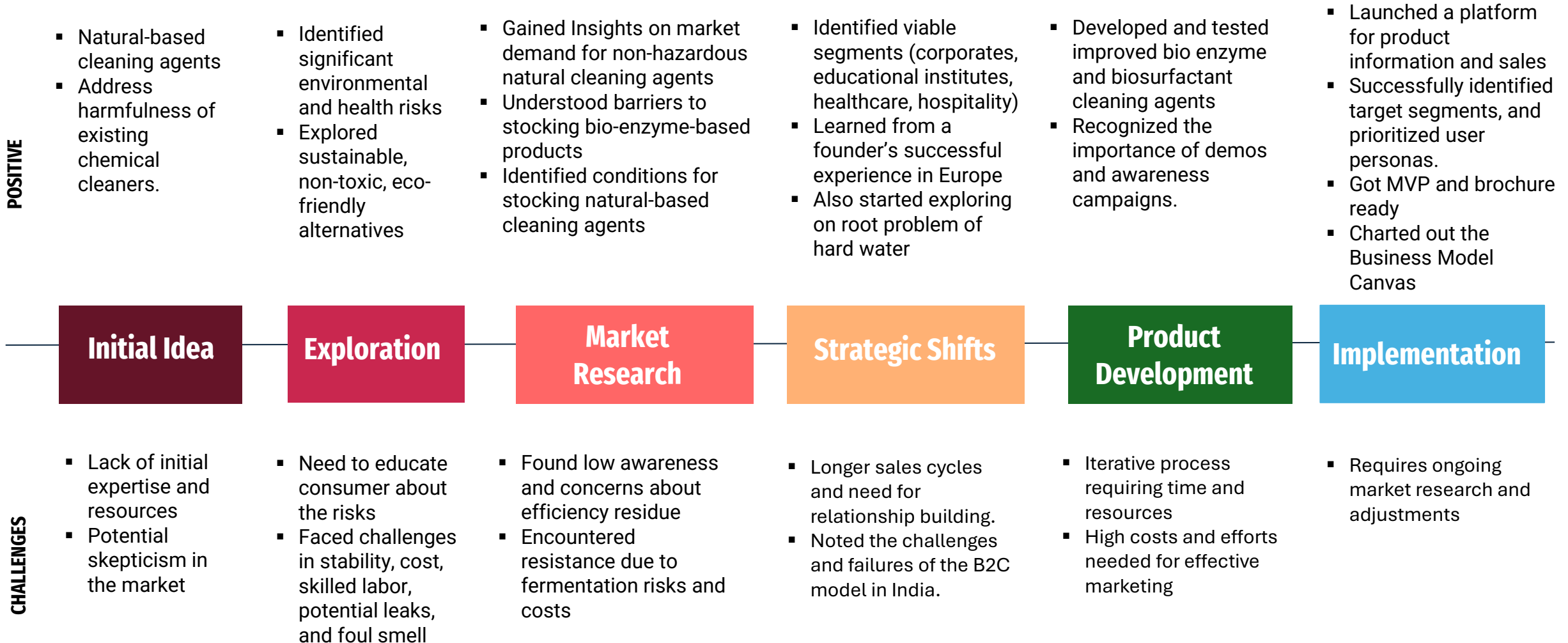
DISCLAIMER

Cleaning action is complete only when the total dissolved solids are less than 1000 ppm. Deviation may happen due to external factors such as presence of cheap dye in cloth, tarry substance, debris of alkali, cross contamination from dirty surface and deep stains that can potentially interact with natural ingredients in the formulation

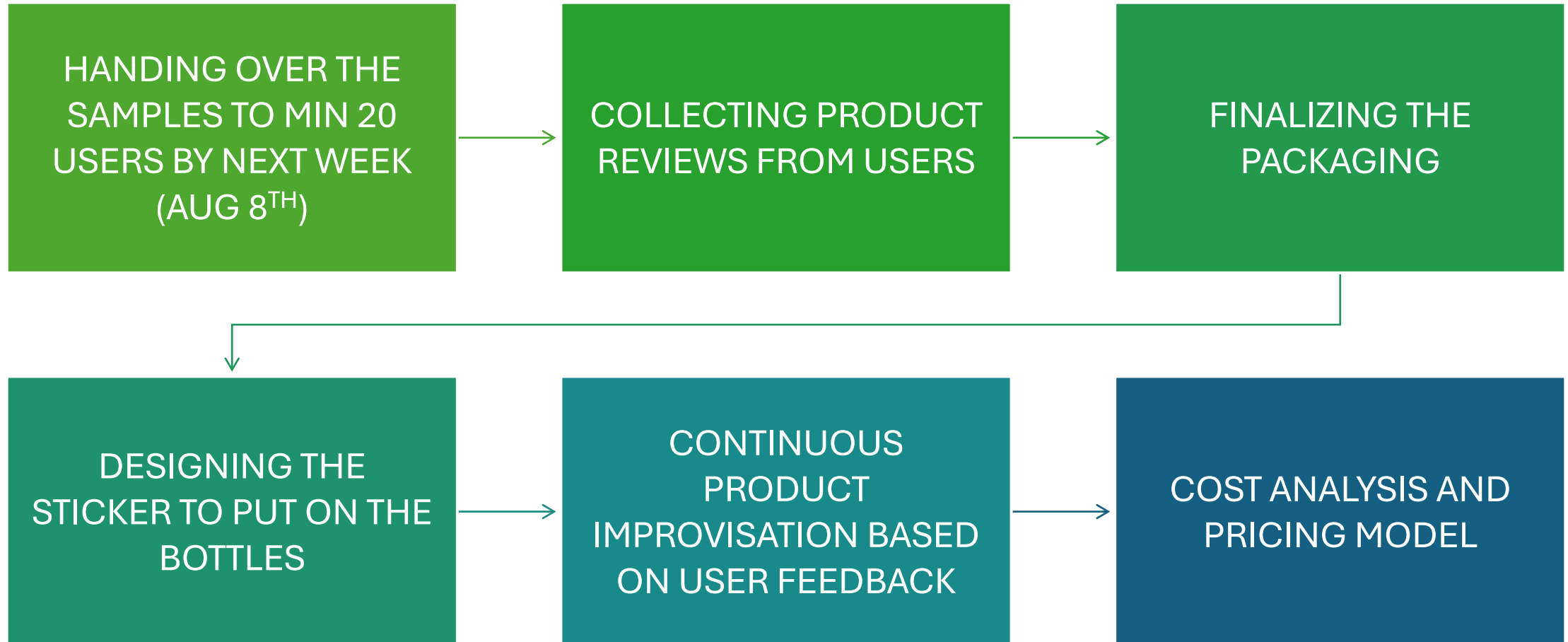
STORAGE CONDITIONS

- ❖ Keep at cool temperature and away from direct heat and sunlight
- ❖ At lower temperature the components freeze and may lose activity
- ❖ The contents can be stored for one year on bench without loss of the activity
- ❖ Best use within one year from the date of manufacture
- ❖ Keep in dry atmosphere

Journey So Far



Our Future Plan



A background image showing a large number of white plastic spray bottles arranged in rows, creating a sense of depth and repetition. The bottles are slightly out of focus, emphasizing the overall theme of cleaning agents.

Non-Toxic Cleaning Agents

- Chaarshani
- Mrinalini M
- Praseed Chandriki
- Shruthi Nagaraja

Problem Statement

There's a need for biodegradable and non-toxic cleaning agents to effectively combat dirt and germs and are kind to both consumer and the planet.



Not Good for Water Bodies

Pain Points



Harsh on Skin

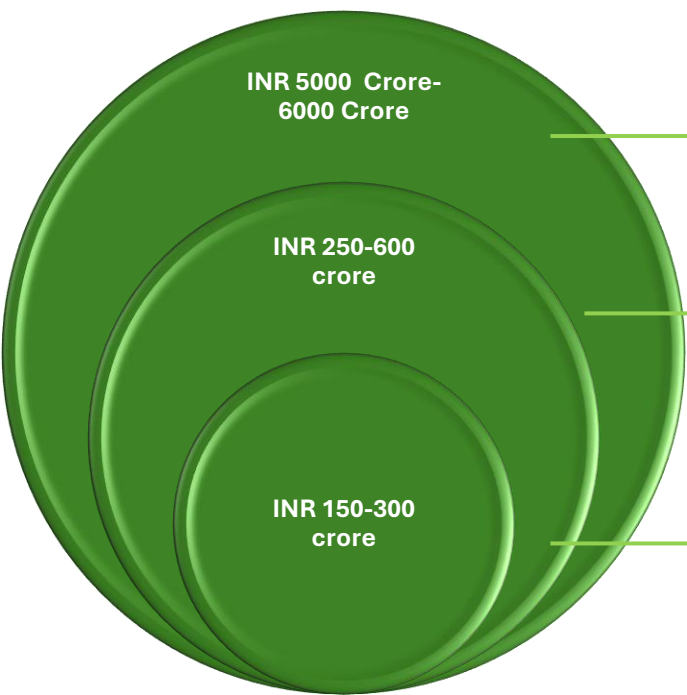


Not pet- friendly and baby-friendly



Volatile organic compounds (VOCs)
cause respiratory issues

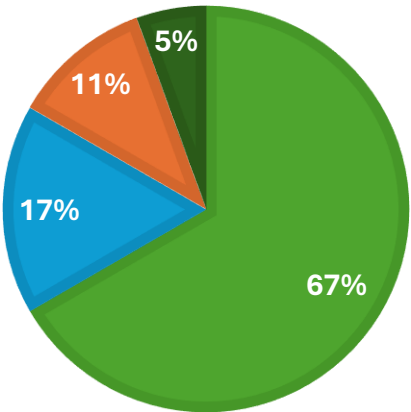
Industry insights



Market	CAGR*	Revenue
Indian home cleaning market	15-20%	24000 Crores
Non-toxic or eco-friendly segment	30-33%	1,500 Crores
Plant based solutions segment	20-25%	450 crores

MARKET SHARE BY SEGMENT FOR PLANT-BASED CLEANING AGENTS

- Household Cleaners
- Personal Hygiene Products
- Kitchen Cleaners
- Specialty Cleaners



Growth Drivers Factors

- Health Concerns
- Increasing Urbanization
- Health and Hygiene Awareness
- Rise of E-commerce
- Increasingly Sustainable Practices

* Estimated for the next 5-7 years as per sources

Unit Economics

Variable cost	1000ML
Chemicals dervied from plants and natural resources	212
GST	37.98
Packaging	5.2
Label	2
Variable cost	257.18

Fixed costs	Capacity 100L
Equipment and machinery	8,00,000
Property	300000
Electricity	42000
Saftey equipment	35000
Waste management	24000
Labour	80000
Fixed cost	12,81,000

Contribution margin 92.82

Fixed plus variable cost 292.2758904

Selling Price: 350 rupees per litre

Breakeven 13800.90498

Product portfolio Plan



Dishwashing Liquid



Laundry Detergent



Lens Cleaner



Gadget Cleaning Spray



Hand Wash

Our Target Segments

Eco and Health-
Conscious
Consumers

Individuals with
Allergies and Skin
Sensitivity

Organisations with
Sustainable
Procurement
Policies

Parents with young
children

Pet Owners

Organic and
Natural Product
Enthusiasts

Millennial and Gen
Z Consumers



Persona 1: The Health-Conscious Parent, who wants to reduce children's exposure to harmful chemicals



Persona 2: The Eco-Warrior, who's Concerned about the environment



Persona 3: Sustainability | ESG | CSR Lead, who's trying to meeting corporate sustainability goals

Our Key Personas



Business Model Canvas

Key Partners

Raw material
Suppliers

Technology
partners for
fermentation
and extraction

Key resources

Manufacturing
facilities
Equipment
Scientists,
researchers and
production staff

Key activities

Production
R&D
Quality control
Sales

Customer relationship

Community
Engagement
Education and
training
Sustainability
initiatives in
corporates

Customer Segments

Industry clients
Eco-conscious
consumer

Value Proposition

Eco-friendly
Effective
Performance
Regulatory
compliance

Channels

Direct sales
Online
Trade shows

Cost structure

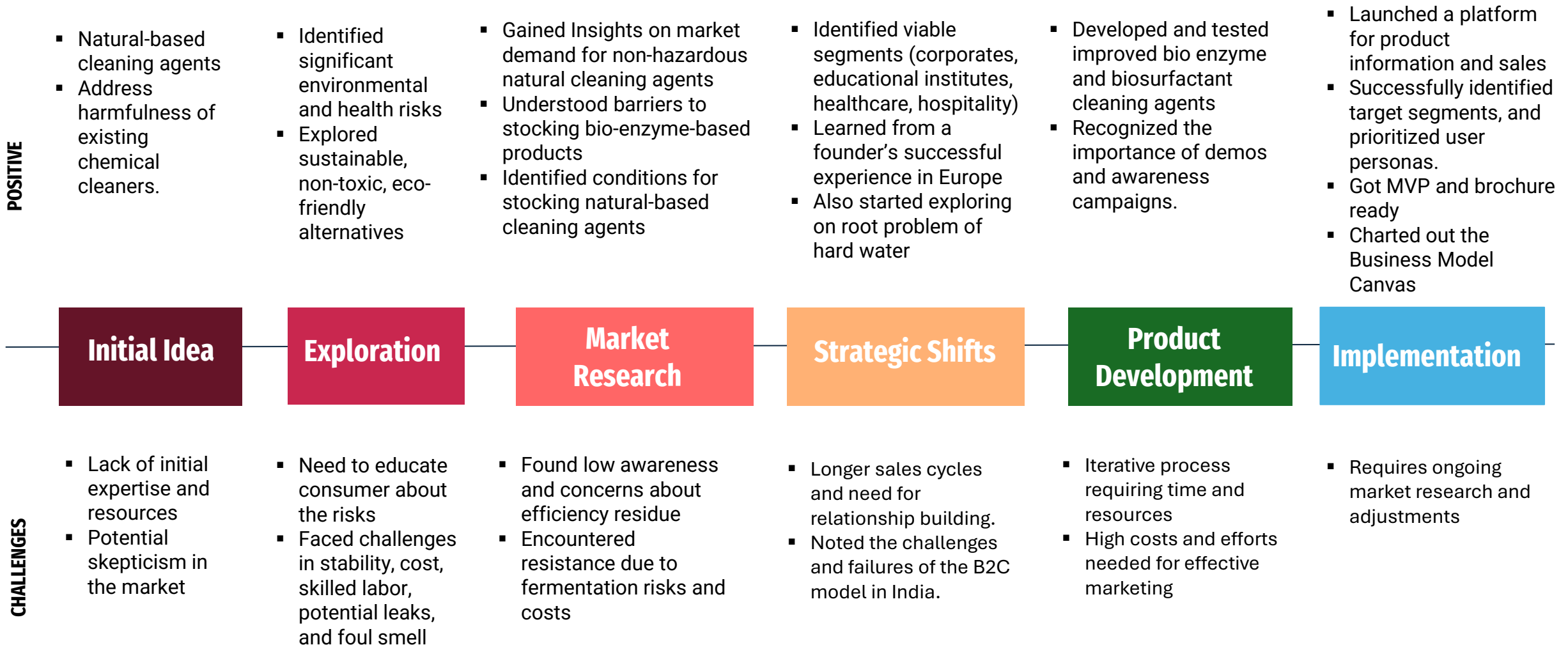
Production costs
Distribution costs

Operational costs
R&D costs

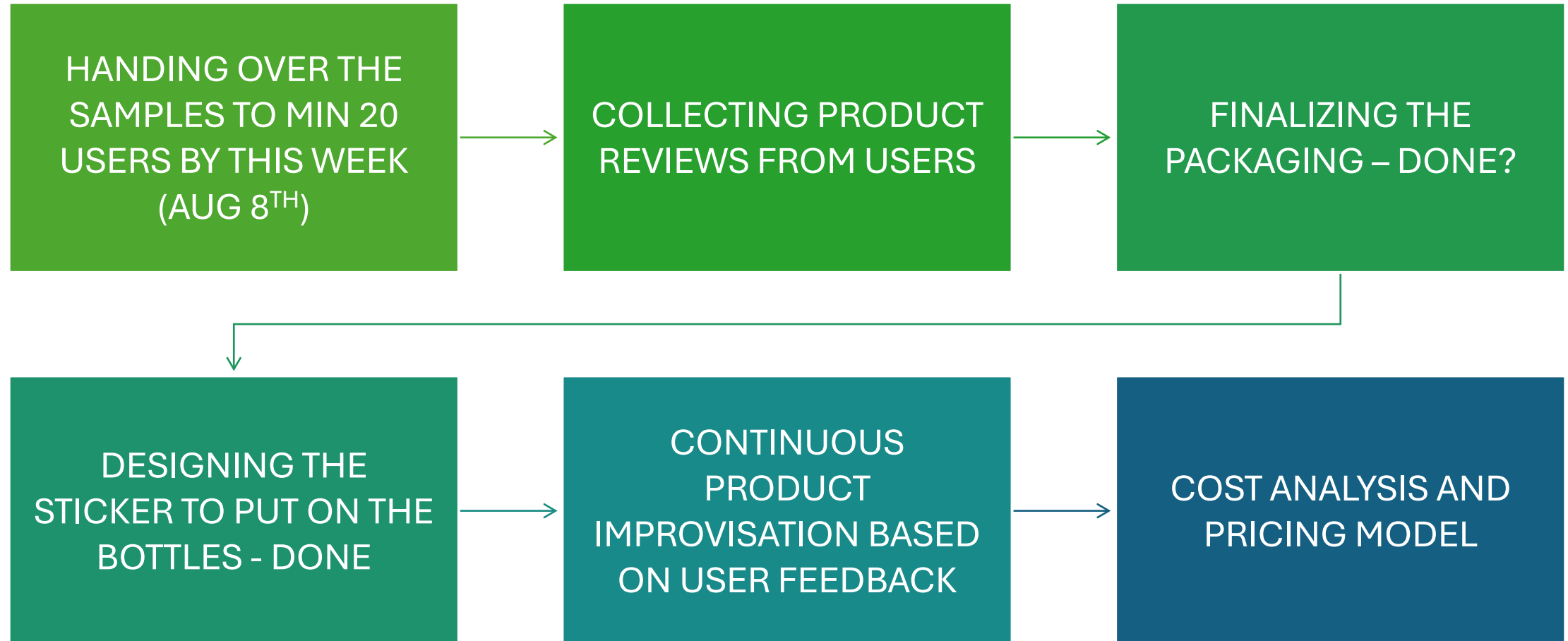
Revenue

Product sales
Consulting services offering sustainable
cleaning practises in companies

Journey so far



Our Future Plan



Our Team



Chaarshani D



Dr. Madhu Ganesh
Formulation Specialist



Mrinalini M



Praseed C



Shruthi N