

INDIAN SCENARIO

Standby power consumption is typically a fraction of total power consumption. However, because certain appliances **remain in standby mode for extended periods, coupled with their widespread usage**, the cumulative standby power consumption for the country can become substantial. With the rapid modernization and urbanization occurring in India, there has been a surge in the use of electronic appliances and devices in households across the country.

5500

million units (MU)

electricity could be saved for the nation by the daily habit of switching off appliances when not in use.

Source: Prayas energy group

According to a household consumer survey, the electricity consumed by appliances when in standby mode, is an escalating concern with cost implications for households.

MAJOR CONSUMERS OF VAMPIRE POWER IN INDIA

The impact on vampire power consumption is represented proportionally by the size of the image.



Source: Energy Efficiency & Renewable Energy Management Centre

EXISTING POLICIES

Although several other policies are in place aimed at reducing overall electricity consumption, there are currently no specific policies addressing vampire power consumption. While existing policies did encourage people to save electricity to a certain extent, they did not significantly alter behaviour patterns regarding vampire power consumption.



Year - 2016

Subsidised rates

In Delhi, households consuming up to 200 units of electricity receive zero billing, regardless of the connection's load. For consumption up to 400 units, consumers get a 50% subsidy on the bill, capped at ₹800. However, the subsidy ends if consumption exceeds 401 units. During winter, over 85% benefit from the subsidy.



Year - 2024

Solar rooftop scheme

Through this scheme, energy bill reduction benefits are given to people who belong to the poor category or have weak economic situations. In this scheme, the solar panels are installed on their rooftops and give them free Energy.



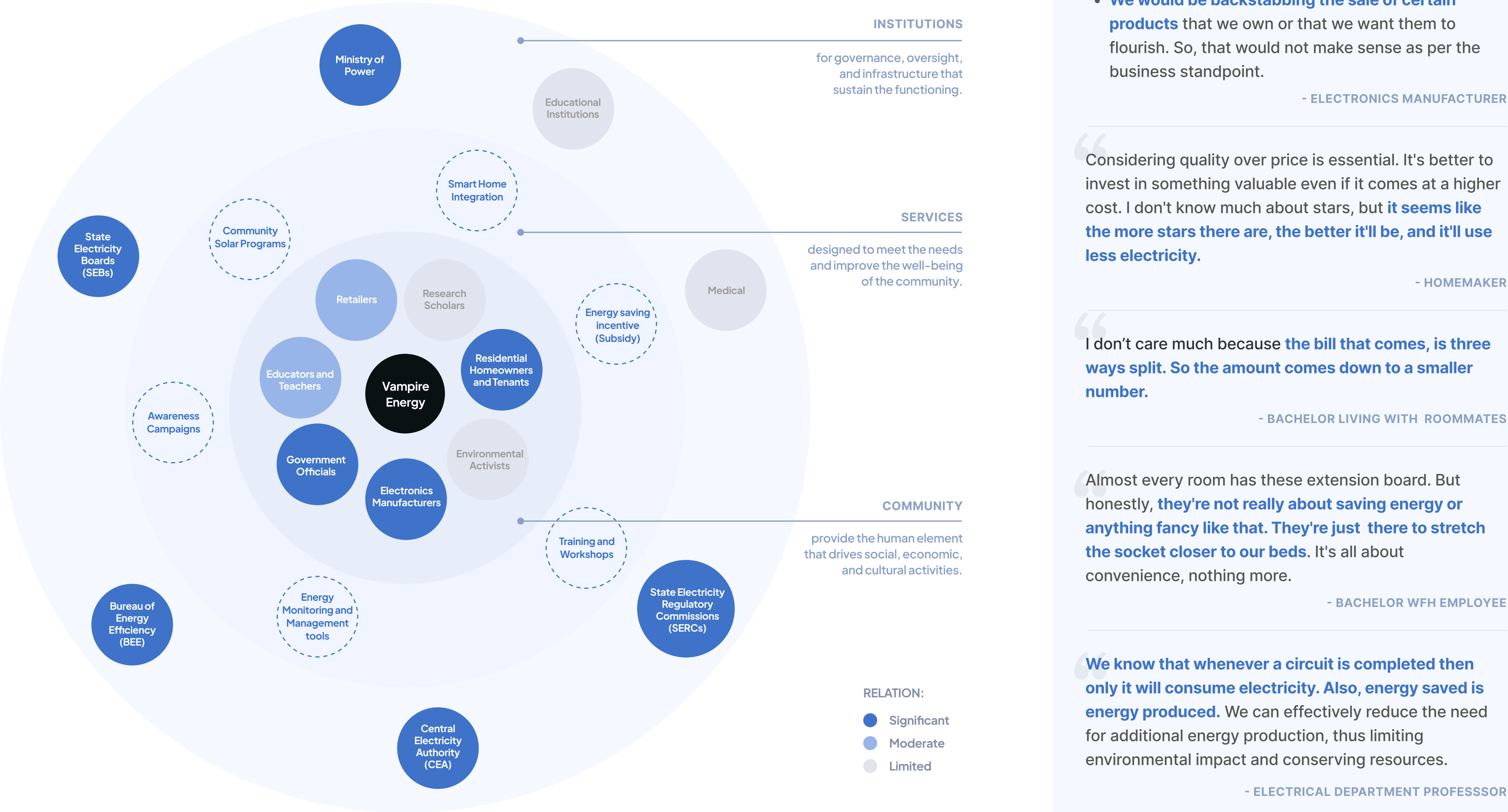
Year - 2015

Domestic Efficient Lighting Program (DELP)

The domestic sector in Delhi contributes to almost 50% of energy consumption, with lighting being significant. DELP was introduced to promote LED adoption and cut energy usage. It incentivizes LED usage at a minimal cost, monetizing energy savings for consumers.

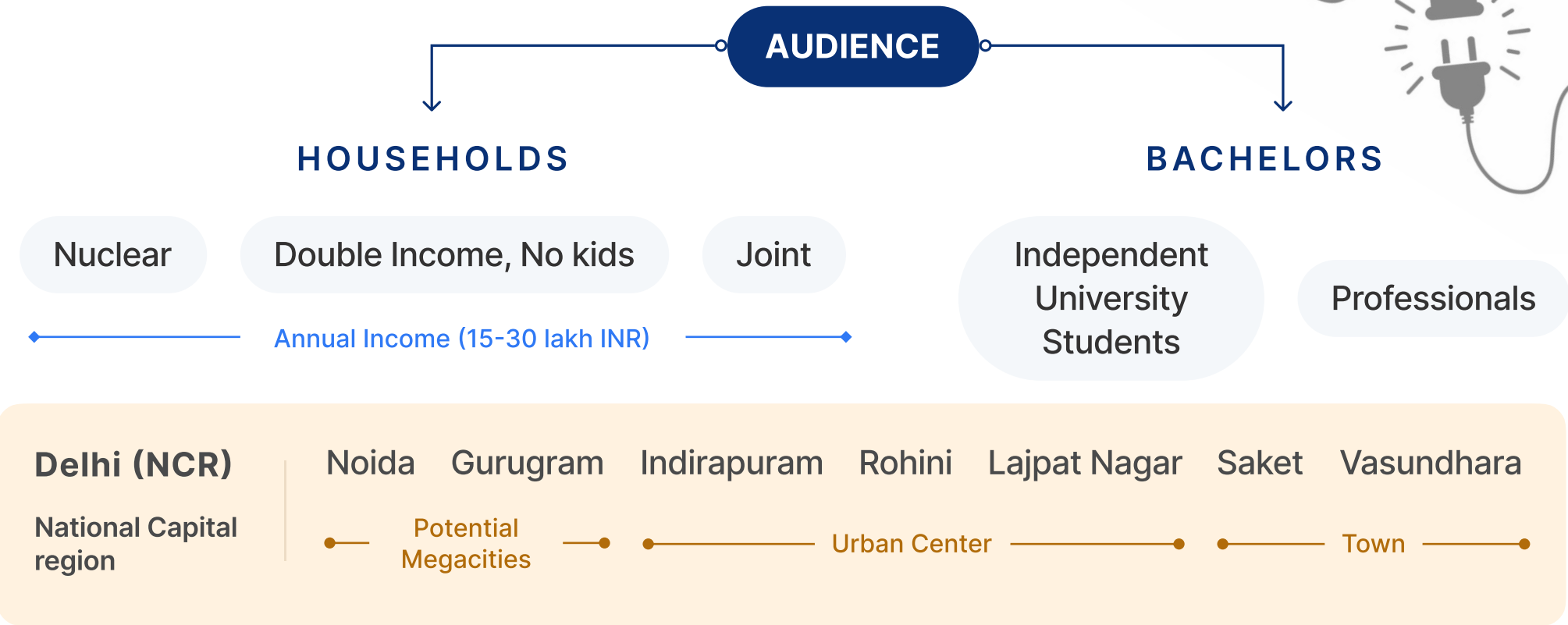
UNDERSTANDING THE KEY PLAYERS IN THE SYSTEM

In the context of vampire energy, the key players encompass various stakeholders involved in the energy ecosystem. By interviewing these key stakeholders, we gathered diverse perspectives in the Delhi NCR region, through meaningful interactive engagement and dialogue which helped in diverging the problem statement and the user group.



USER RESEARCH/ INSIGHTS

Our research methodology encompassed a diverse range of approaches aimed at gathering comprehensive data. We conducted **stakeholder interviews** to gain insights from relevant parties, **contextual interviews** to understand the environmental factors at play, and employed **cultural probes** to delve deeper into societal norms and values. Additionally, we utilized **observation techniques** to directly observe behaviours in real-world settings, and engaged in **body shadowing**. Following this extensive data collection process, we condensed our findings into key insights.



Energy usage dynamics in domestic settings

People are less concerned about the electricity bill when it is split among members. It is comfortable for them to know that everyone will contribute in the usage, so nobody takes any tension or blame

Sharing/Splitting Bills



Many devices within households, ranging from chargers to appliances like washing machines, are often left in a standby state.

Standby Power



People have made efforts to **manually switch off the water purifier due to irritation caused by water wastage** and its tendency to automatically restart even after a single glass of water is taken. Consequently, they opt to turn it off once it's filled and switch it on only when it's completely empty.

The devices are left plugged in and operational throughout the day, even when not actively in use, contributing to constant energy consumption.

Always-On



During summers, the AC runs non-stop, and appliances like the washing machine and geyser are often left on for convenience and comfort.

In joint families, family members prefer to keep the appliances continuously running to avoid turning them on and off repeatedly.

Continuous Usage



Despite occasional discussions about high electricity bill, people tend to fall back to their previous habits.

They rely on the auto-cut feature of some appliances and accept this as their excuse for forgetting.

Forgetfulness/Comfort



Patterns and Priorities

Older family members are more concerned and ask to turn off appliances, while younger members, especially children, prioritize comfort and convenience over conservation.

Differences in Attitudes



Females often take a caretaking role within the household even when they are not the ones paying the bills. There was a sense of responsibility towards conservation.

Females are more conscious



"For ages women have been **seasoned to believe that their salary is a secondary income**, with the primary expectation being that **they should be responsible for caretaking at home.**"

Anika Das: a developer & a mother

Challenges & Misconceptions

Many people hold the misconception that switching off electronic devices using a remote control or removing them from a charger will completely disconnect them from drawing electricity.

Misconception



Individuals show laziness or reluctance to switch off electronic devices due to the absence of a driving force or motivating factor because of their convenience, habituation, and perceived disruption associated with powering devices on and off. Without a clear incentive or motivation they are inclined towards leaving devices powered on or in standby mode.

Lack of motivation



Busy schedules and work commitments of people make it challenging for them to monitor and manage electricity usage throughout the day.

Also, they want the rest and relax time for themselves which makes them focus less on these things.

Workload



Interior design considerations

Some people believe that buying expensive appliances ensures better quality and performance and that resonates with their family's overall approach.

In one case, even though the decisions are influenced by the father's preference but they will stay with the kids also.

Parental Influence



The placement of switches influences user behavior in several ways. There are switches that are hidden, difficult to reach, or located in inconvenient spots discourage users from turning off devices.

Hidden Switches



There is a growing trend in modern interior design where **switches are concealed or hidden to enhance the aesthetic appeal** of residential spaces. One common approach of hiding switches is through the use of integrated or recessed switch panels. These panels are designed to blend seamlessly with the wall surfaces, creating a cohesive and unobtrusive look.

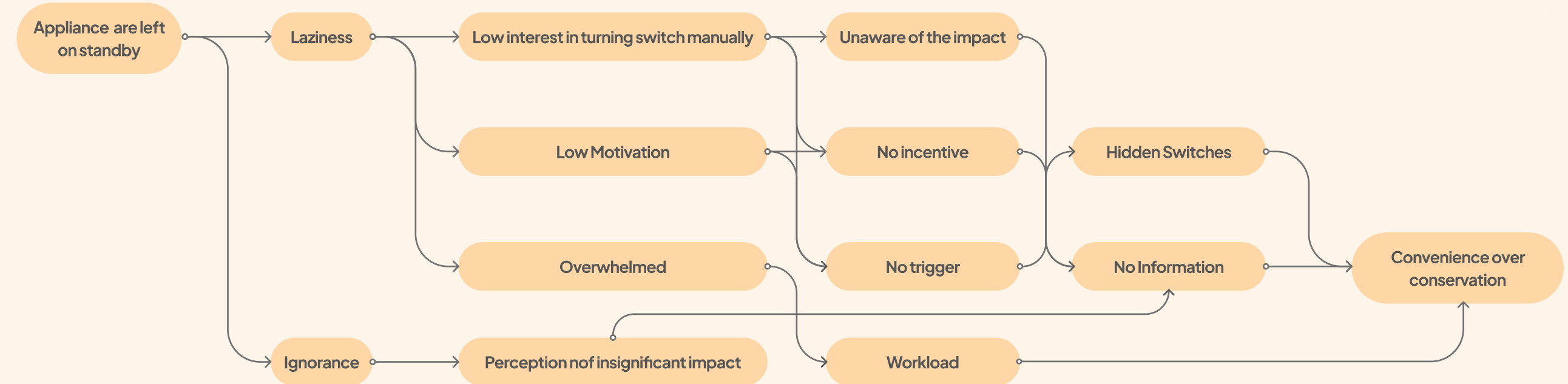
ROOT CAUSE ANALYSIS/ CONSUMER BEHAVIOUR

Following our research interviews, observations, and shadowing sessions, we conducted a root cause analysis to comprehend the factors influencing whether a user chooses to turn off an appliance on standby or not.

FULL DAY SCENARIO

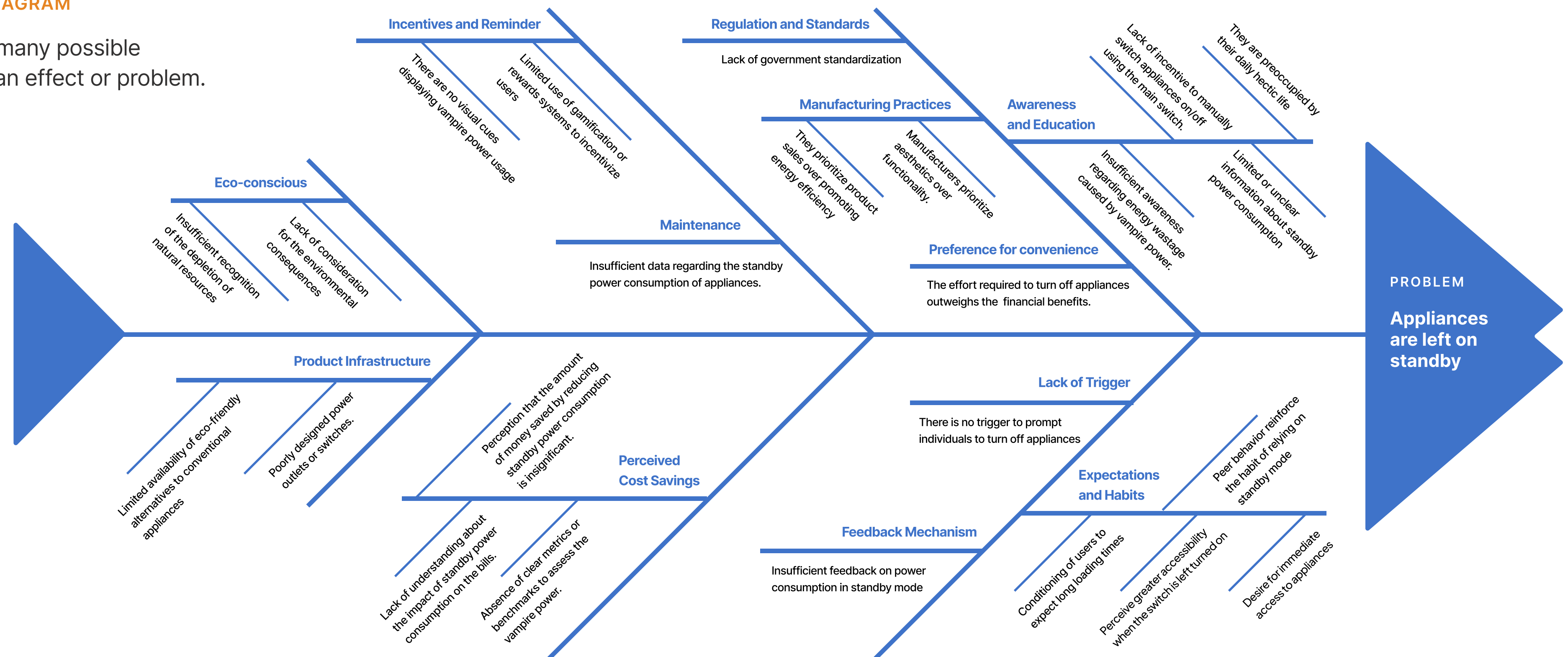
In order to enhance comprehension of the root causes, we recorded the standard household situation alongside the reasoning behind the individual's specific actions.

FULL DAY SCENARIO



ISHIKAWA DIAGRAM


To identify many possible causes for an effect or problem.



USER PERSONA

To gain deeper insights into our target group, we developed two user personas. By understanding the experiences and perspectives of **homemakers**, we will gain insights into the nuances of household management, caregiving dynamics, and the impact of traditional gender roles on family life exploring the experiences of **employed parents**, we can gain insights into the challenges of work-life balance, time management, and the dual demands of career advancement and family caregiving. These personas will aid in discerning the behaviours and preferences of each distinct group.

Aman Bisht



Age32 years

GenderMale

OccupationSoftware Engineer

Family typeNuclear

Annual IncomeINR 15-20 lac

EARNING PARENT

Personality

Ignorant

Adaptable

Influential

Goal-Oriented

About

Aman originates from a family unaccustomed to megacities and represents the first generation seeking improved prospects there. As the primary breadwinner. He holds a typical 9-5 job, covering all household expenses and making significant financial determinations.

Goals

- Achieve and maintain financial stability for himself and family.
- Take care of the well-being and happiness of his family
- Financial planning and management
- Personal and professional development.


Motivation

- Personal fulfillment and satisfaction
- Happiness and wellbeing of himself and family.
- Desire for recognition, growth, and opportunities.
- To set a positive example for his family.

Pain Points

- Demanding 9-5 job and hectic schedule leaves him feeling stressed and exhausted, with little time for relaxation.
- Balancing work and family commitments.

Neha Dhupia



Age30 years

GenderFemale

Occupation-

Family typeNuclear

Annual IncomeINR 15-20 lac

HOMEMAKER PARENT

Personality

Attentative

Cautious

Caring

Conservative

About

Neha comes from a conservative family and assumes the role of homemaker, overseeing all aspects necessary for the smooth running of the household. She devotes herself to maintaining the home and nurturing the children, primarily focusing on her responsibilities within the household.

Goals

- Efficiently manage all aspects of the household.
- Meeting and caring for family members' basic needs.
- Handling household finances efficiently.
- Cultivate a harmonious and nurturing environment at home.

Motivation

- Deep love and affection for her family.
- Sense of responsibility towards her family.
- traditional values and cultural beliefs that emphasize women as the caregivers.
- To set a positive example.

Pain Points

- Frustrated by the responsibility of managing everyone's forgetfulness.
- Struggling to keep up with household chores.
- Contributions as a homemaker and caregiver go unrecognized.
- Juggling between multiple responsibilities and expectations

After conducting our research, we realised that to instigate behavioural change, we need to focus on individuals within a household who wield influence over the behaviour of the entire family. This approach ensures that when children eventually establish their own families in the future, they perpetuate the positive behaviours learned. With this we redefined our problem statement.

REDEFINED PROBLEM STATEMENT

"How can we enable providers* in a family to alter their usage habits to minimize vampire power consumption at home?"

**Providers can encompass various roles within the household, such as parents, guardians, or other family members who take responsibility for ensuring the well-being and functioning of the household unit.*

EXPERIENCE MAP

We created a map detailing the daily routine of a working provider within a household to gain insights into their activities, thought processes, and emotions. Additionally, we conducted a body shadowing session in our own home to observe and identify pain points experienced during their daily tasks. (We have considered the scenario to be during winter)

