



XD INTERN PROJECT · SUMMER 2019

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Research

01/ ENVIRONMENTAL PROBLEM
Plastic Waste

02/ BUSINESS OPPORTUNITY
Vending Machines

03/ CULTURAL CONTEXT
Sense of Purpose

01/ Plastic Waste

ENVIRONMENTAL PROBLEM

02/ Vending Machines

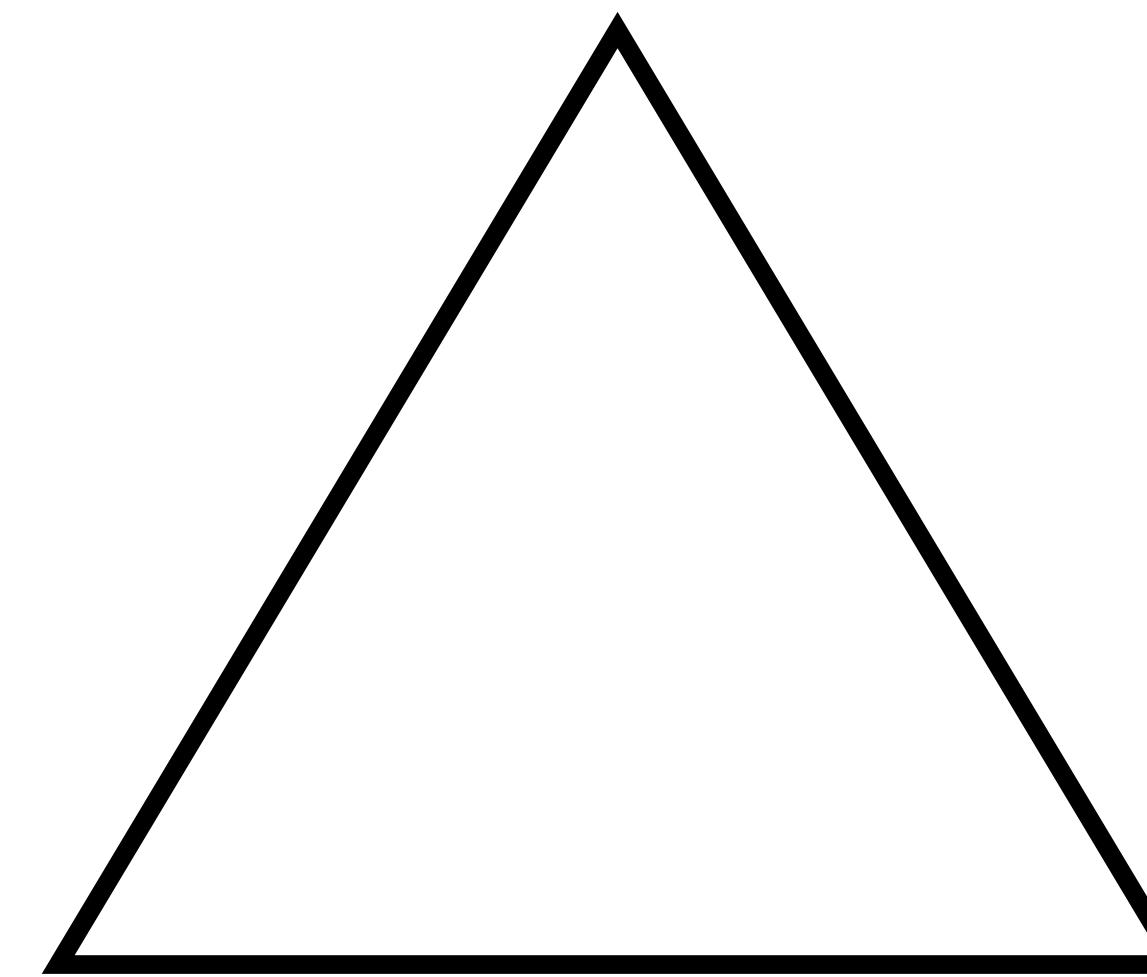
BUSINESS OPPORTUNITY

03/ Sense of Purpose

CULTURAL CONTEXT

ENVIRONMENTAL PROBLEM

Plastic is Killing the Earth



CULTURAL PROBLEM

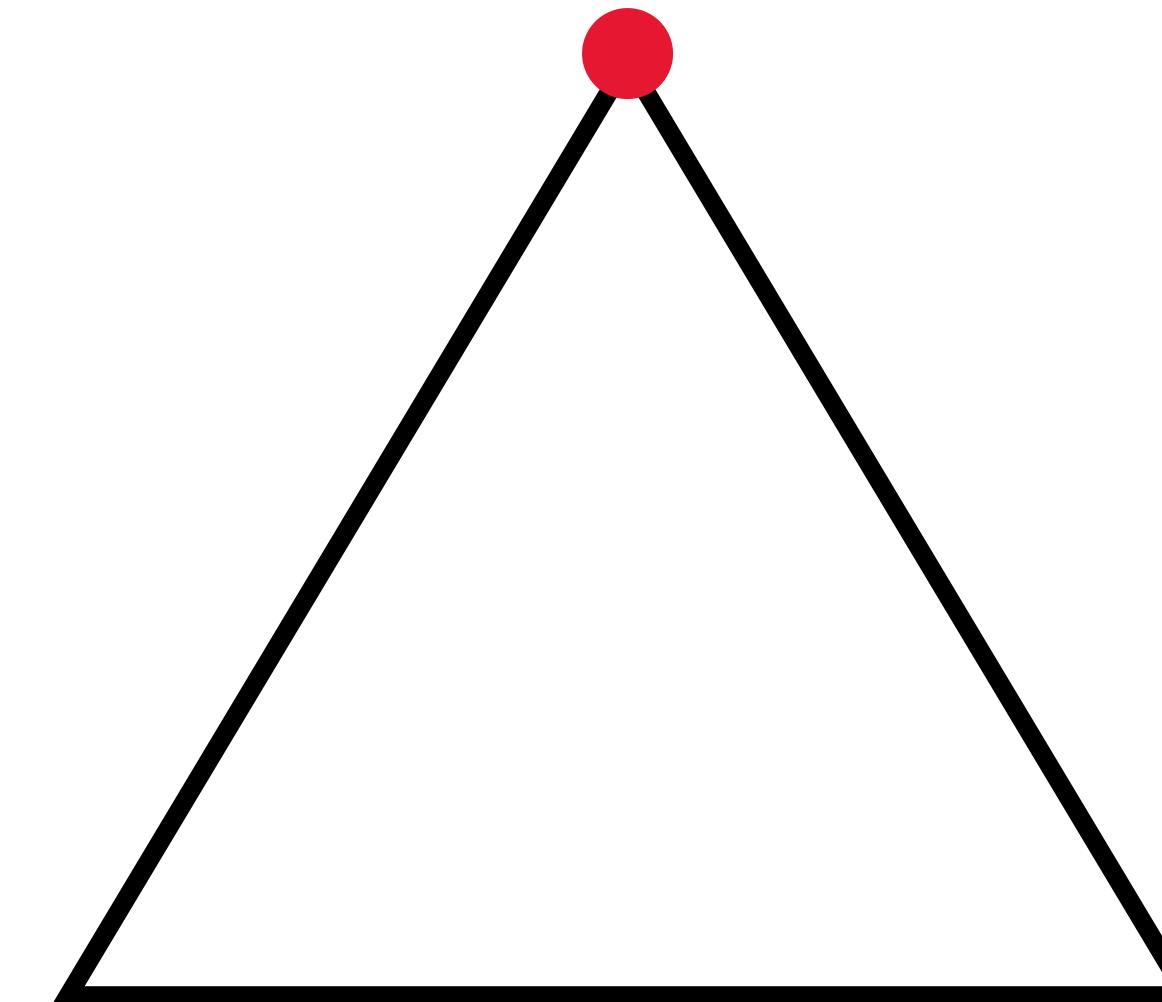
Single-Use Plastic

BUSINESS PROBLEM

Coke = Plastic Waste

ENVIRONMENTAL PROBLEM

Plastic is Killing the Earth



CULTURAL PROBLEM

Single-Use Plastic

BUSINESS PROBLEM

Coke = Plastic Waste

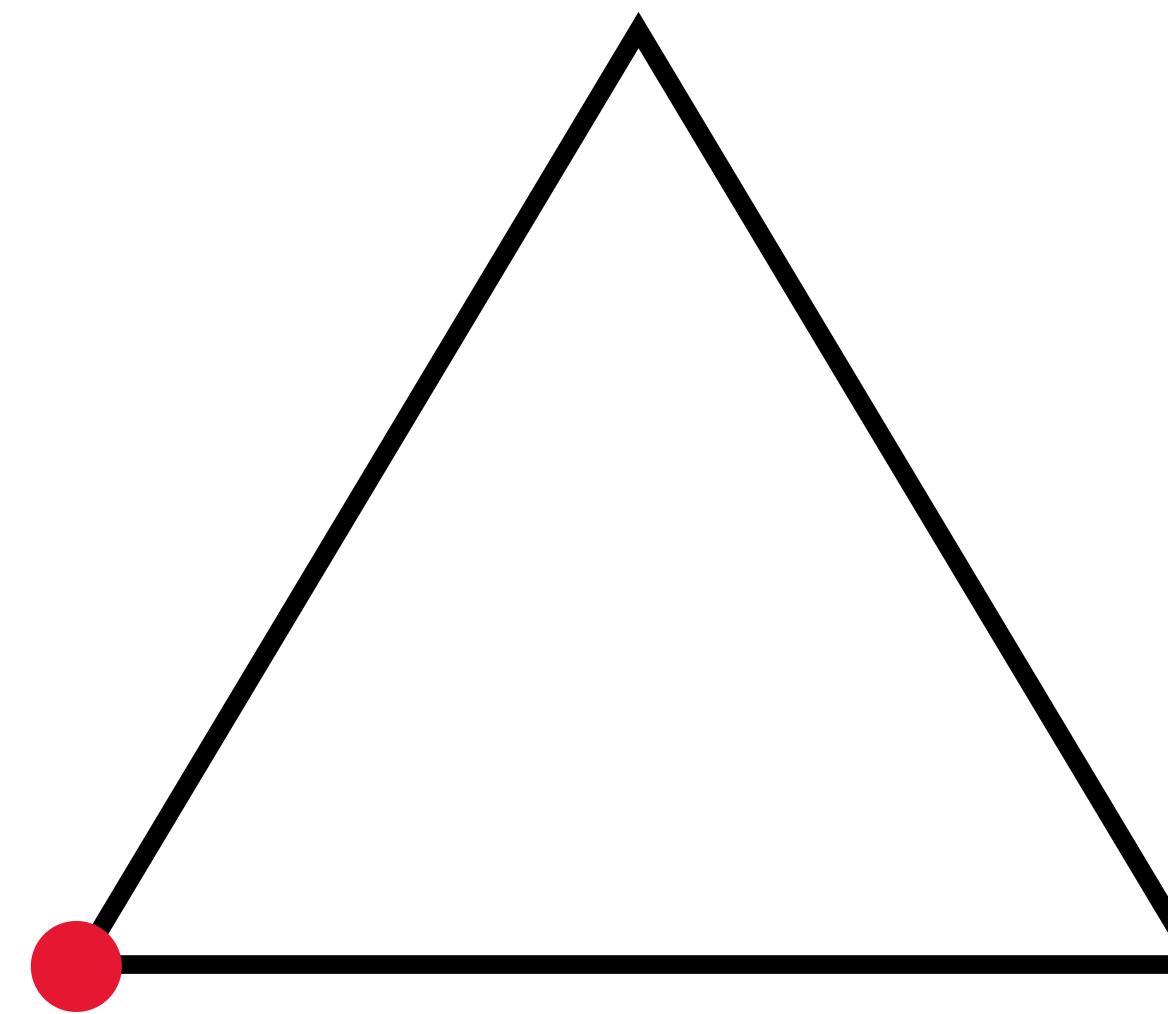
ENVIRONMENTAL HEALTH

Plastic pollution across the globe
is having a negative impact on our
oceans and wildlife health



ENVIRONMENTAL PROBLEM

Plastic is Killing the Earth



CULTURAL PROBLEM

Single-Use Plastic

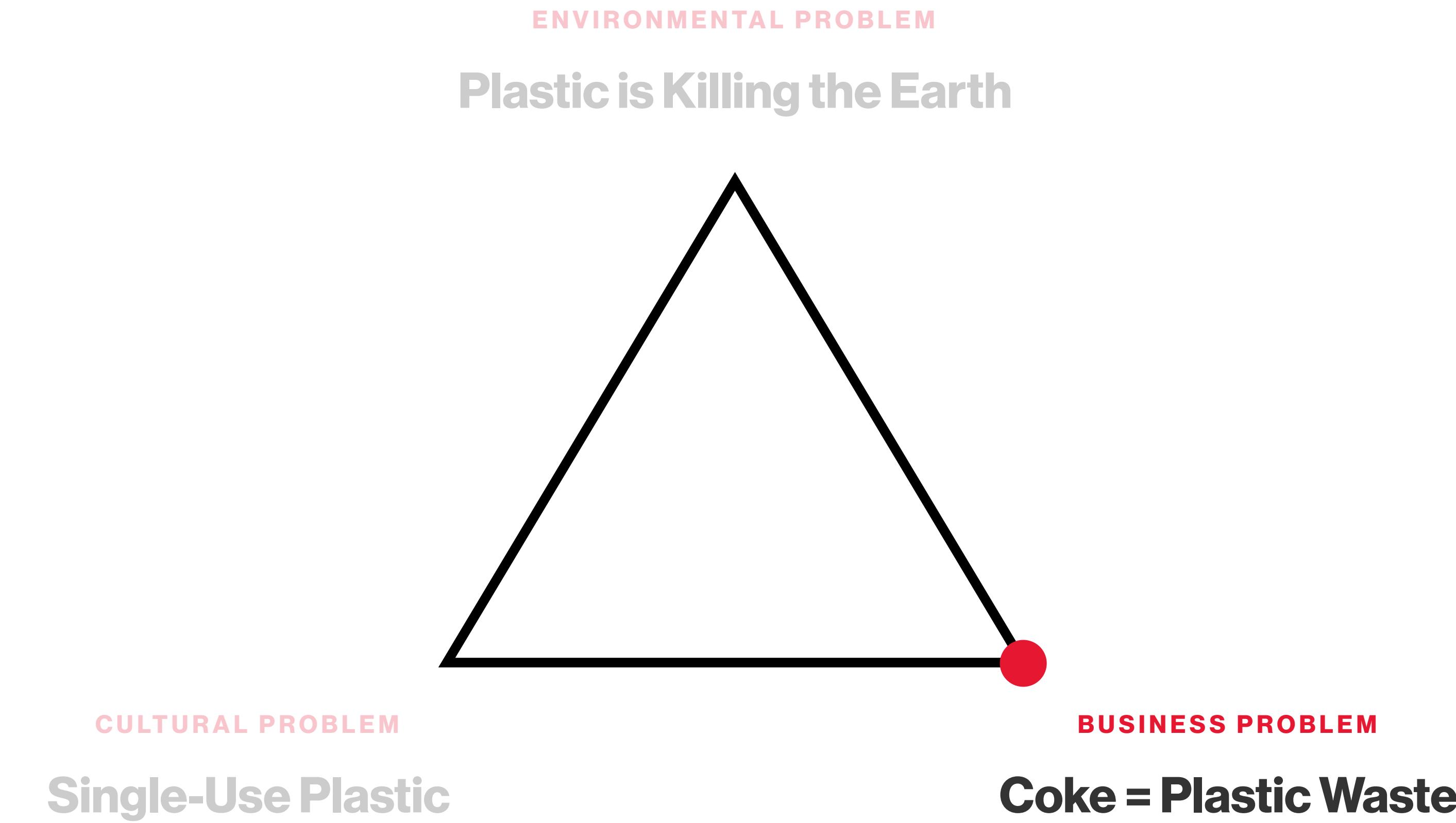
BUSINESS PROBLEM

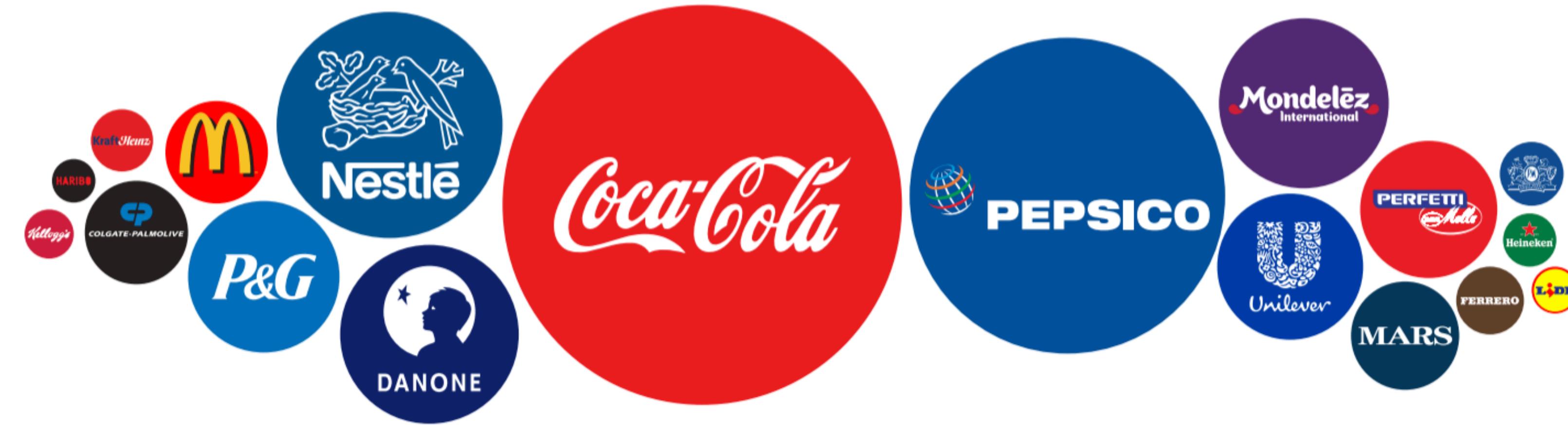
Coke = Plastic Waste

PLASTIC PACKAGING

Japan remains a leading plastic consumer, with the second-largest per-capita consumption of single-use plastic products, trailing only the United States.





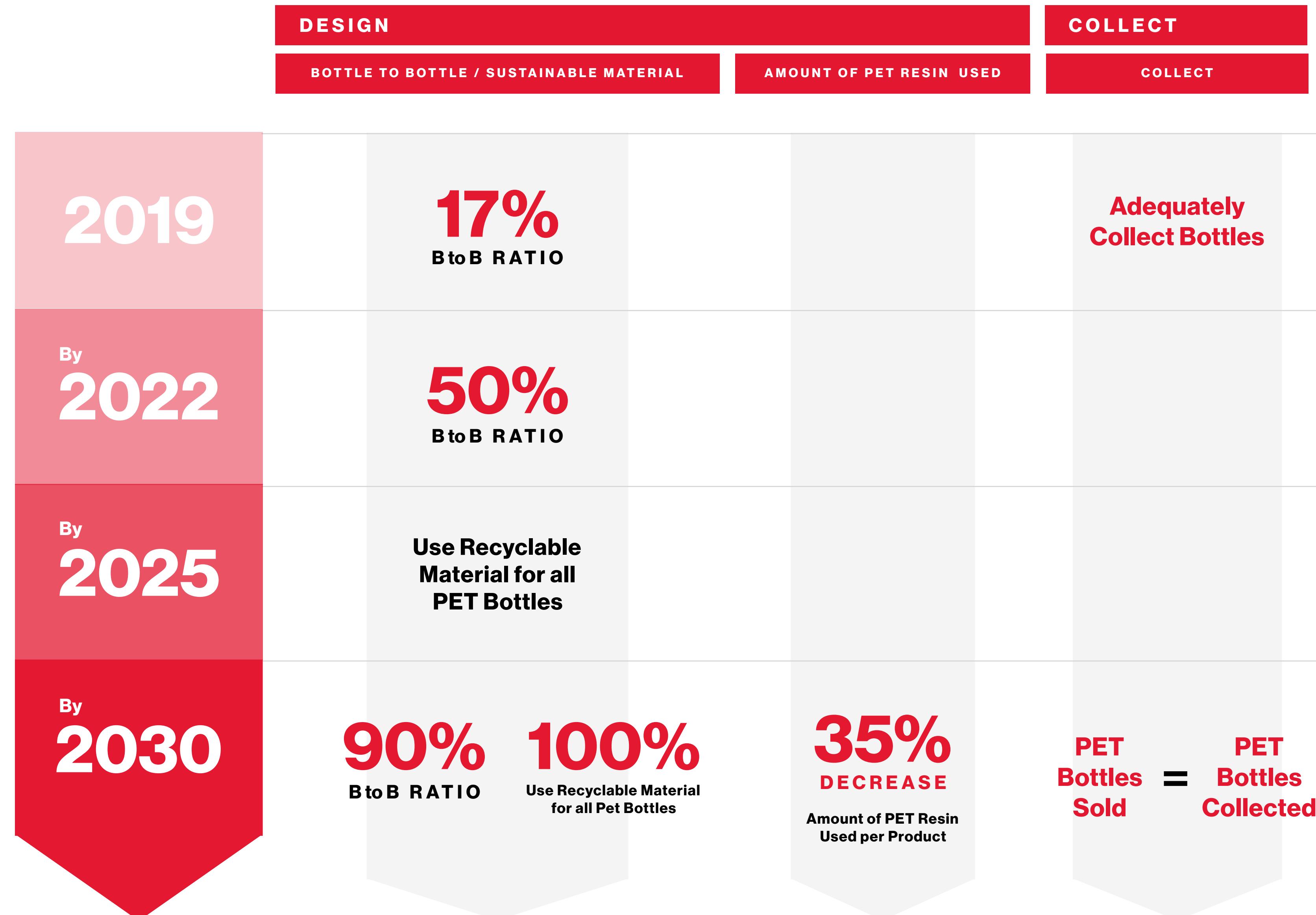


CORPORATE SOCIAL RESPONSIBILITY

Coca-Cola alone is responsible for a sixth of all plastic drinks bottles sold around the world, as they revealed it used three million tonnes of plastic packaging in one year.

WORLD WITHOUT WASTE

In response to the backlash the company received from their use of plastic, Coca-Cola shared their vision to use 100% recyclable material for their bottles and achieve a 90% Bottle-to-Bottle production ratio by the year 2030



THOUGHT STARTER

How could Coca-Cola be part of the solution to the plastic crisis instead of contributing to the problem?

01/ ENVIRONMENTAL PROBLEM

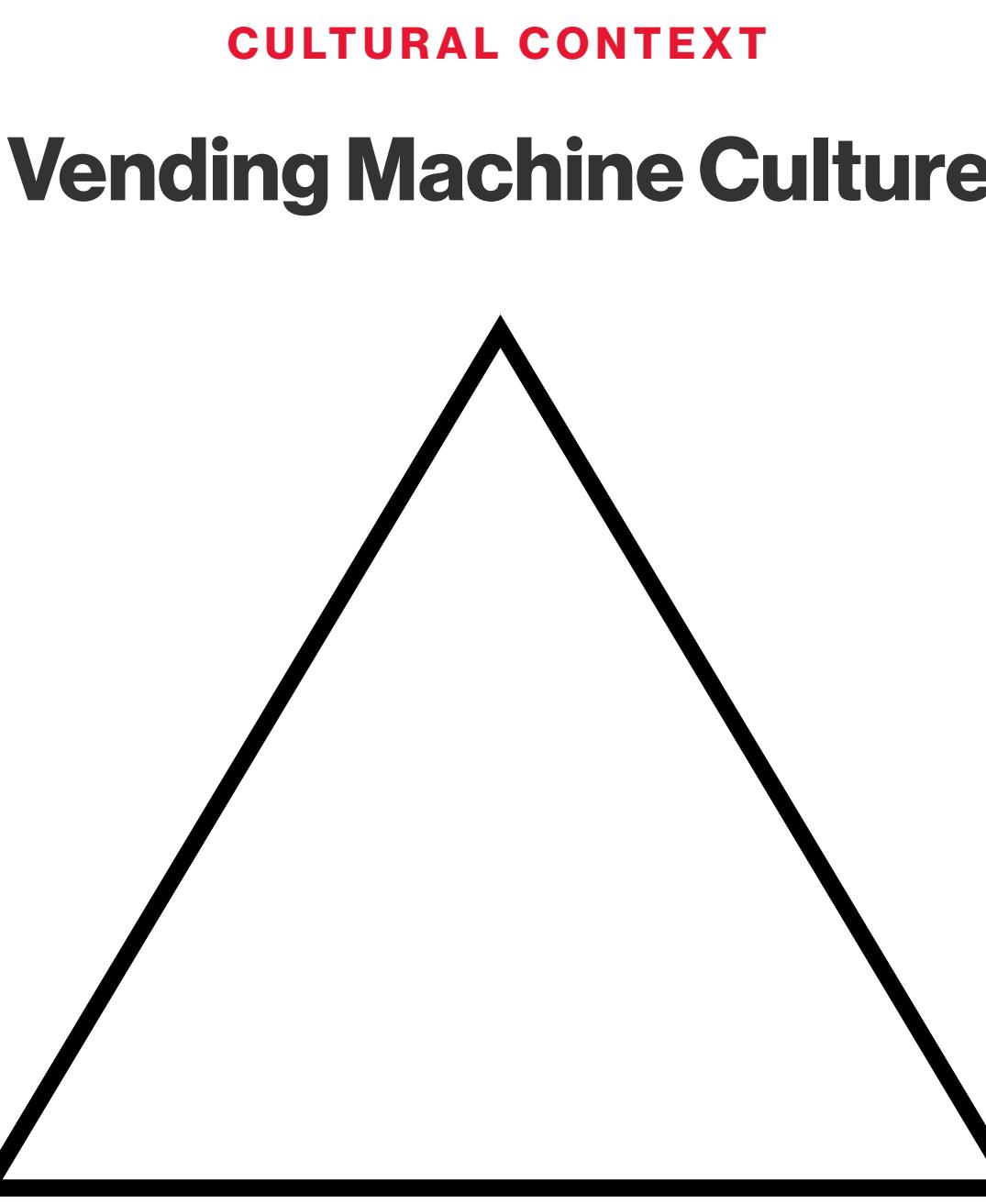
Plastic Waste

02/ BUSINESS OPPORTUNITY

Vending Machines

03/ CULTURAL CONTEXT

Sense of Purpose



Vending Machine Culture

MARKET LANDSCAPE

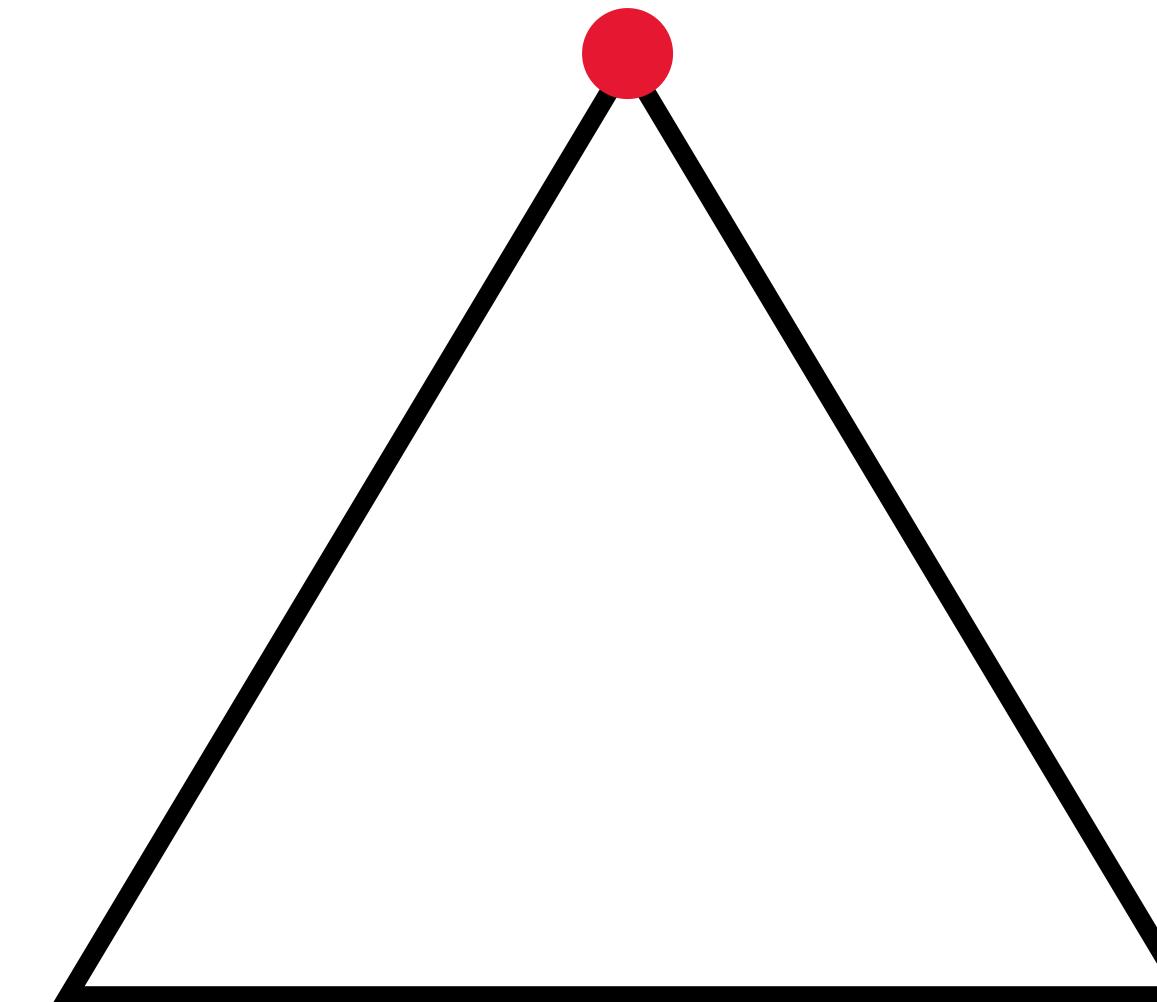
Lack of Young Audience

BUSINESS RELEVANCE

880K Vending Machines

CULTURAL CONTEXT

Vending Machine Culture



MARKET LANDSCAPE

Lack of Young Audience

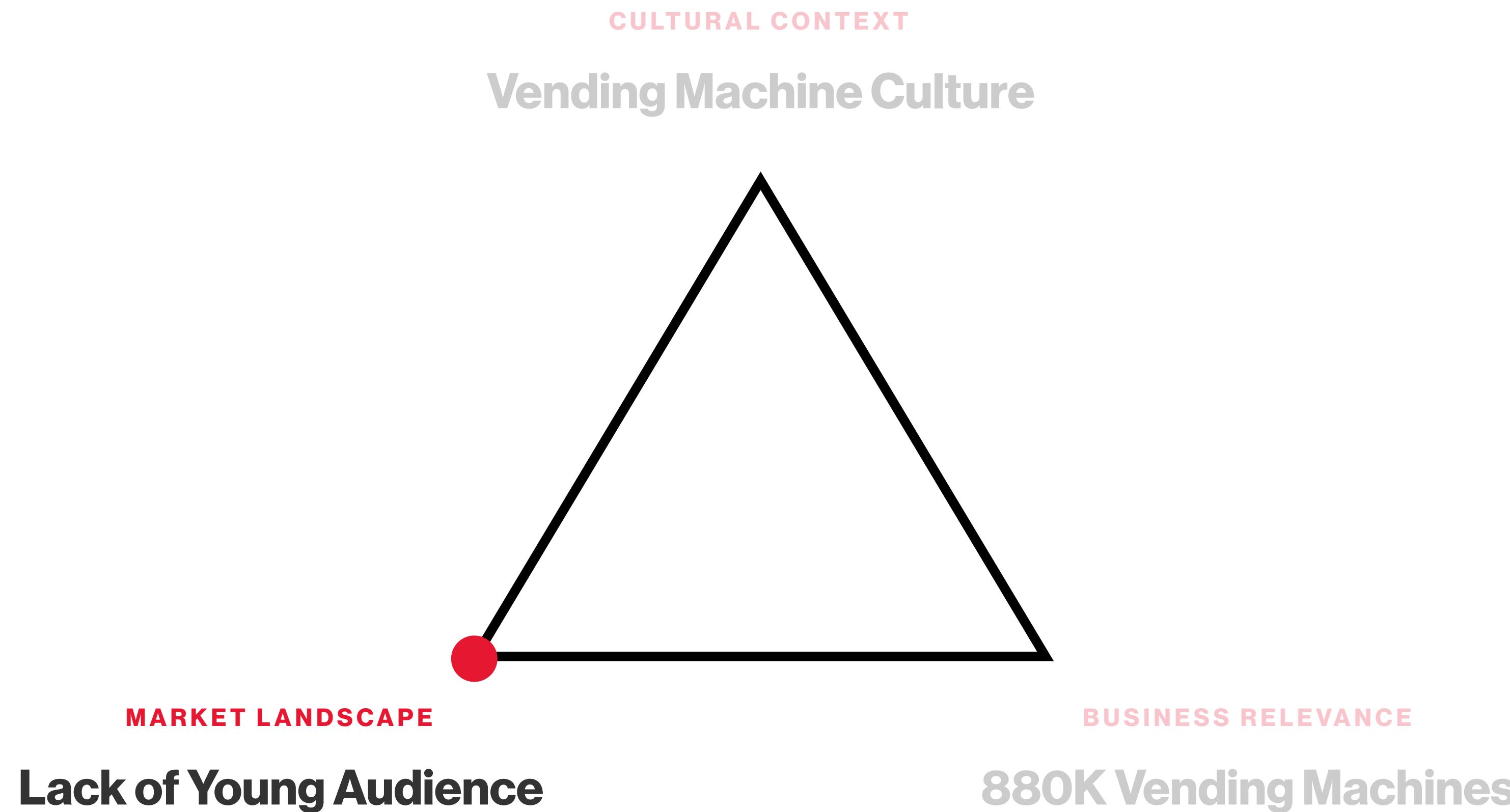
BUSINESS RELEVANCE

880K Vending Machines



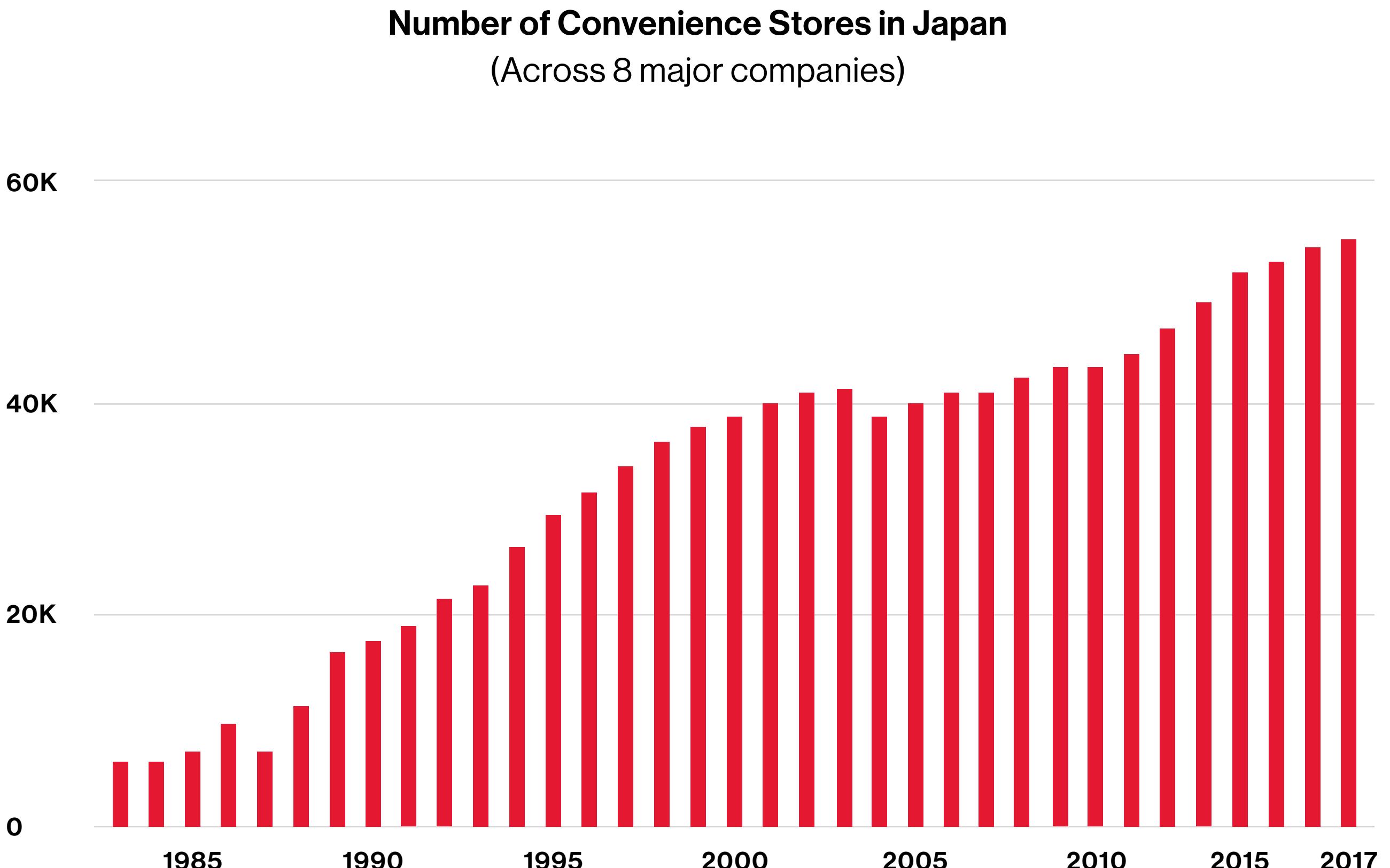
CULTURAL ARTIFACT

There are over 5.5 million vending machines in Japan - one for every 23 people, the highest ratio in the world



AUDIENCE

Companies struggle to attract younger people to vending machines since these generation of people grew up during the rise of convenience stores in Japan



Source: Japan Franchise Association (JFA)

RISE OF CONVENIENCE STORES IN JAPAN

Cheap, Close, Variety

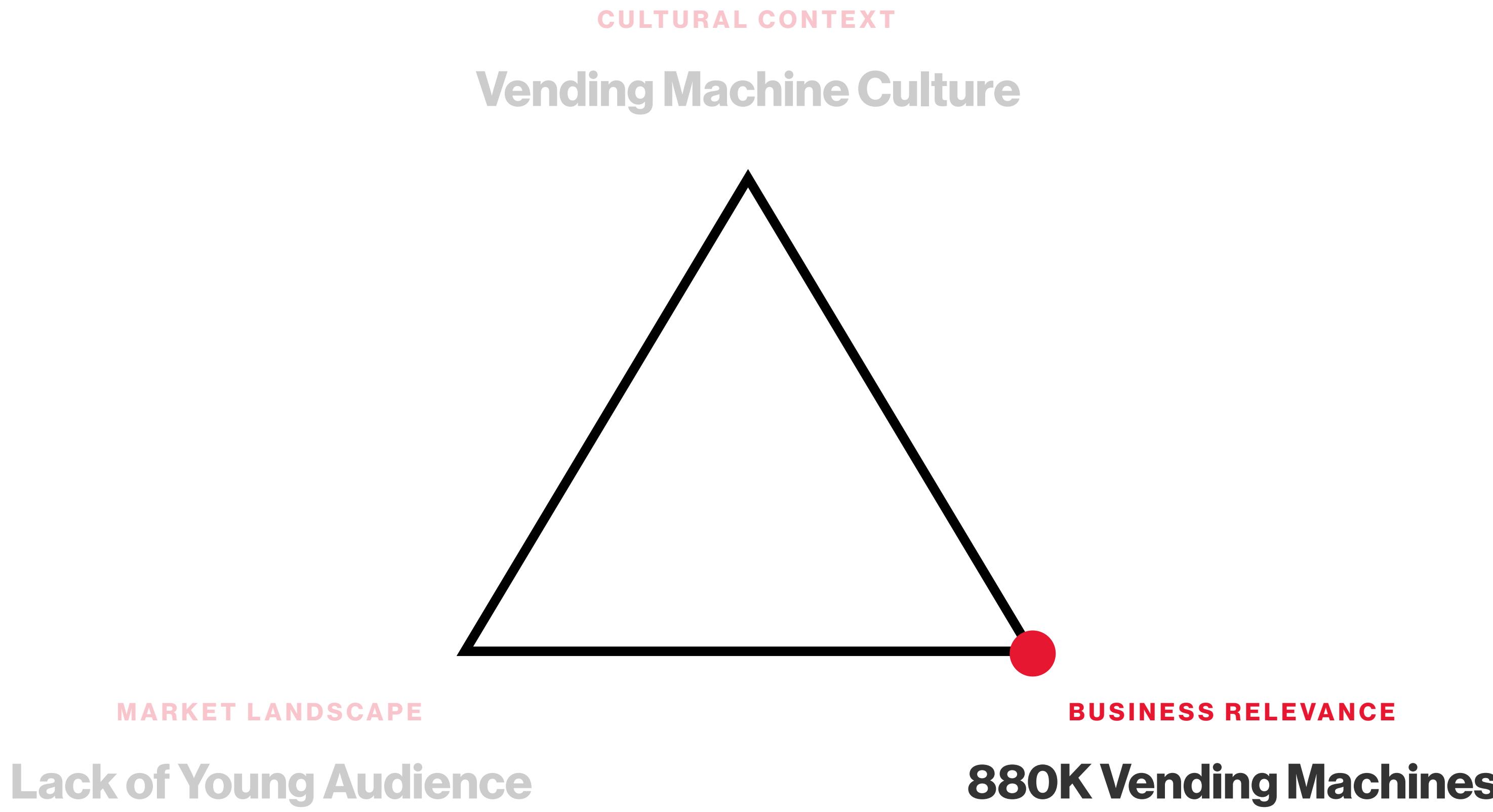
VOICES

“I can find convenience stores fairly easily.”

“I like going into convenience stores even when I don’t want anything.”

“I often buy food and drinks together so I go to convenience stores.”

“Vending Machines are expensive compared to convenience stores.”



BRAND UBIQUITY

Coca-Cola leads the market by owning 27% of vending machines in Japan, and is now increasing the number of “smartphone vending machines” to attract the younger demographic



OPPORTUNITY FOR INNOVATION

Competitors are making improvements to their vending machines by integrating new payment methods or creating digital experiences that offer new value



Buy items on app,
Pick up at the station

"acure pass" is a new platform that allows you to easily buy and collect drinks from Innovation Vending Machines.

LINEをかざすとドリンクポイントたまる!
Tappiness
タピネス



SMART VENDING MACHINES

In attempt to attract young consumers, Coca-Cola Japan introduced a royalty program that affords in-app payment



THOUGHT STARTER

How could Coca-Cola Japan disrupt the market by rethinking the vending machine experience?

01/ Plastic Waste

ENVIRONMENTAL PROBLEM

02/ Vending Machines

BUSINESS OPPORTUNITY

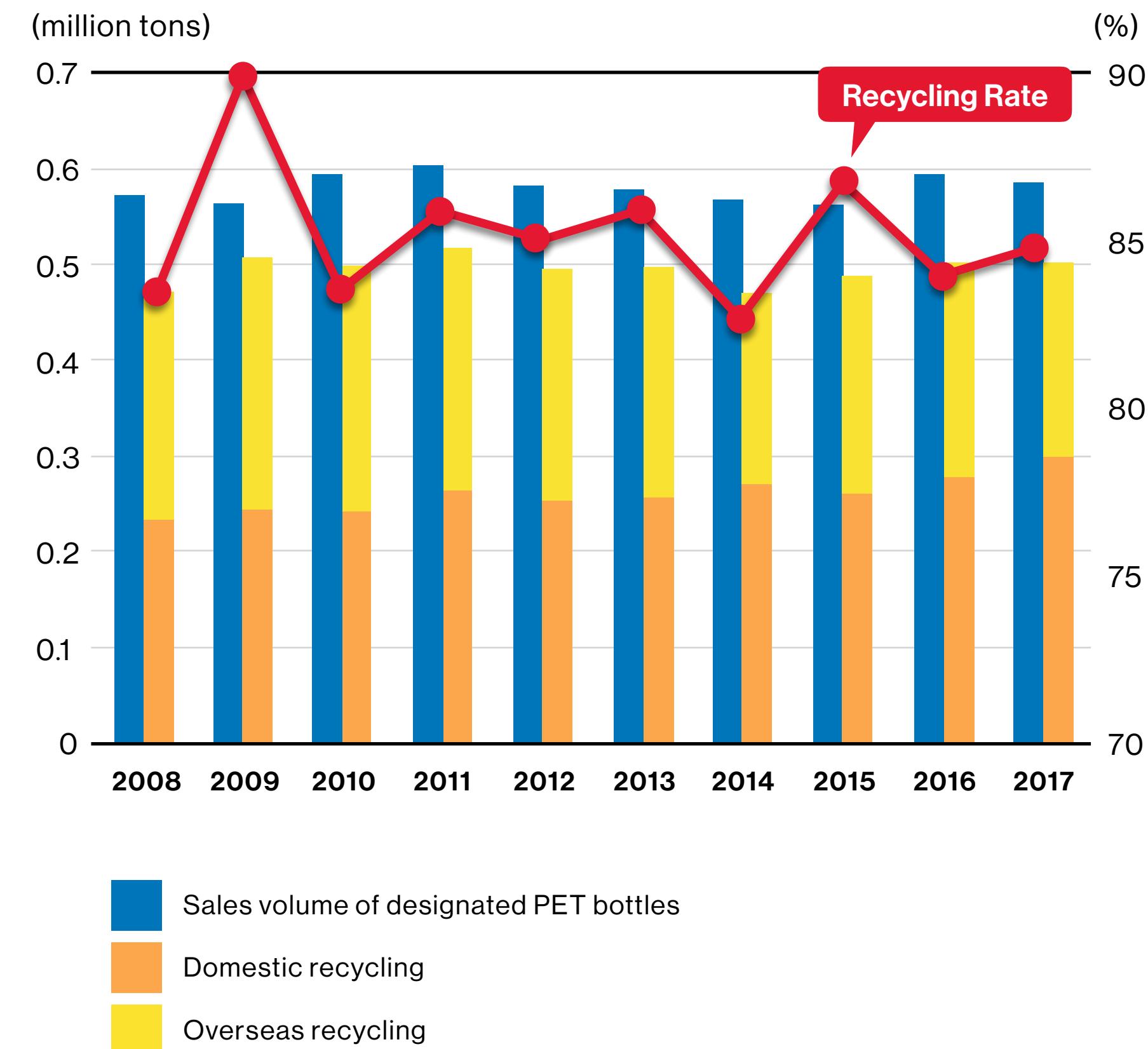
03/ Sense of Purpose

CULTURAL CONTEXT

RECYCLING CULTURE

Japan's recycling culture was fostered by daily reinforcements from the education system and the sense of responsibility to meet community expectations.

PET Bottle Recycle Rate in Japan
Created by nippon.com based on data from the Council for PET Bottle Recycling



PUBLIC PERCEPTION

“I want to know how my daily contribution is actually affecting the environment.”

“I don't know how my individual actions lead to improvement. I'd be more motivated if I knew what kind of contribution actually helps.”
(Female, 20s)

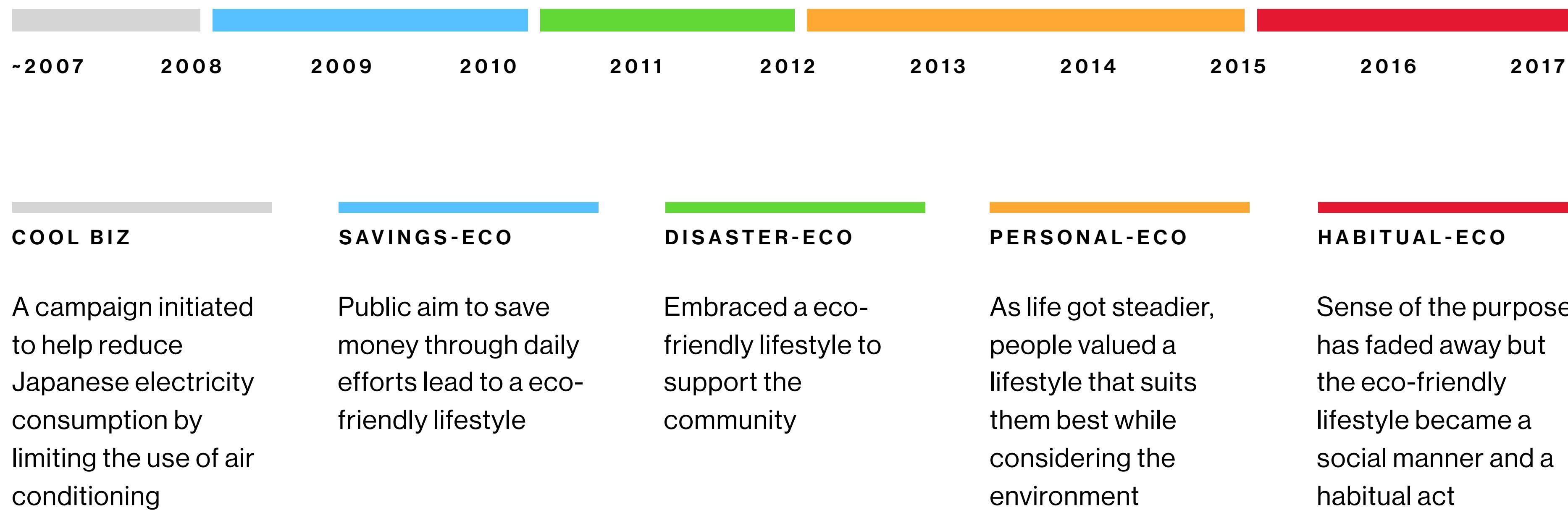
“I don't feel motivated if I don't know how our individual efforts are actually helping or can't see any statistical results.”
(Female, 40s)

“I separate my waste properly but I'm curious how these separated wastes are being recycled, incinerated and disposed.”
(Female, 30s)

“I don't know how my contributions are actually improving the environment since the information being shared is limited.”
(Female, 70s)

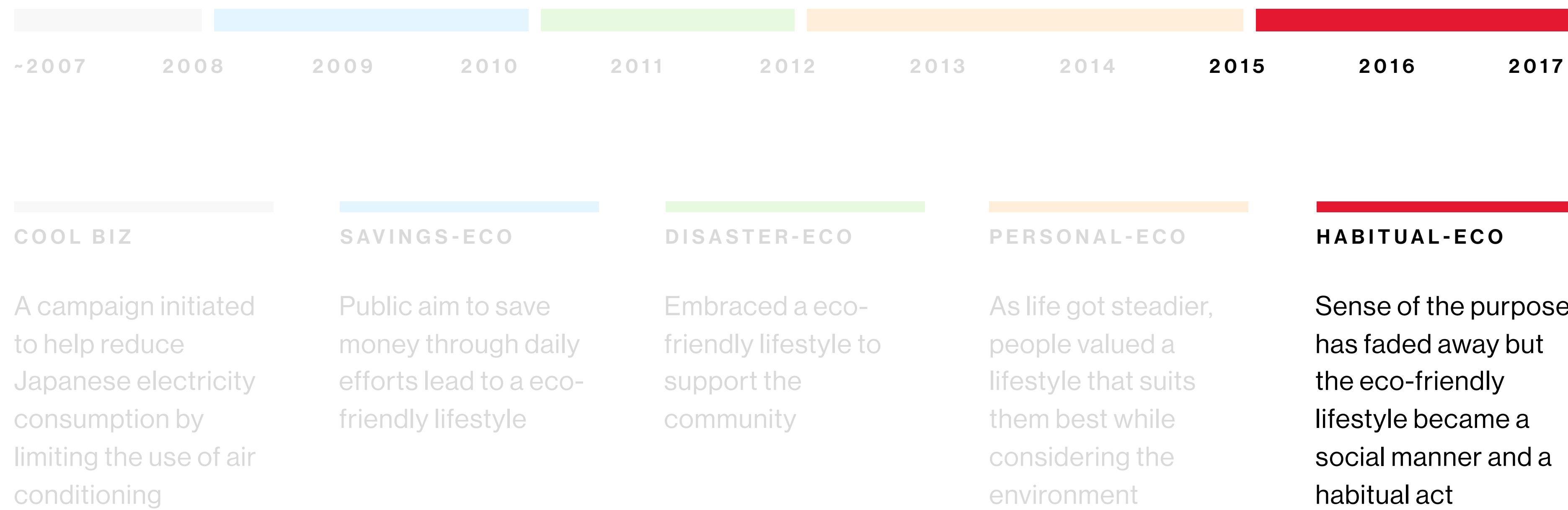
SHIFT OF PERSPECTIVE ON THE ENVIRONMENT

Japanese people became environmentally conscious after the great earthquake that occurred in 2011. Though years after the disaster, people have lost interest and the younger generation lack the awareness of their actions as it became a habitual act that is done as a social manner.



SHIFT OF PERSPECTIVE ON THE ENVIRONMENT

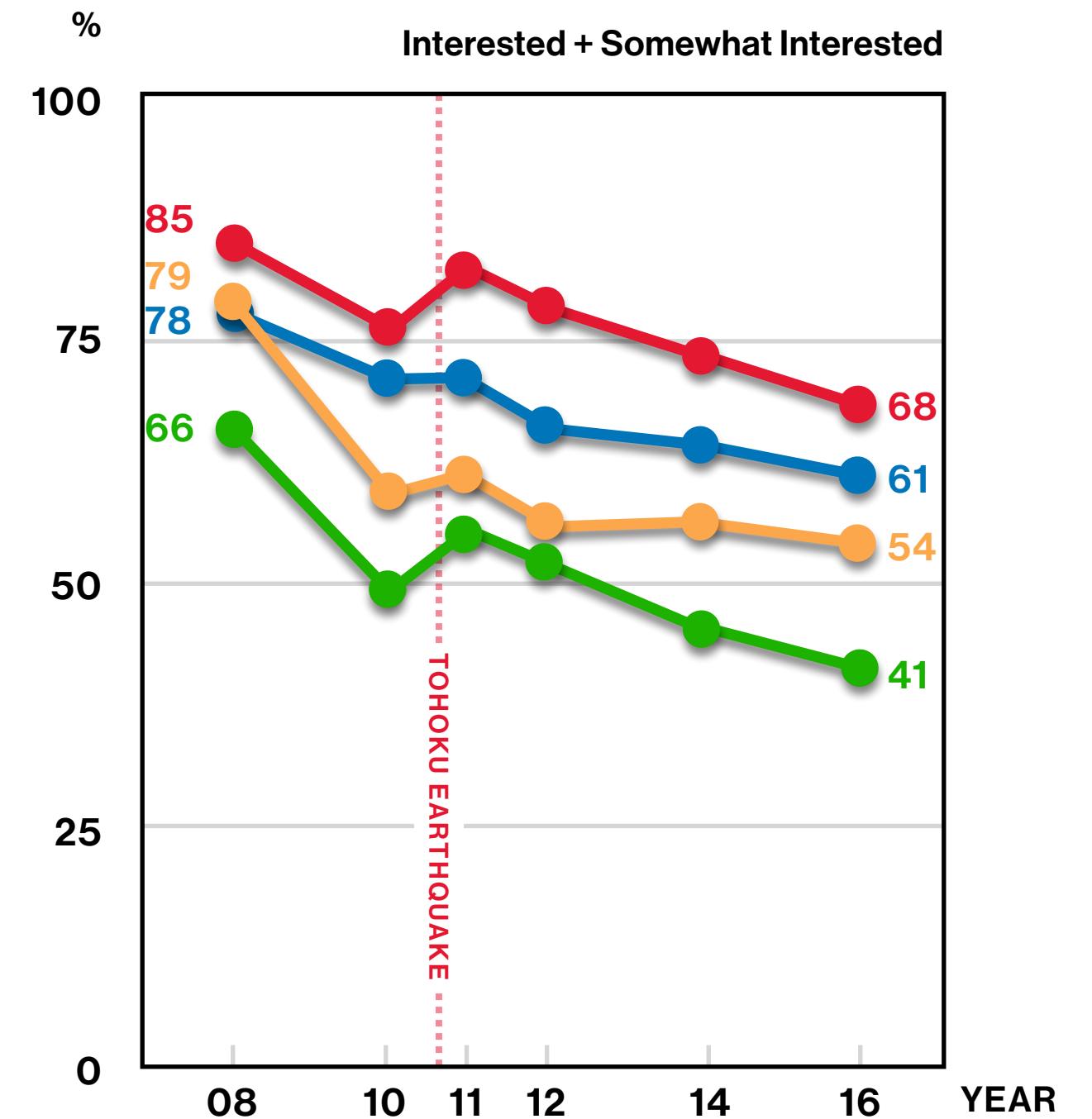
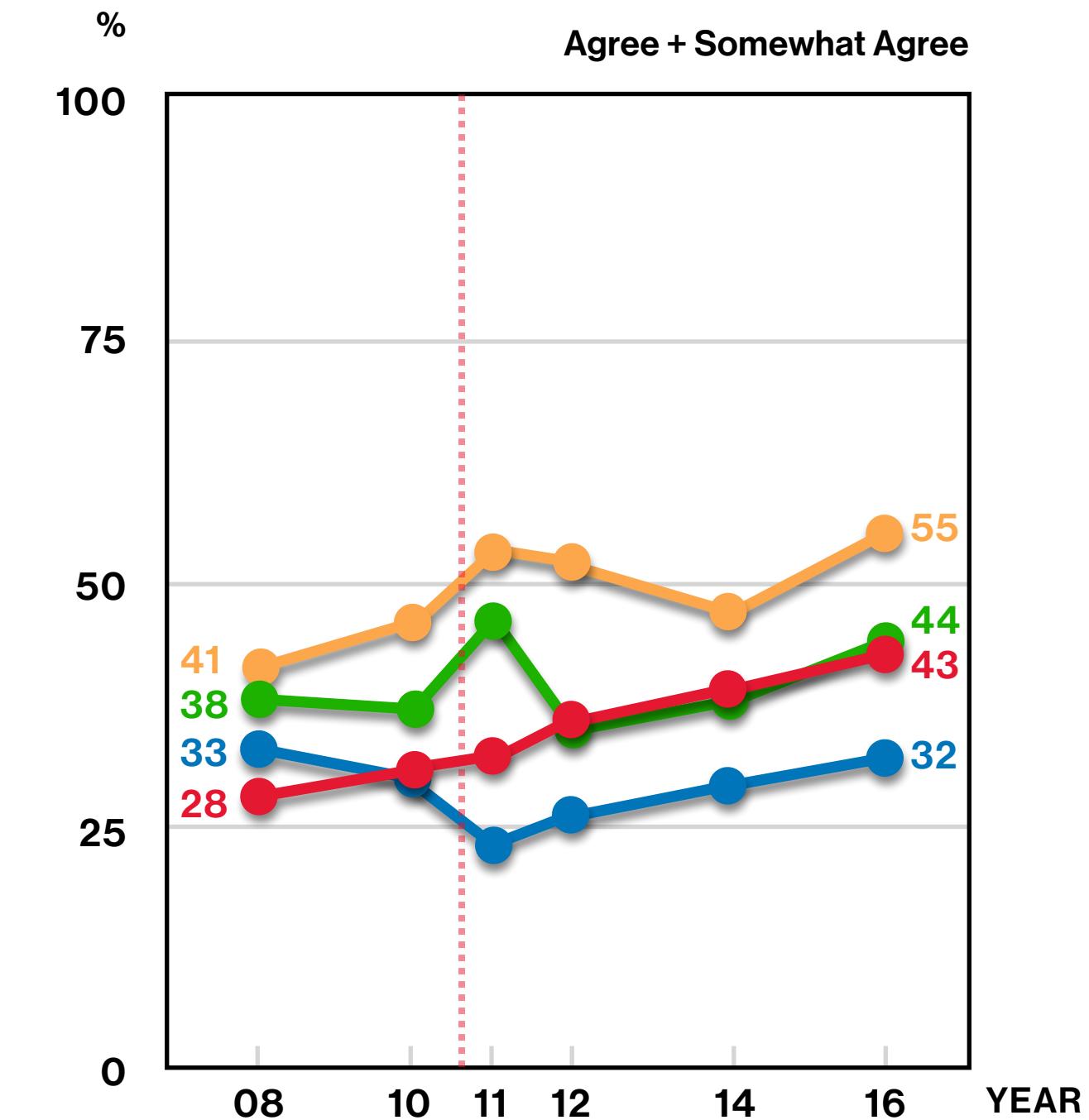
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AWARENESS & INTEREST

Despite the high recycling rate, Japanese adults', particularly young adults', interest in the environment is declining since the big earthquake in 2011.

55 percent of age 20-30 women and 44 percent of age 20-30 men stated that they don't know what they should do to improve the environment.

Interest towards the environment**Don't know what to do to help improve the environment**

THOUGHT STARTER

How could Coca-Cola Japan make both, recycling and vending machines attractive to the younger demographic?

Case Studies

COCA-COLA GREAT BRITAIN

Coca-Cola Great Britain partnered with Merlin Entertainment to encourage visitors to recycle their empty plastic bottles.

For every plastic bottle you recycle, you'll receive 50% off one of Merlin Entertainment's leading attractions.

"One of the biggest issues for consumers is finding somewhere to recycle when they're out and about"

— Jon Woods, Coca-Cola Great Britain General Manager



COCA-COLA CHINA

VenCycling is a smart recycling machine that encourage consumers to participate in making sure empty bottles are properly disposed.

The machine consists of eyes that collect packaging and another that gives out beverages. When consumers contribute cans or plastic bottles to the machine, they will receive credits via their mobile device in return, which may be redeemed for beverages or products made with recycled plastics.

“We envision a system that allows vending machines to also collect used packaging. It will help enhance recycling awareness among consumers and nurture recycling habits.”

— Dr. Shell Huang, VP, R&D, Coca-Cola Asia Pacific



COCA-COLA JAPAN

Programmed to only accept clean PET bottles with the objective to create more high-grade recycled PET bottles, which leads to “Bottle-to-Bottle” recycling.

Installed in the Coca-Cola building on February 20, 2019 to cultivate a culture within the company first.

“In the future, I think that educational tools incorporating RVM can be packaged and linked with various educational institutions.”

— Kentaro Shibamoto, SES Manager, Coca-Cola Japan



OTHER RVMs

Reversing vending machines have been introduced within the past few years to encourage people to recycle by rewarding them, whether through money or some type of credit.

E.g. Beijing - subway credits for public transportation



BENEFITS OF RVM

Since PET bottles can be compressed smaller than crushed by human hands, the volume at the time of collection will be **reduced to about one third of the conventional volume.**

The volume reduction effect **reduces the CO₂ generated during transportation to one-third and also reduces labor costs** when sorting at recycling factories.

BIN-E: SMART WASTE BIN

An IoT device which sorts and compresses the recyclables automatically. It combines unique AI-based object recognition, fill level control and data processing to make waste management convenient and efficient.



KAMIKATSU WASTE STATION

First municipality in Japan to promote a Zero Waste policy. Residents sort waste into 45 types in 13 categories, and managed to recycle 81% of all their refuse in 2016.

The station became a center for interaction across the region.

"The whole town converges here, which makes it also a place for sparking community interaction."



Approach

**EXISTING
PROBLEM****ENVIRONMENT**

**Company's contribution
to plastic pollution**

**CURRENT
SOLUTION**

**World Without Waste:
A 2030 Vision**

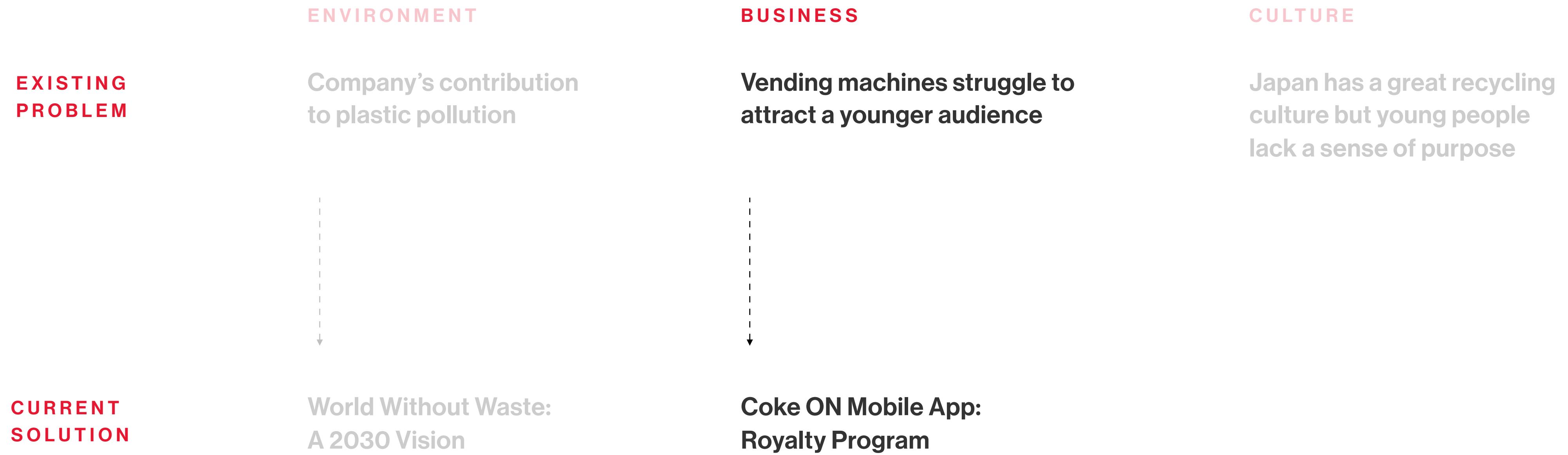
BUSINESS

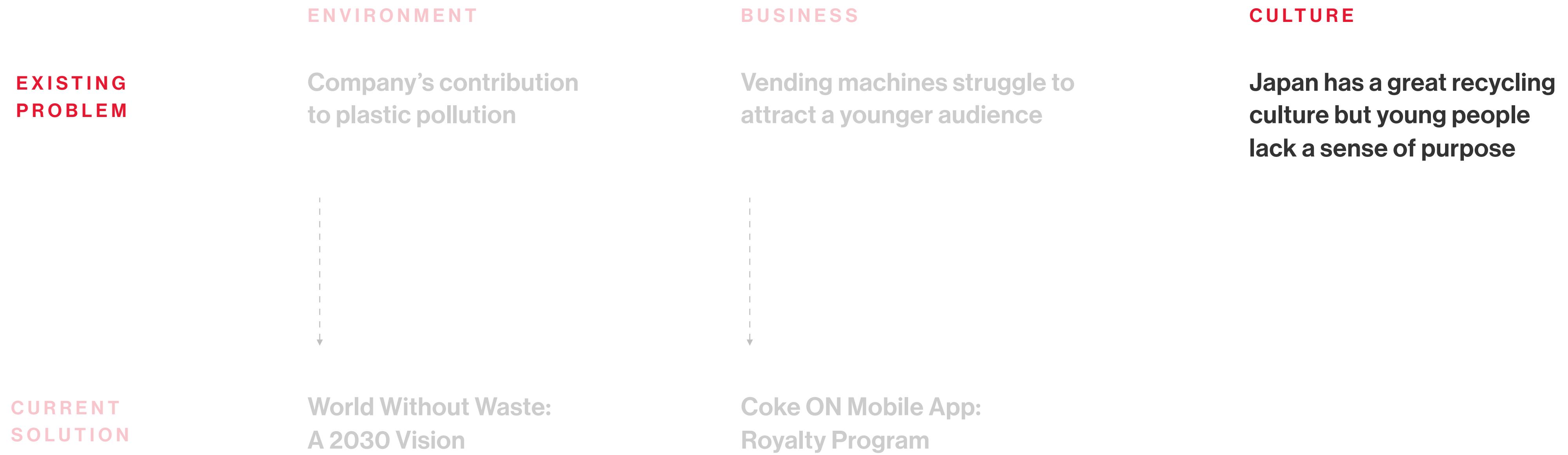
Vending machines struggle to
attract a younger audience

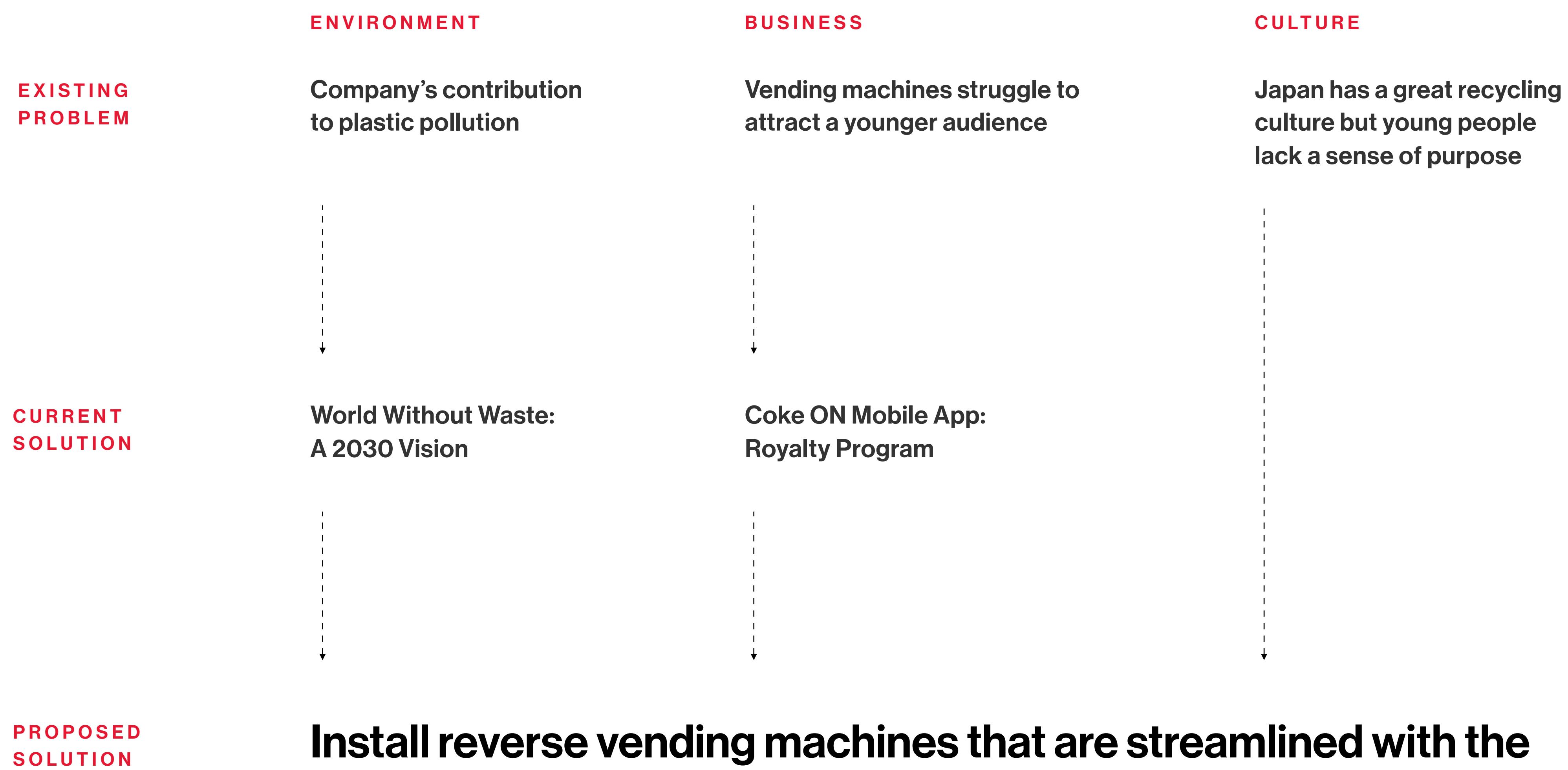
CULTURE

Japan has a great recycling
culture but young people
lack a sense of purpose









Install reverse vending machines that are streamlined with the existing Coke ON app to incentivize effective recycling while attracting the younger demographic to use vending machines

COMPONENTS**VIABILITY****Vending Machine**

Leverage Coca-Cola's ubiquitous vending machines



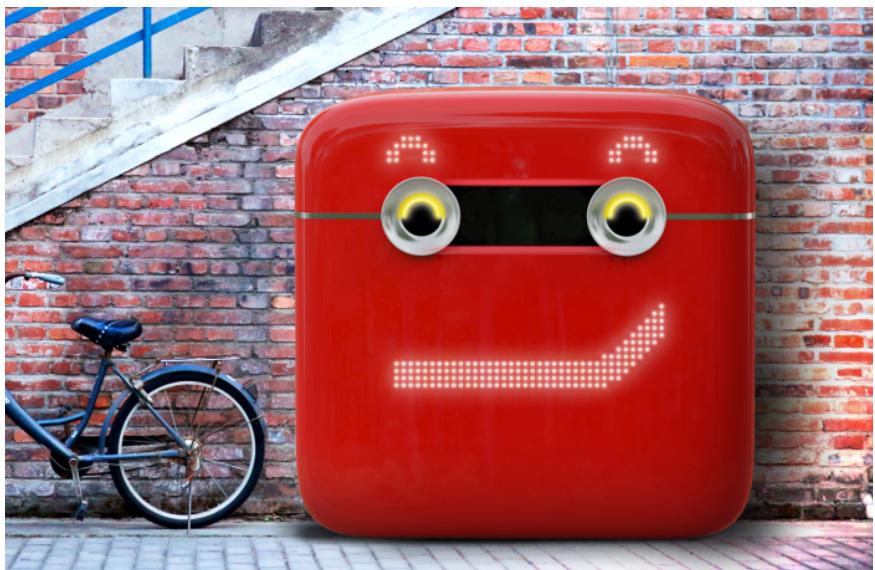
Coca-Cola owns 880K vending machines in Japan

**Mobile App**

Incentivize action by improving the Coke ON royalty program



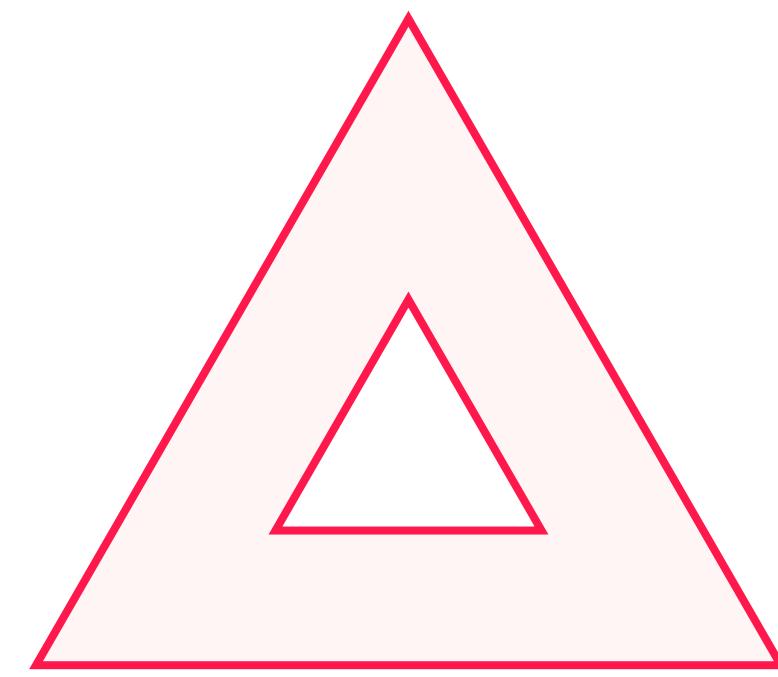
Existing digital offering by Coca-Cola Japan

**Reverse Vending Machine**

Install RVMs to make recycling fun while informing the public



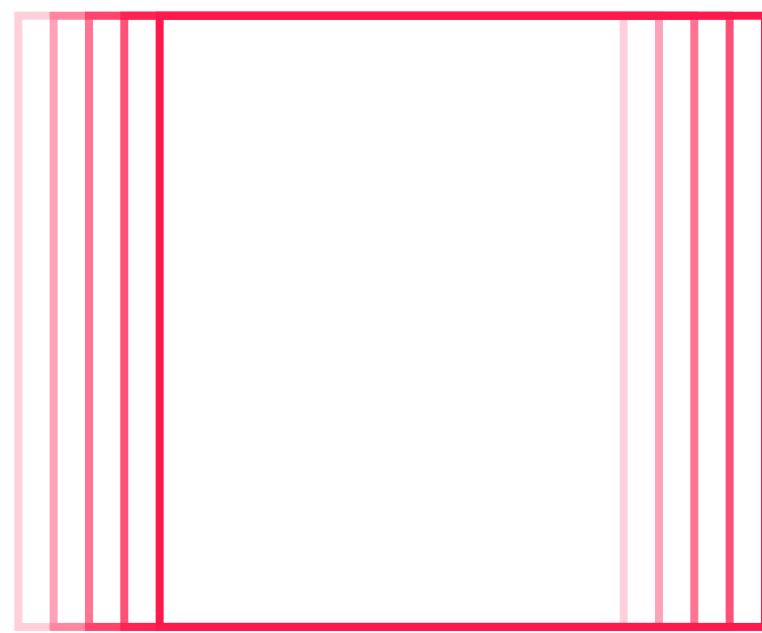
RVMs installed by Coca-Cola in different countries



Be Transparent

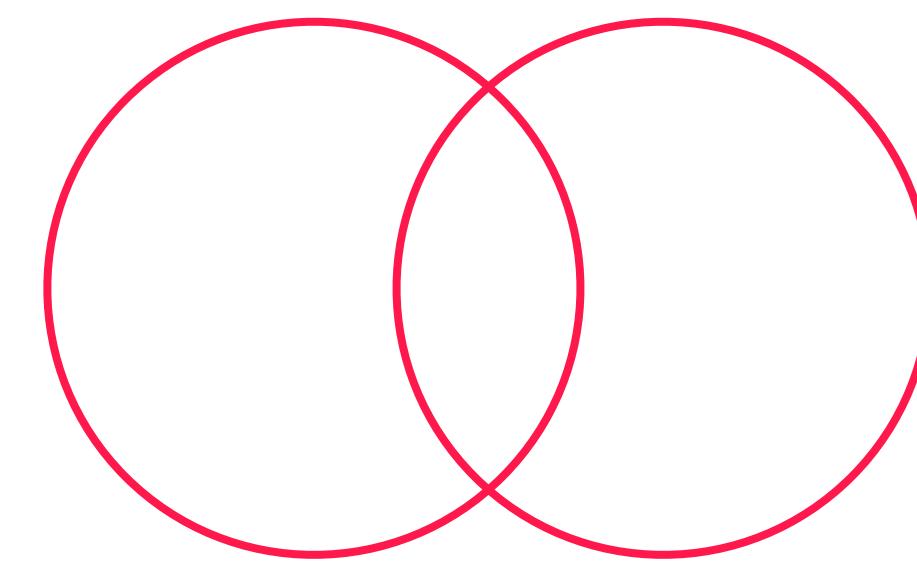
Showcase individual impact in addition to the bigger picture

DESIGN PRINCIPLES



Make It Fun

Enable action through interactions that excite people



Foster Community

Encourage shared value creation to cultivate a relationship

GOALS**IDEA****01/**

Attract younger audience
to vending machines



Offer new ways to engage with the
brand and reward participants

02/

Help Coca-Cola handle
their own plastic waste



Install reverse vending machines
and make recycling fun through
enjoyable interactions

03/

Raise awareness and
interest in the environment



Inform the public on how to increase
the quality of recyclable plastic



Visually showcase community
impact and individual statistics

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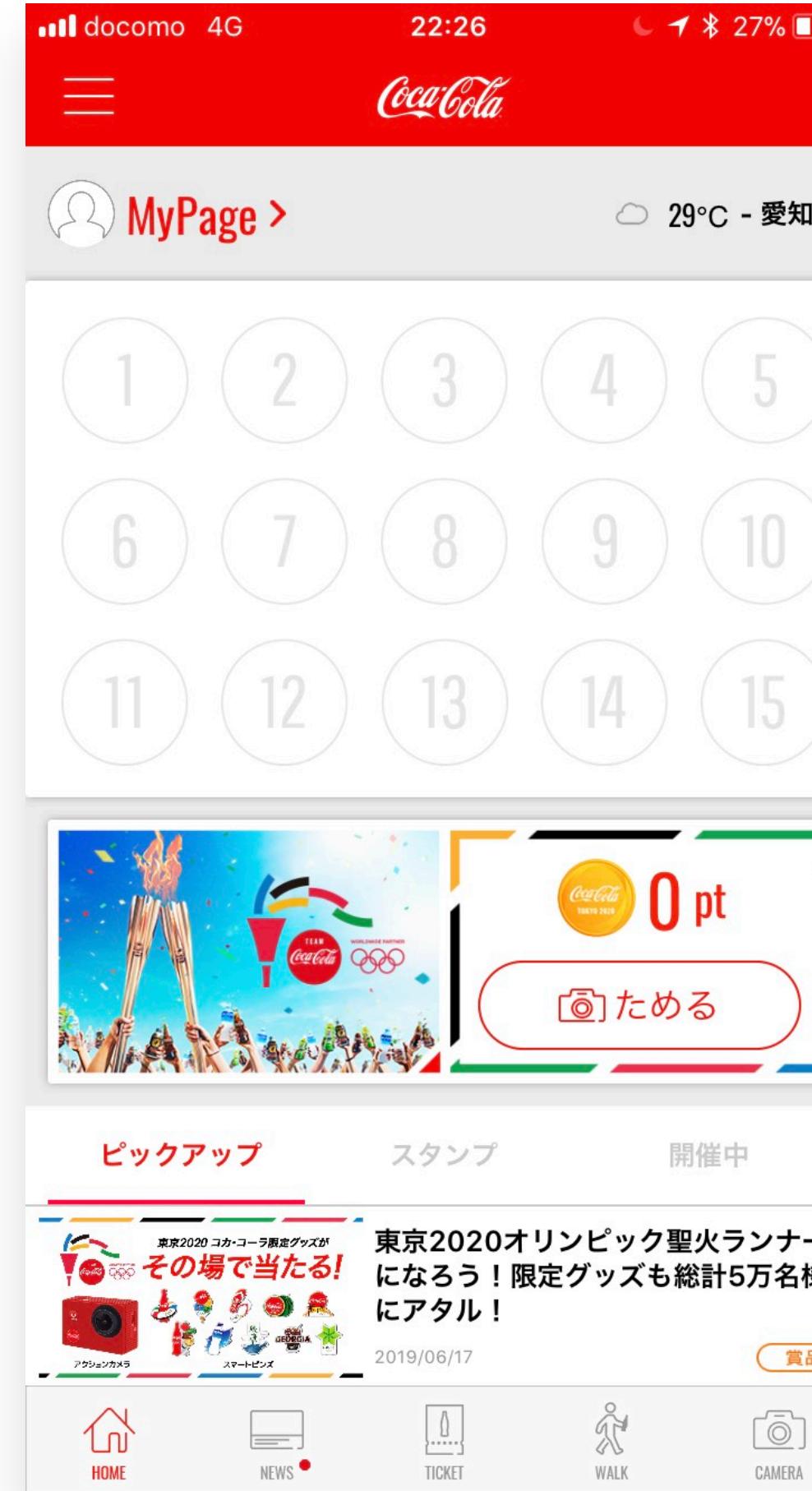


Inform the public on how to increase
the quality of recyclable plastic



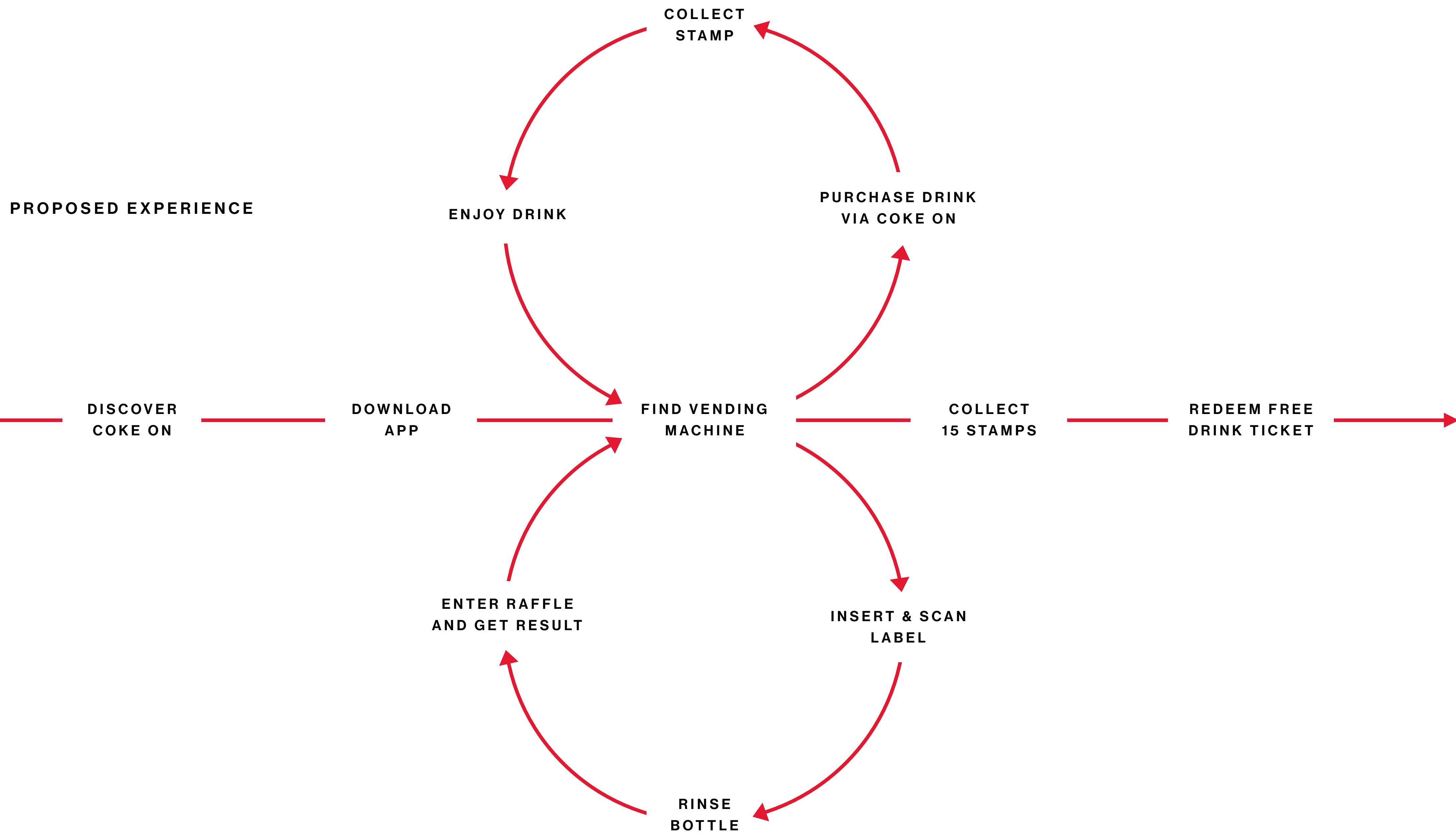
Visually showcase community
impact and individual statistics

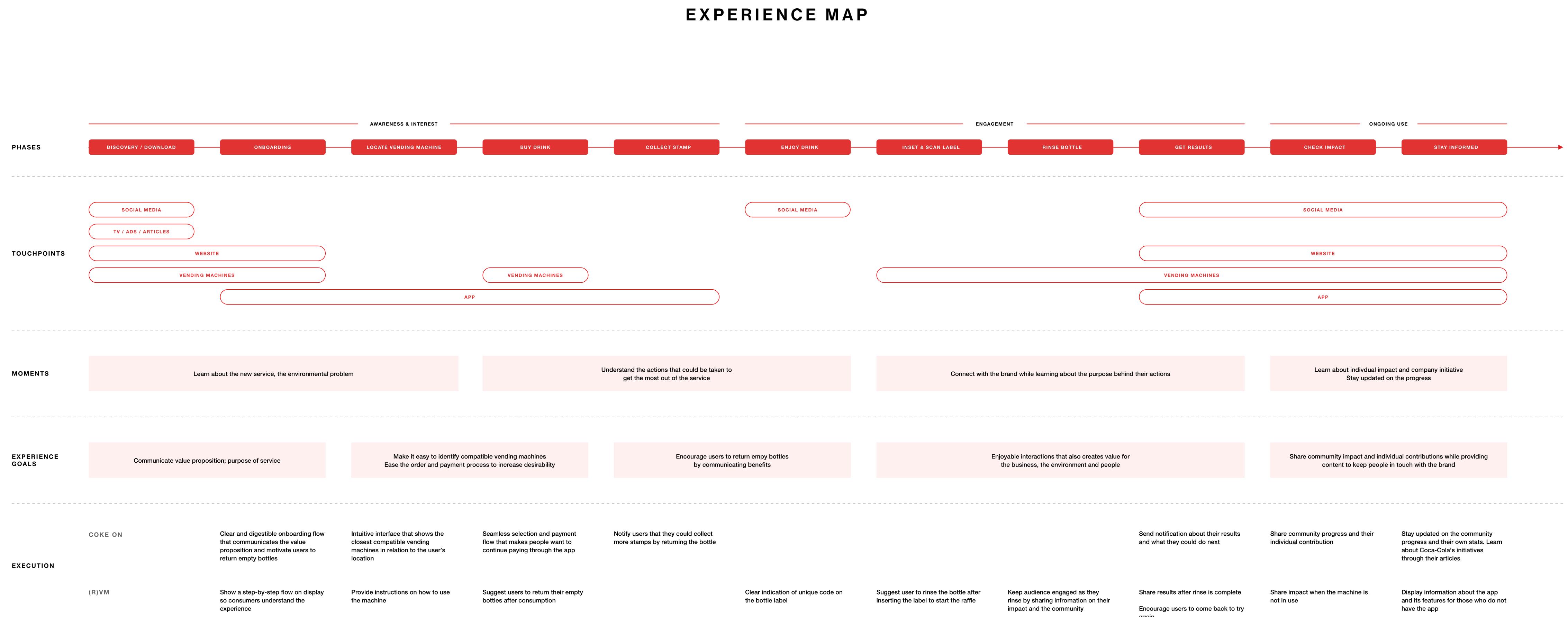
COKE ON MOBILE APP



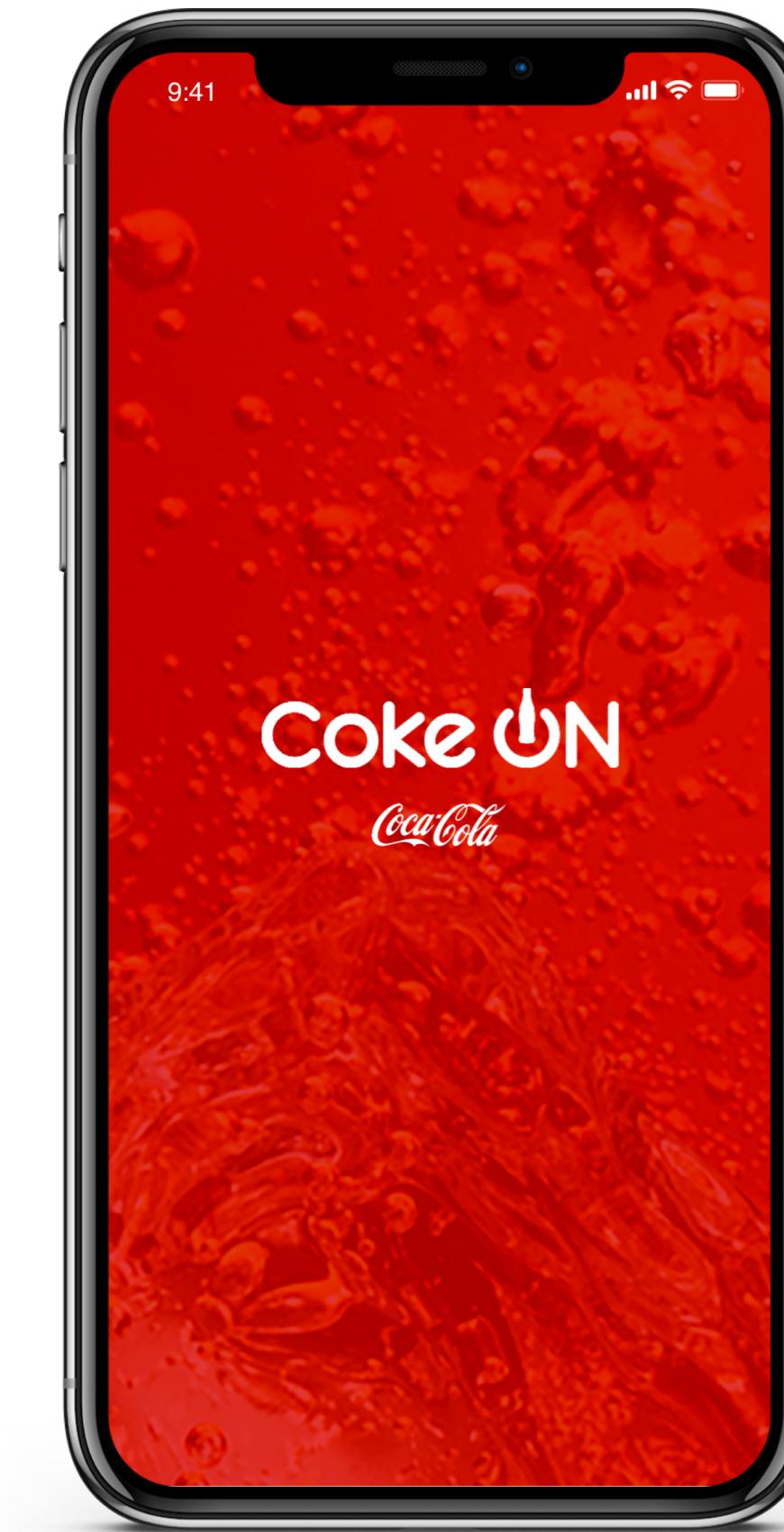
COKE ON MOBILE APP**CURRENT TABS****PROPOSED TAB**





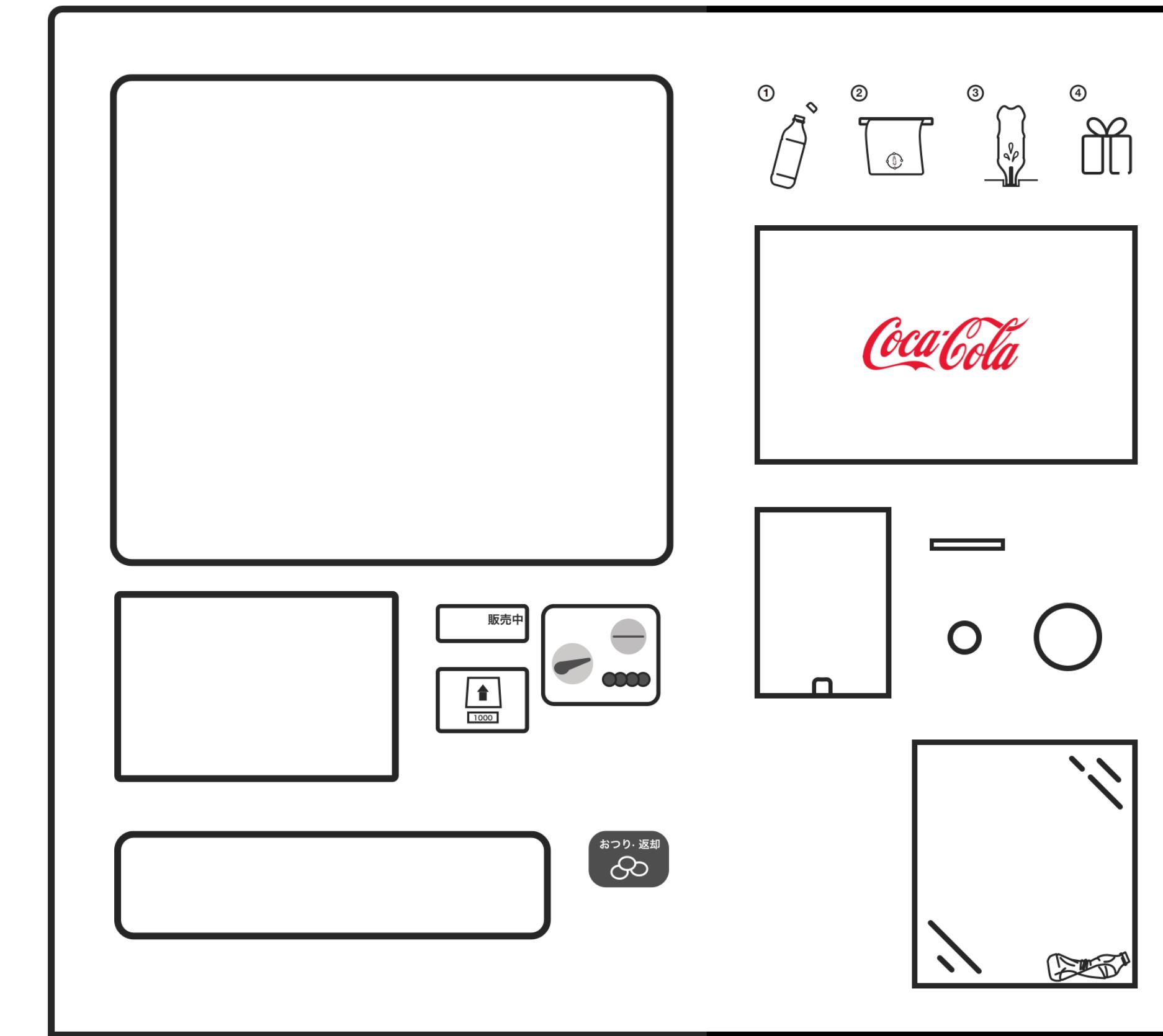


Execution



Coke ON App

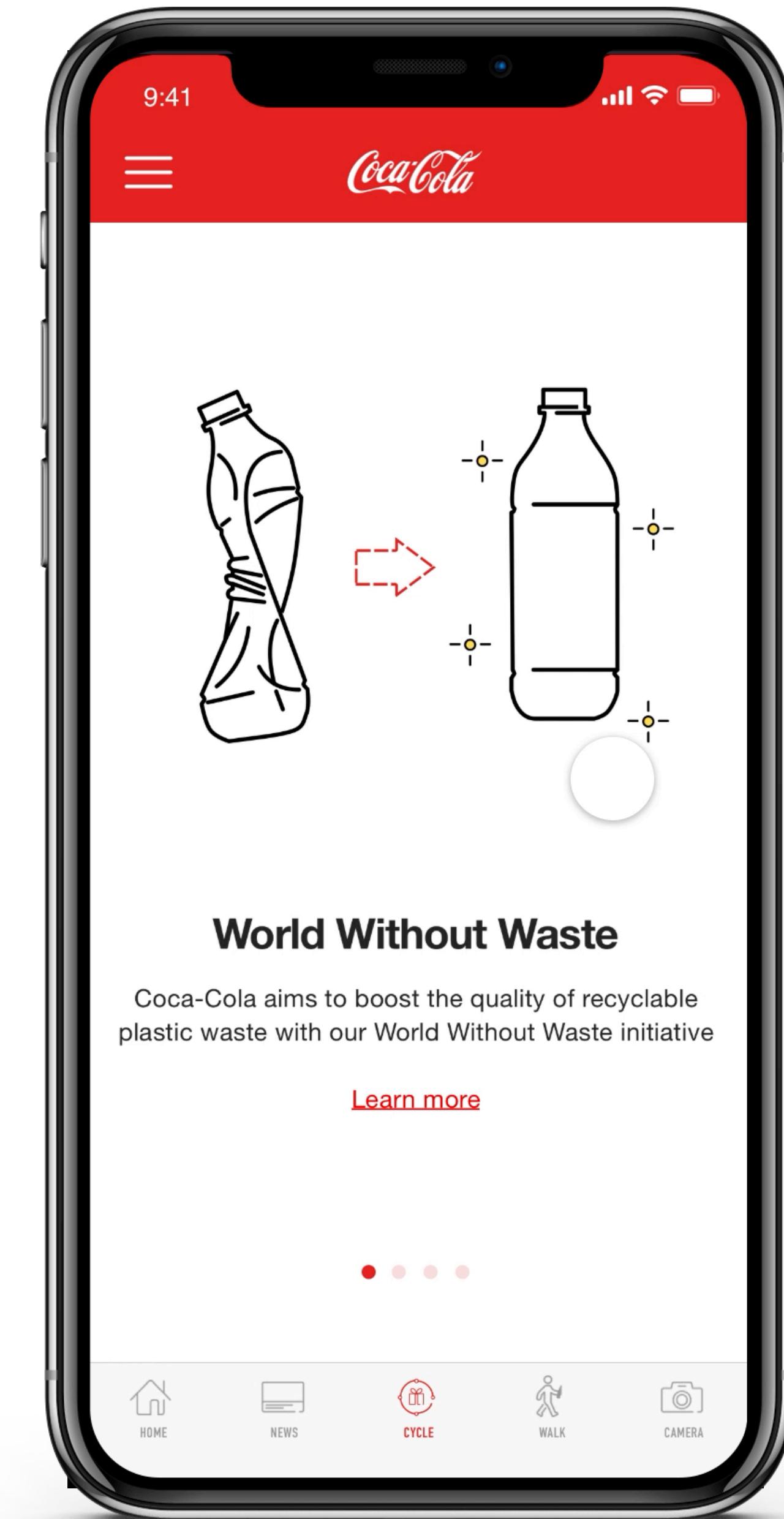
KEY TOUCHPOINTS



(Reverse) Vending Machine

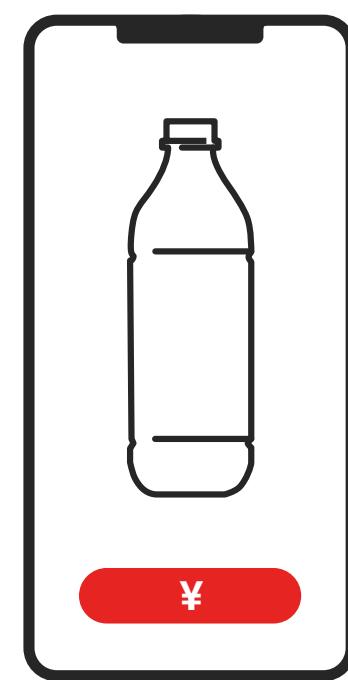
ONBOARDING

Introduce the company initiative through a paginated onboarding flow when the user taps on the new Cycle tab for the first time.

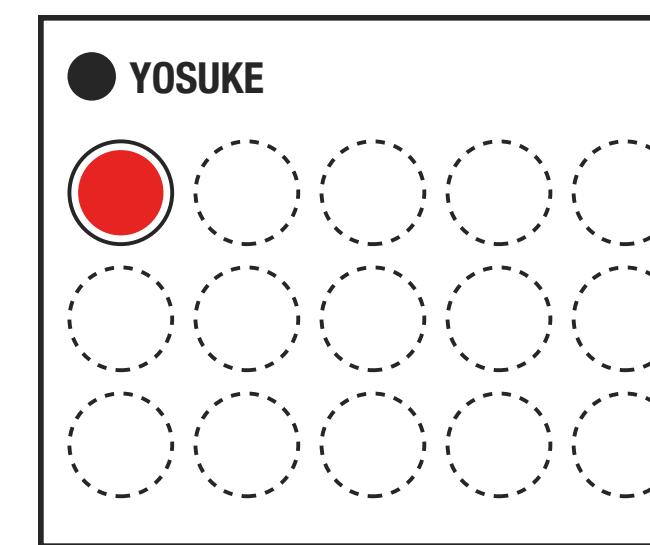


USER FLOW

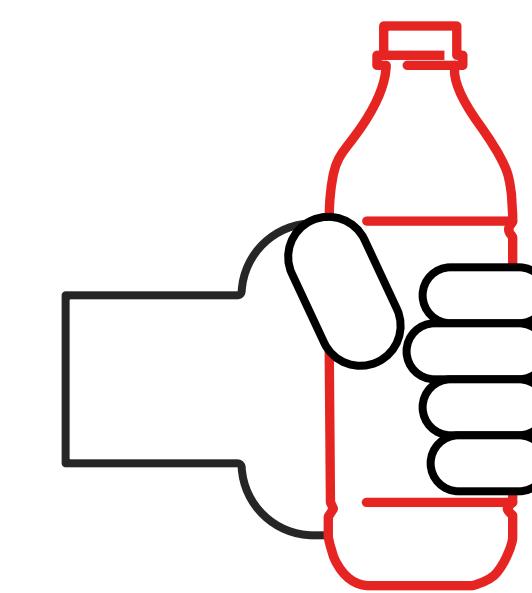
① Pay In-App



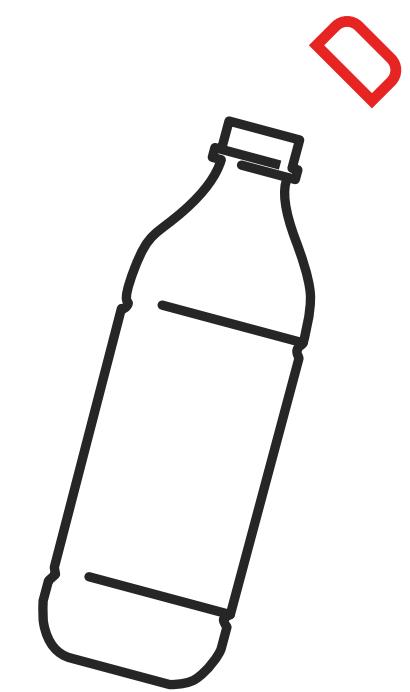
② Collect Stamp



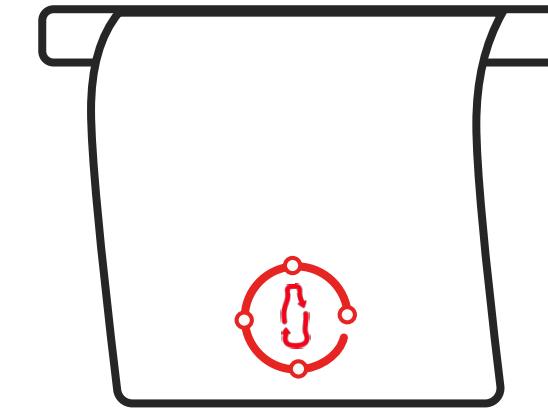
③ Enjoy Drink



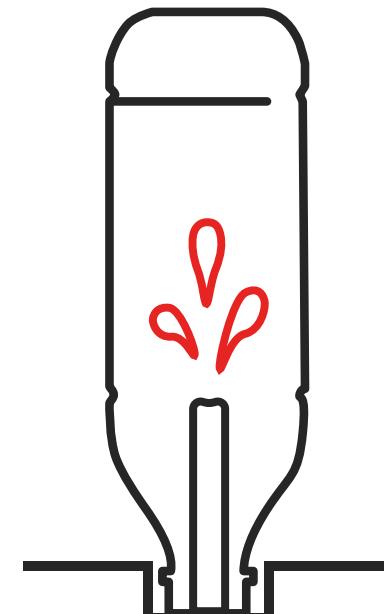
④ Separate Cap



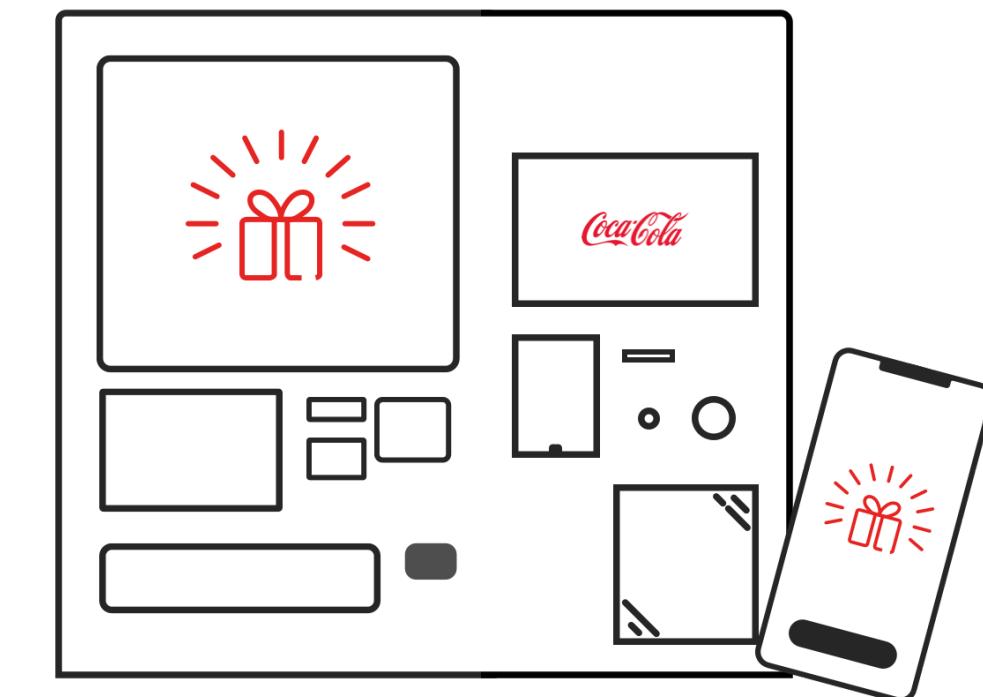
⑤ Insert + Scan Label

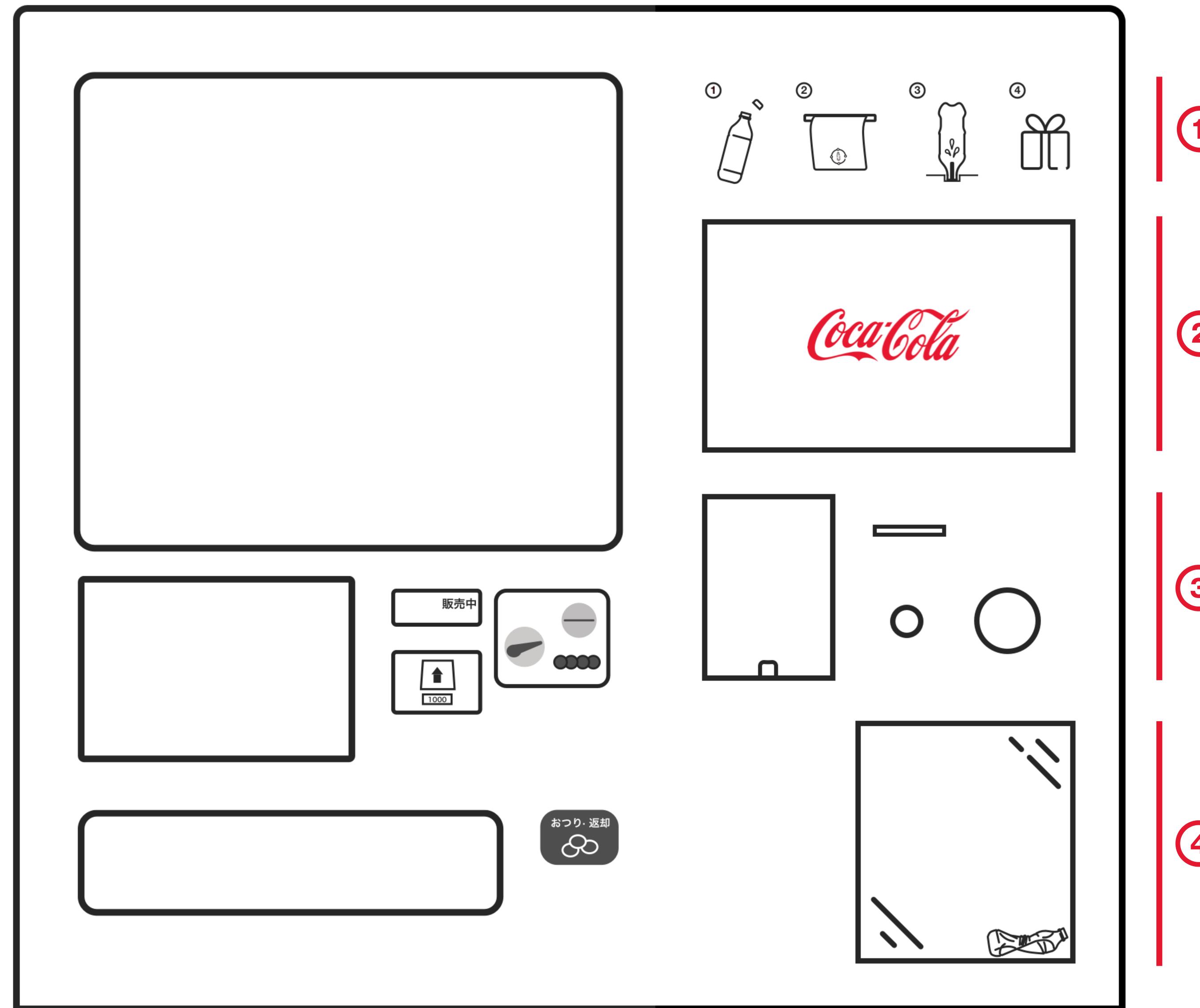


⑥ Rinse Bottle



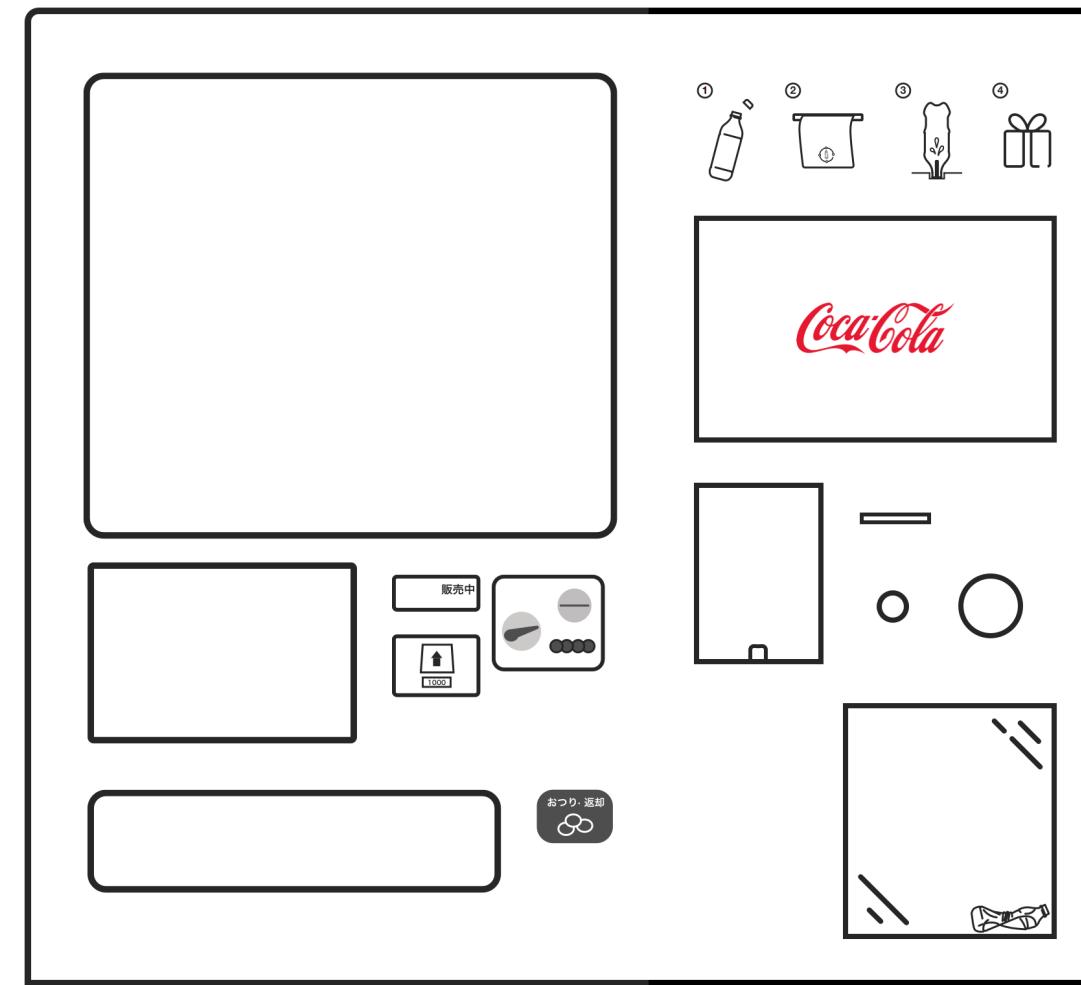
⑦ Discover Reward





(R) VM

- ① Instructions
- ② LED Display
- ③ Scan, Rinse & Recycle
- ④ Transparent Window



POST-PURCHASE DISPLAY

(R)VM reminds the consumer to return their empty bottle for a chance to win a prize.

Recommends consumer to download the app for a better experience

You Owe Us a Bottle!

Come back to return your empty bottle for a chance to win a special prize!

Download the Coke ON app to participate in the community raffle!

コカ・コーラの自販機が
おトクに楽しくなるアプリ

Coke ON

POST-PURCHASE NOTIFICATION

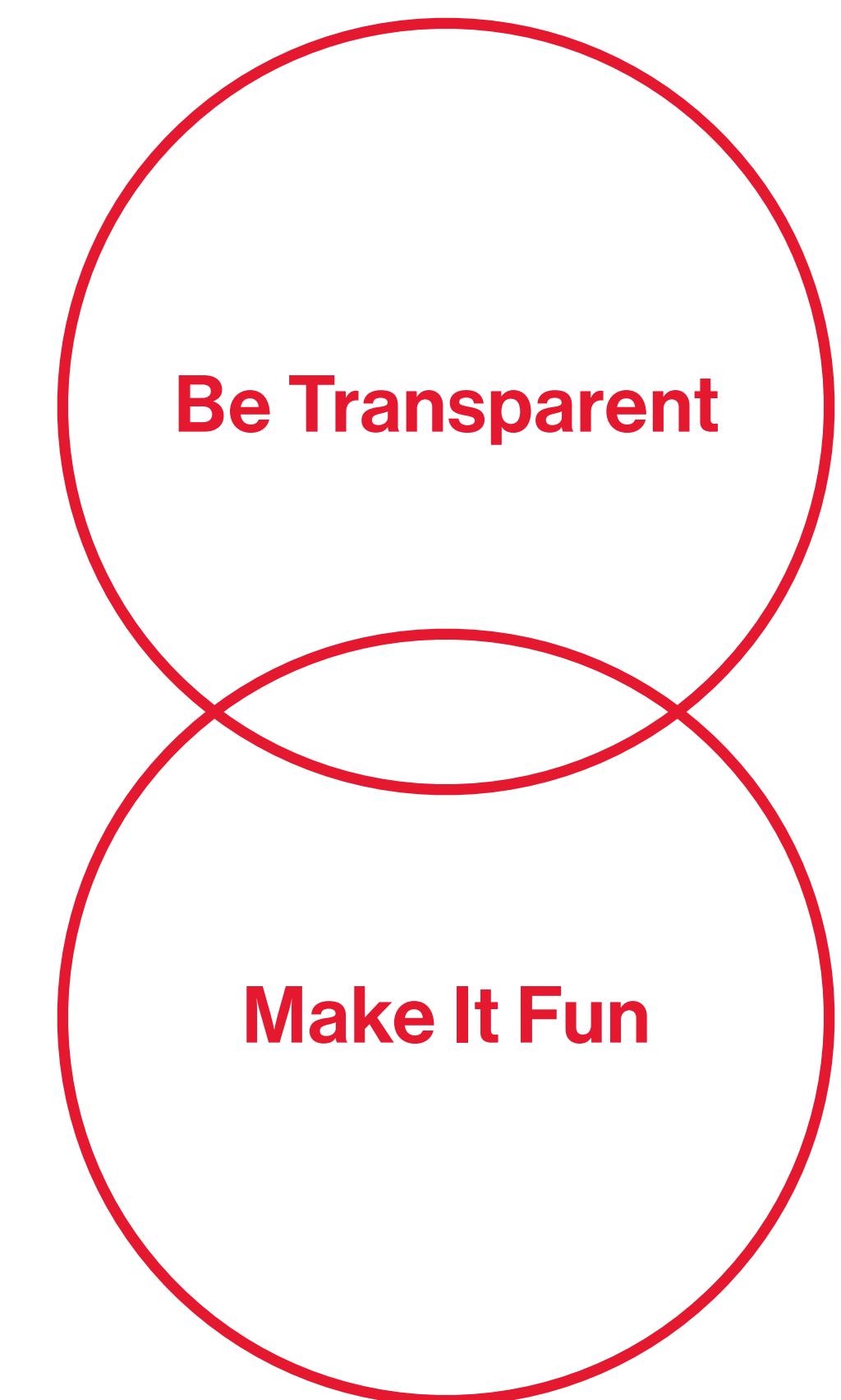
Remind consumers after purchase to inform them that they could return their empty bottles for a chance to win a prize.

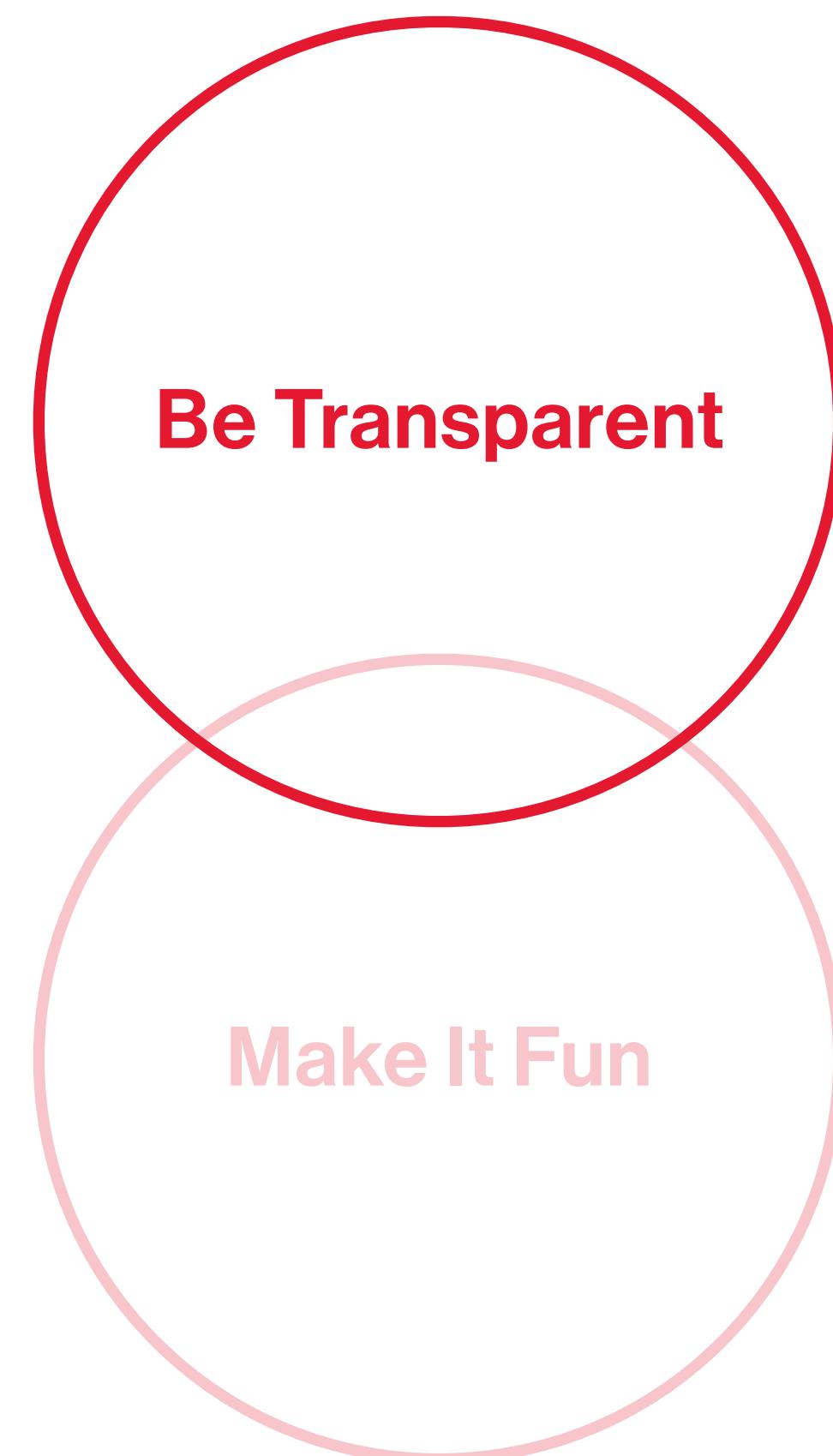
Potential opportunity to reinforce value proposition as well.



POST-PURCHASE

After Finishing Your Drink...

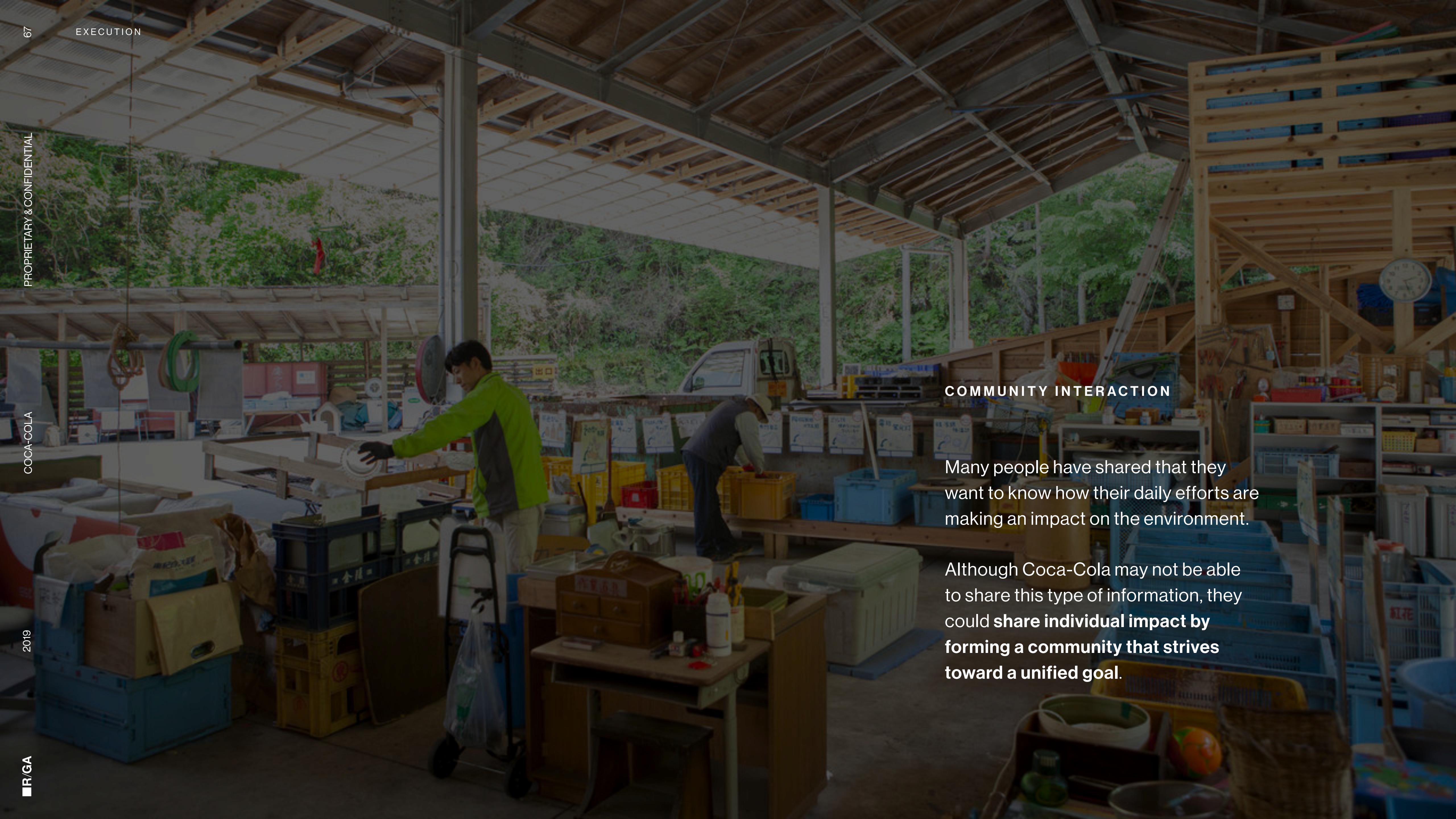


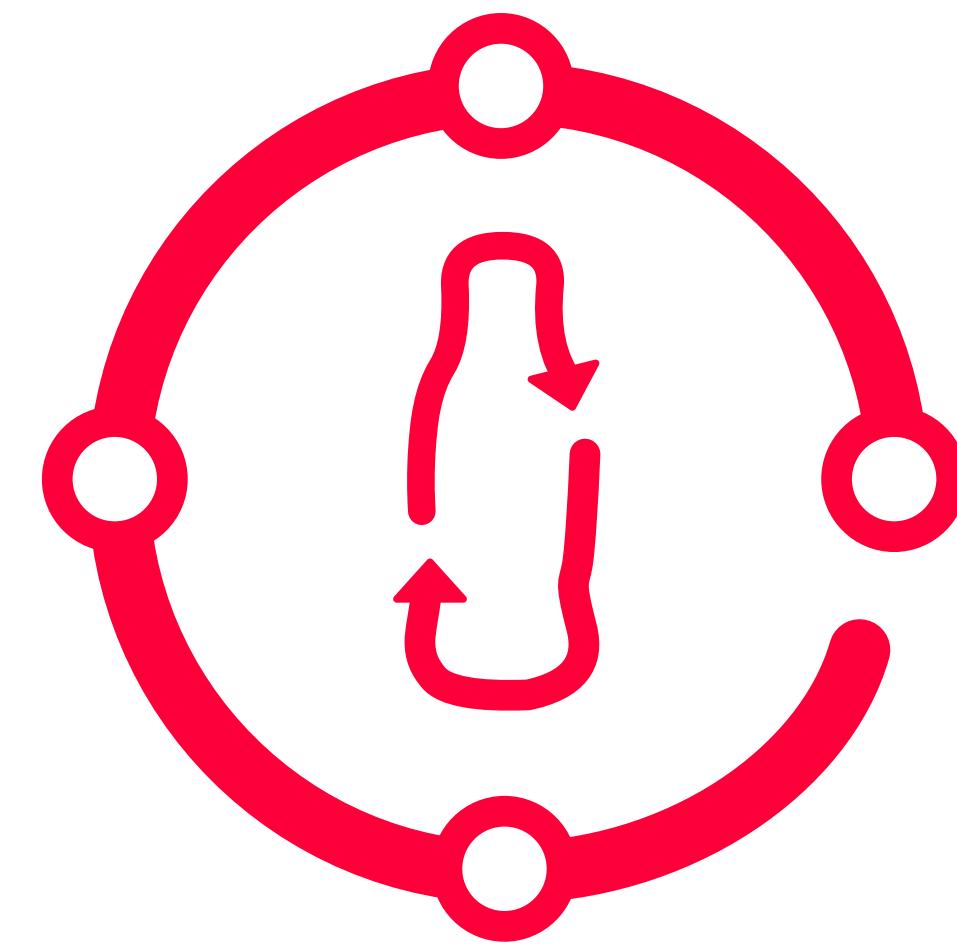


COMMUNITY INTERACTION

Many people have shared that they want to know how their daily efforts are making an impact on the environment.

Although Coca-Cola may not be able to share this type of information, they could **share individual impact by forming a community that strives toward a unified goal.**





SOLO RAFFLE

By inserting the bottle labels in the machine, all consumers enter for a chance to win a prize.

Individual prizes could include LINE stamps, reusable bottles, bonus Coke ON stamps, products made with recycled plastic, etc.

Consumers without the Coke ON app will be contributing to the Community Goal without participating in the raffle.



COMMUNITY RAFFLE

In addition to the solo raffle, all Coke ON members will also participate in the monthly Community Raffle in which they could win a greater prize once their community reaches its goal.

Their individual contribution correlates to their chances of winning the Community Raffle.

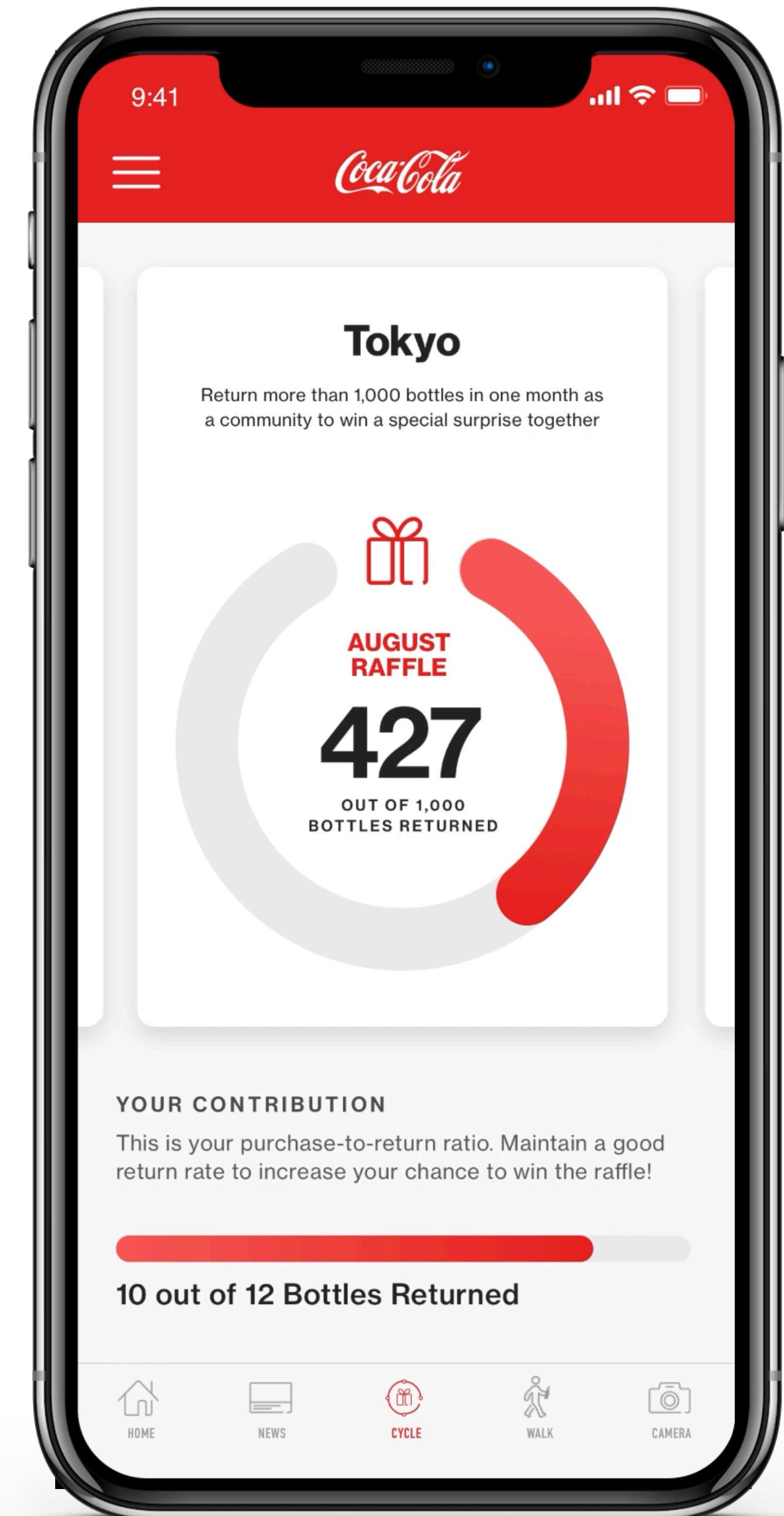
The idea is to realize Charlie's Chocolate Factory and reward the winner with a golden ticket to the Coca-Cola museum in Atlanta or a trip to one of the Coca-Cola factories in Japan.

COMMUNITY IMPACT

Encourage people to participate by assigning milestones for each community based on the number of vending machines and users.

User could enter the raffle each month by returning their empty bottles that they purchased.

Users will be contributing to the community the (R)VM is located in, meaning they could enter multiple Community Raffles.



COCA-COLA JOURNEY

日本コカ・コーラ株式会社
Coca-Cola Journey™ Country (Japan) ▾ コカ・コーラ サイト | ニュースレター 検索

トップ ストーリー 製品情報 企業情報 サスティナビリティー プレスセンター 自動販売機 お客様相談室

ROAD TO TOKYO 2020 • 健康・安全・環境・コミュニティー・イノベーション・歴史

「廃棄物ゼロ社会」に向けた取り組み World Without Waste



**持続可能な地球環境のために掲げる
「容器の2030年ビジョン」とは？**



PICK UP



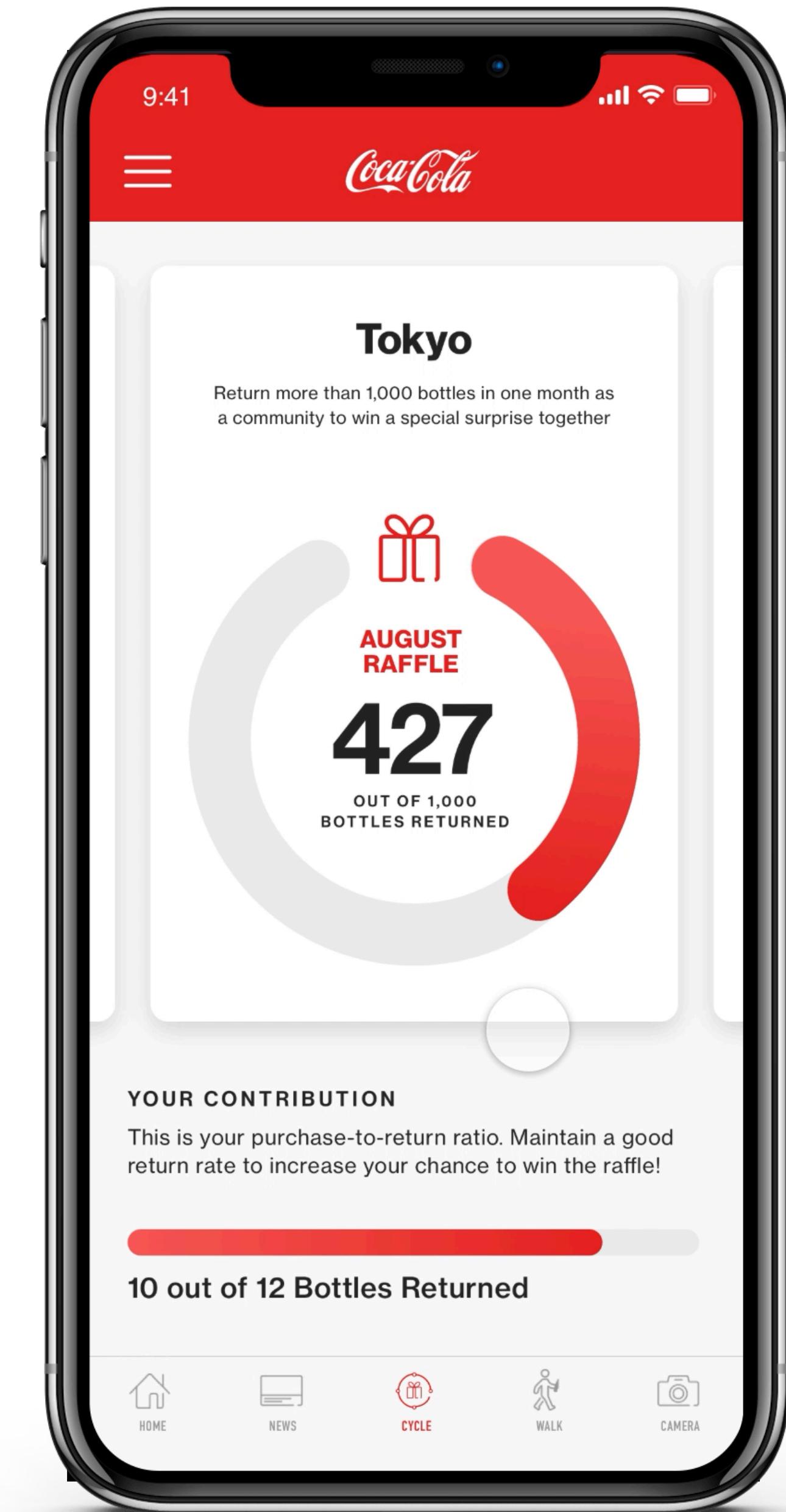
今、私たちの目の前には
どんな問題があるのか
「容器の2030年ビジョン」
の背景を探る



SURFACE CONTENT

Leverage Coca-Cola's existing editorial department to bring relevant content in front of the consumers.

Potentially guide users to the News tab to expose them to a new content.





STEPS TO RECYCLE EFFECTIVELY

When manufacturing PET bottles of the same quality as before, if there is foreign matter or leftovers, the quality of recycled PET will deteriorate, and it will be necessary to completely remove them during the recycling process.



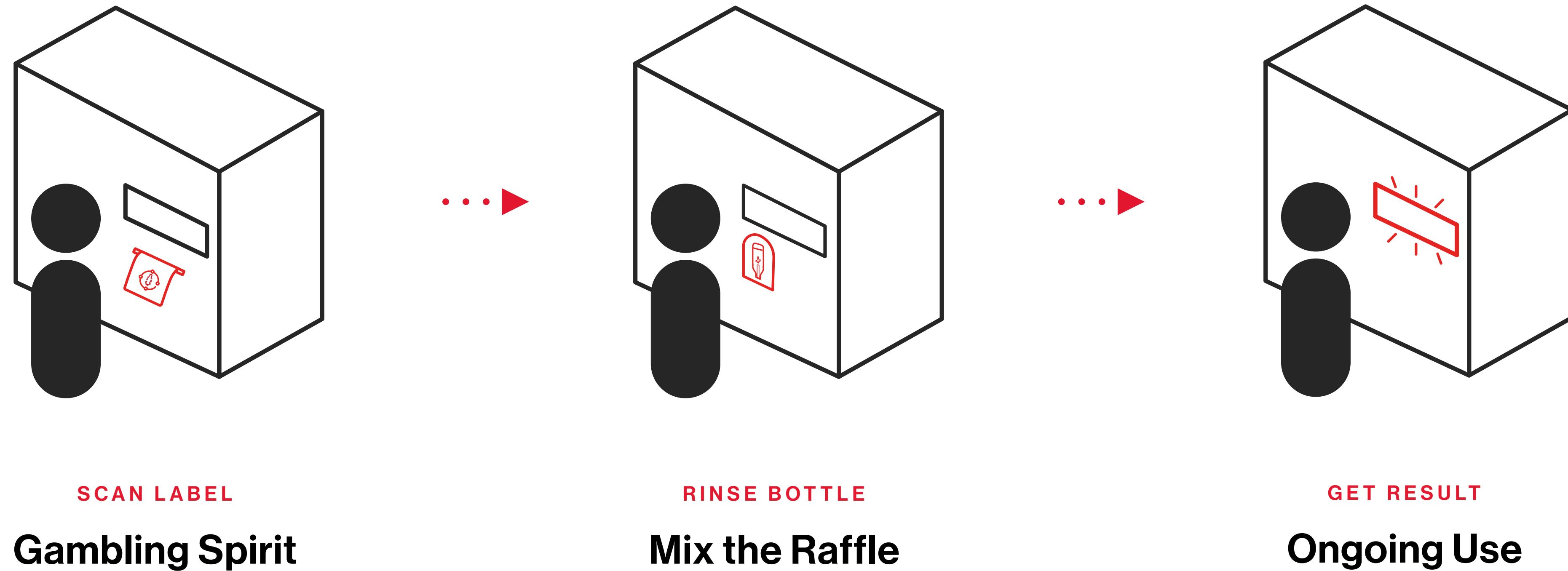
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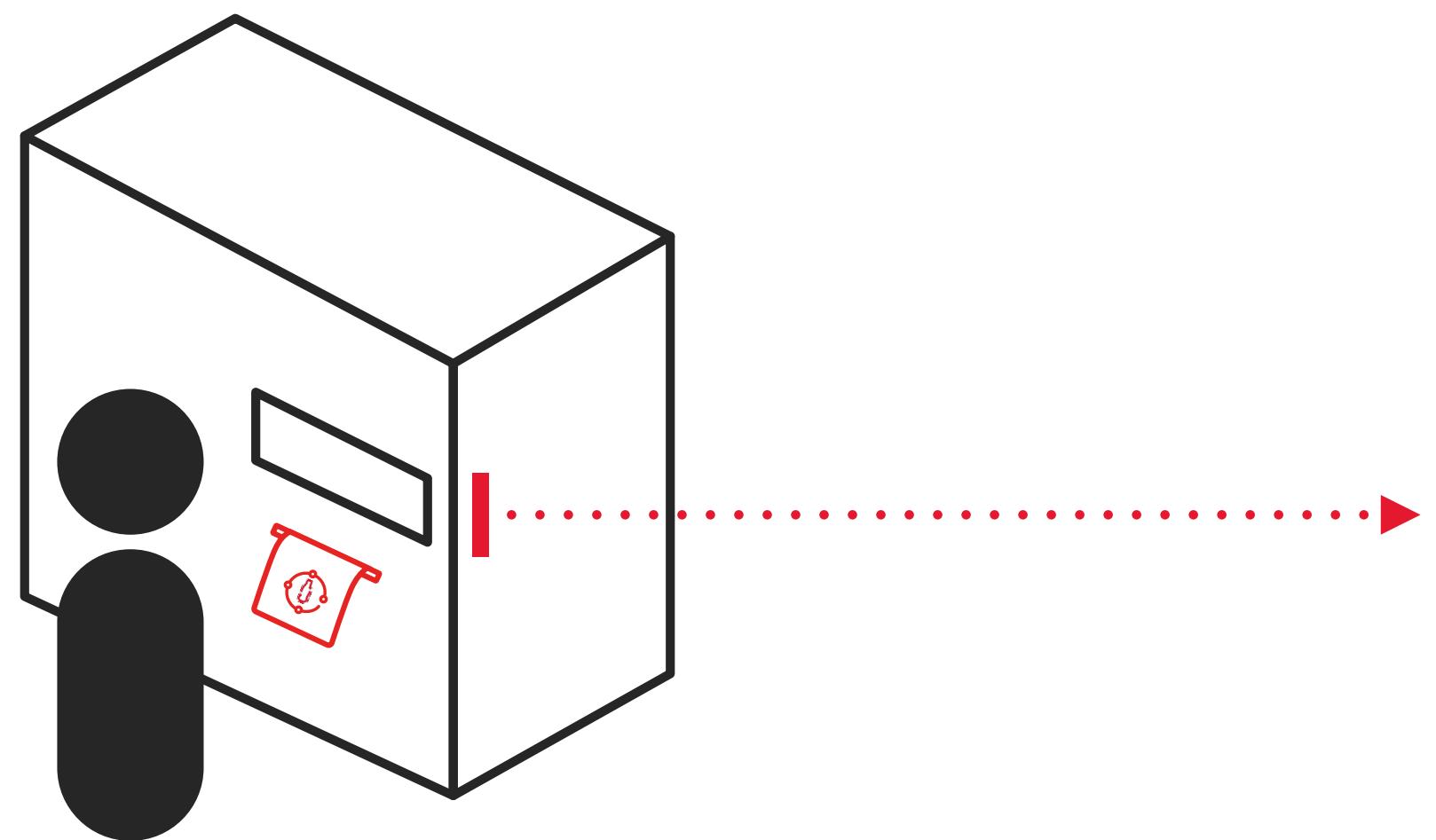
Capsule-toy vending machines hold a large market in Japan, as it's popular among both children and adults.

The machines afford an enjoyable interaction with feedback that suggest you're actually spinning the inside mechanics with the handle.

This interaction makes people believe that they have their fate in their hands, which flirts with one's gambling spirit since they don't know what they're getting until it comes out.







SCAN LABEL

Gambling Spirit

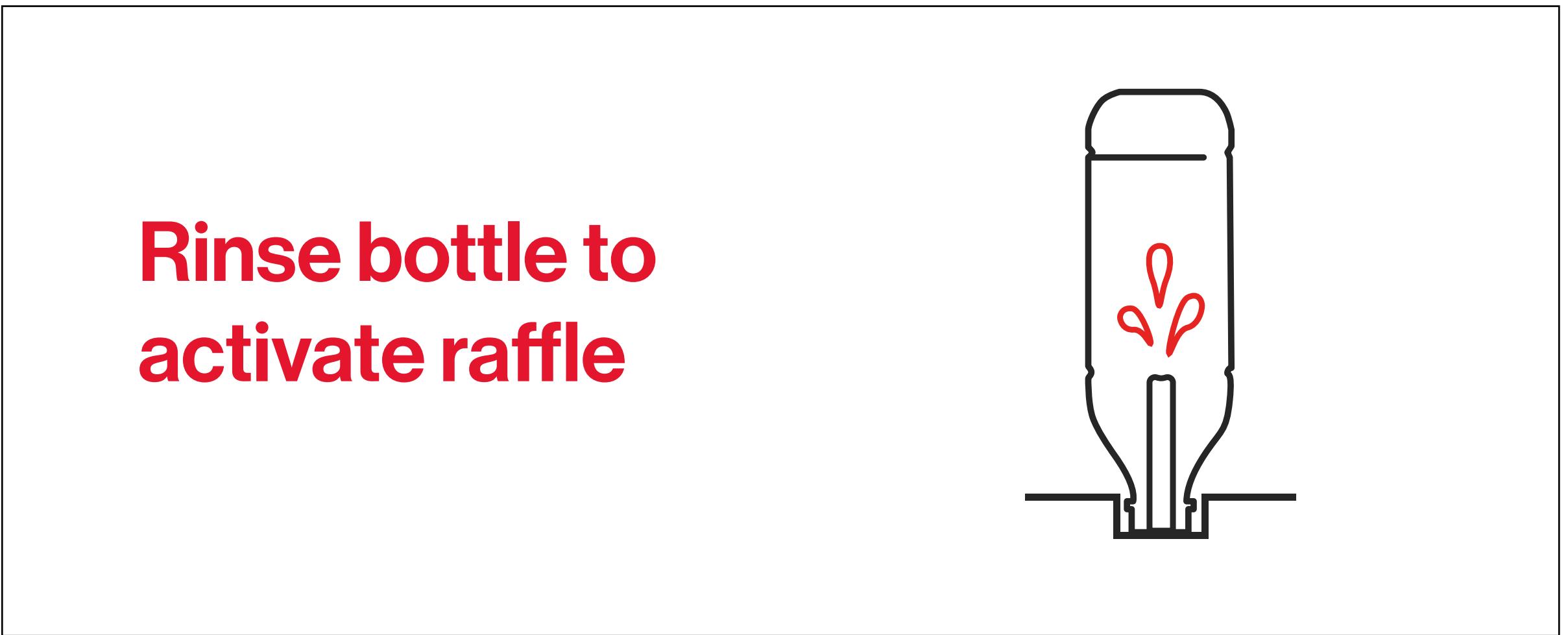
Encourage people to rinse the bottles by making it a required step to activate the raffle after they dispose the bottle label.

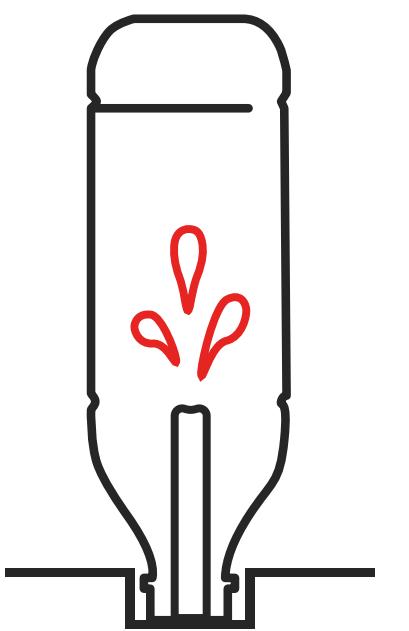
Incentivize participation by creating monthly raffles that activate once a community returns a certain amount of PET bottles.

BEFORE INSERTING LABEL



AFTER INSERTING LABEL





ENJOYABLE INTERACTION

Place empty bottle on the nozzle and press down to rinse.

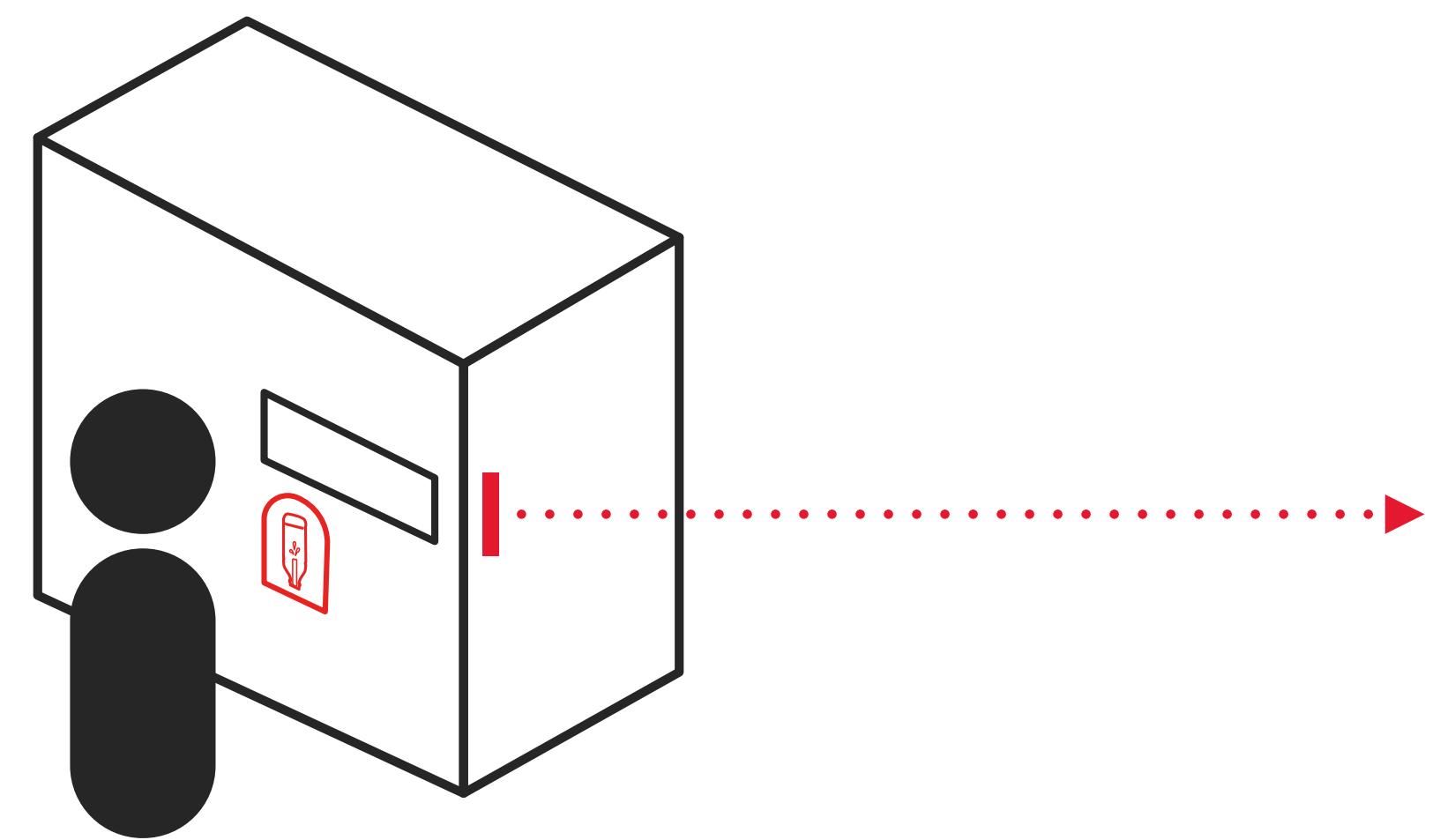
The user will receive direct feedback with a click and the water spraying inside the bottle, which reflects the raffle displayed on the above screen.





PUSH THE METAPHOR

Rinsing the bottle will trigger the raffle while increasing the quality of recyclable plastic waste. The water spraying inside will be used as a metaphor for the raffle machines used in Japan.

**RINSE BOTTLE****Mix the Raffle**

Inform consumers why it is important to rinse the bottles on the above display.

Show animation of the raffle machine to imply that they are mixing the raffle by rinsing the bottles.

Increase the quality of recyclable plastic

We triple rinse the bottles to increase the quality of recyclable plastic.

Keep rinsing to receive your result!



Mixing Raffle
0% Rinsed

0 % RINSE

**Increase the quality
of recyclable plastic**

We triple rinse the bottles to increase
the quality of recyclable plastic.

Keep rinsing to receive your result!



Mixing Raffle

0% Rinsed

2ND SCREEN

Yosuke's Stats

10 / 12

RETURNED

PURCHASED



Mixing Raffle

40% Rinsed

Alternate the content on display to inform the audience while keeping them engaged.

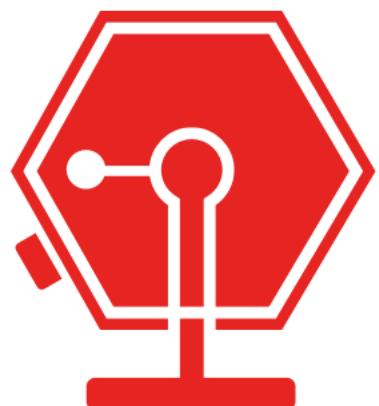
3RD SCREEN

Tokyo Community

70%

Return Rate

15 DAYS LEFT WITH 573 BOTTLES TO GO



Mixing Raffle

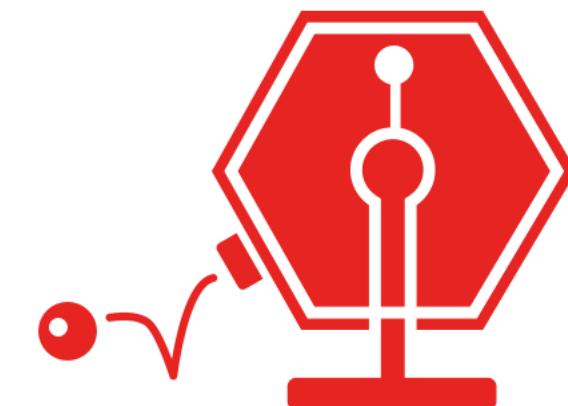
75% Rinsed

100 % RINSE

**Thanks for your
cooperation Yosuke!**

Coca-Cola aims to achieve a 90% Bottle
to Bottle ratio by 2030.

Your contribution helps us reach our goal
one bottle at a time.



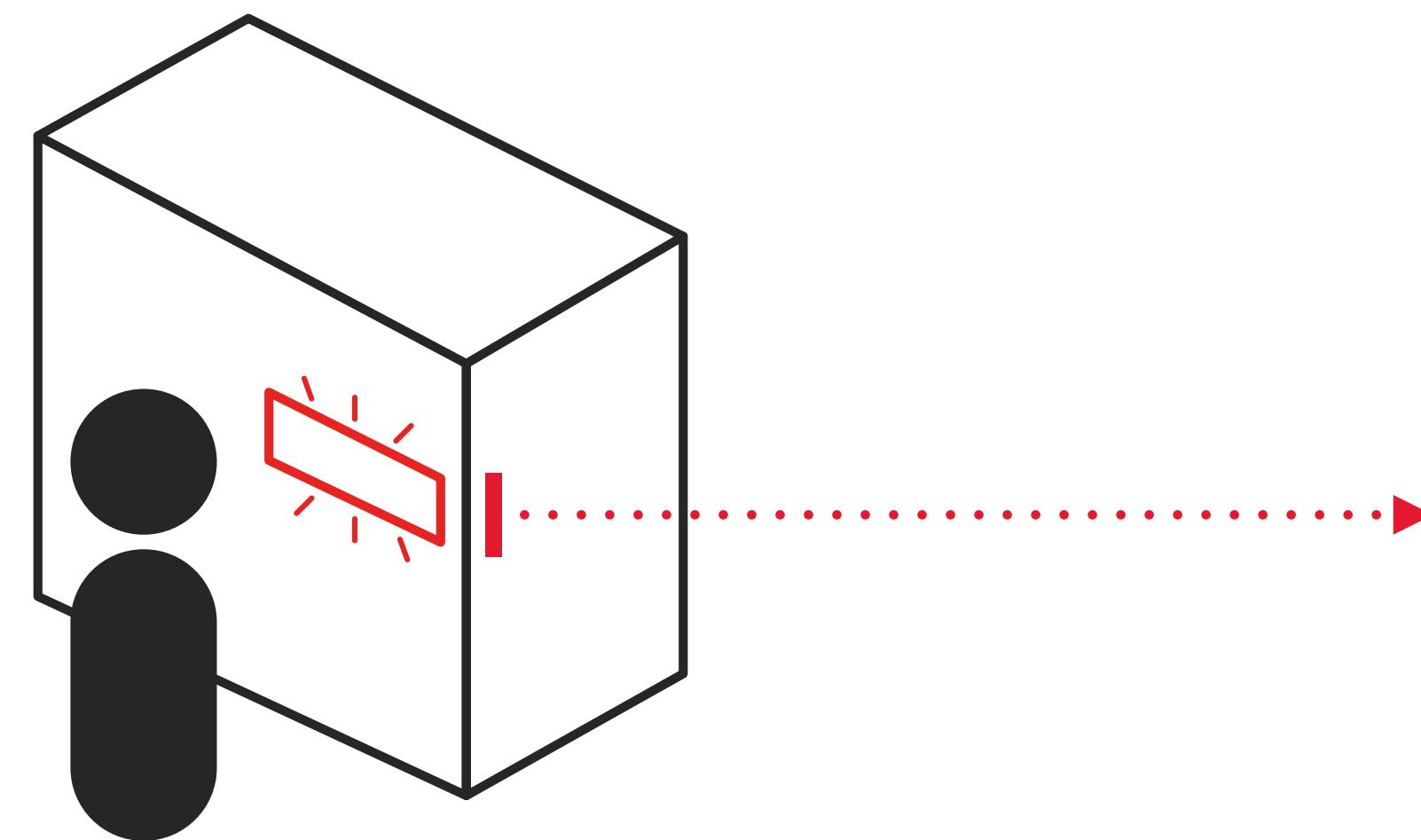
Getting Result

100% Rinsed

RESULTS ARE IN

After the consumer inserts and scans their bottle label, the results are revealed on the display.

They will also receive a notification on their phone to redeem their prize through the Coke ON app.



WON THE RAFFLE

CONGRATULATIONS, YOU WON!

Coca-Cola Reusable Bottle

Redeem your prize through the Coke ON app!

Don't have the app?

Scan the QR code below to claim your prize!



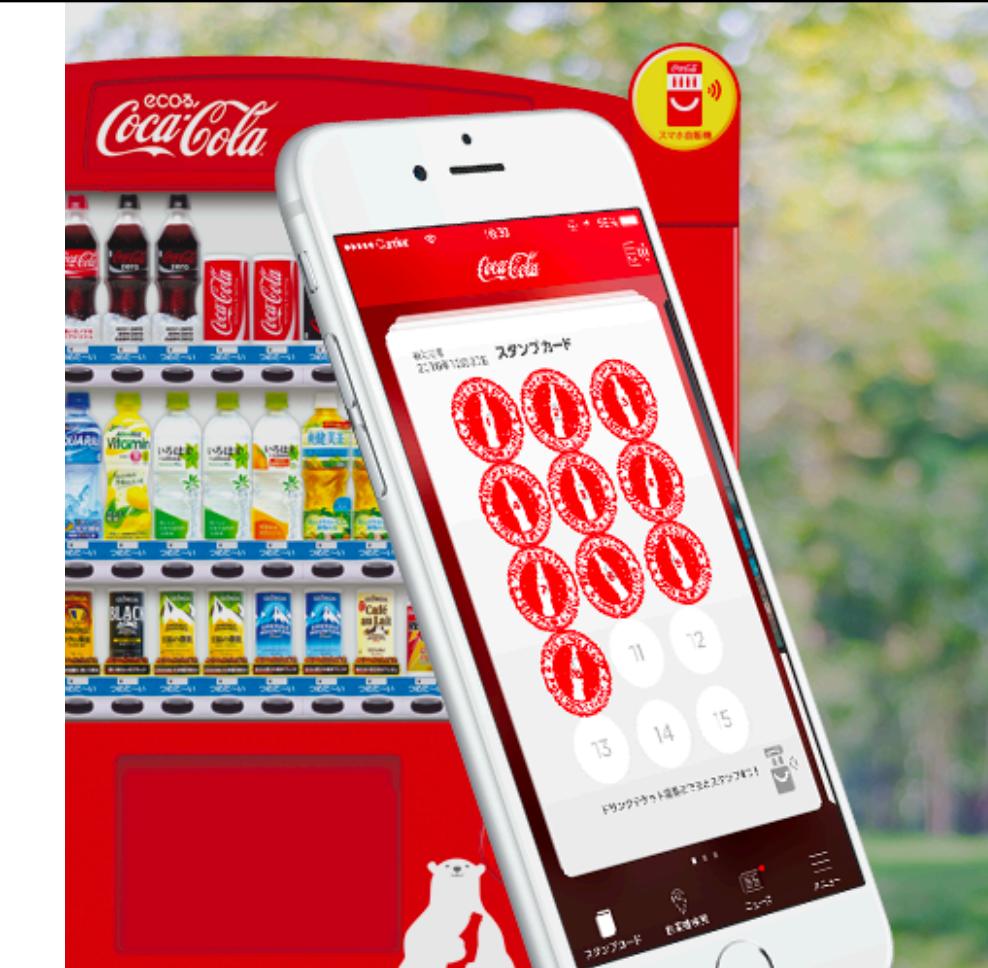
LOST THE RAFFLE

Sorry... Try Again!

Continue returning empty bottles to try again!

Even if you don't win a prize, you're making a contribution to your community and increasing your chances of winning the Community Raffle!

Download the Coke ON app to participate in the community raffle!



FURTHER CONSIDERATION

How could we leverage Coca-Cola Bottlers truck to promote the initiative since they already carry plastic bottles through the city?

How could empty cans play out in the experience?

Would non-participants be able to throw away empty bottles that aren't rinsed? Could it reject them?

Where could they be installed first? (Airport, School campus, Beach, etc.)

How could we rethink vending machines itself to improve this experience? (acure vending machines, touch-and-go coffee)

Are only drinks purchased from vending machines able to enter the raffle?



VALUE PROPOSITION**A Fun Way To Make an Impact, With Coke**

To be responsible for our own plastic waste