

Root Cause

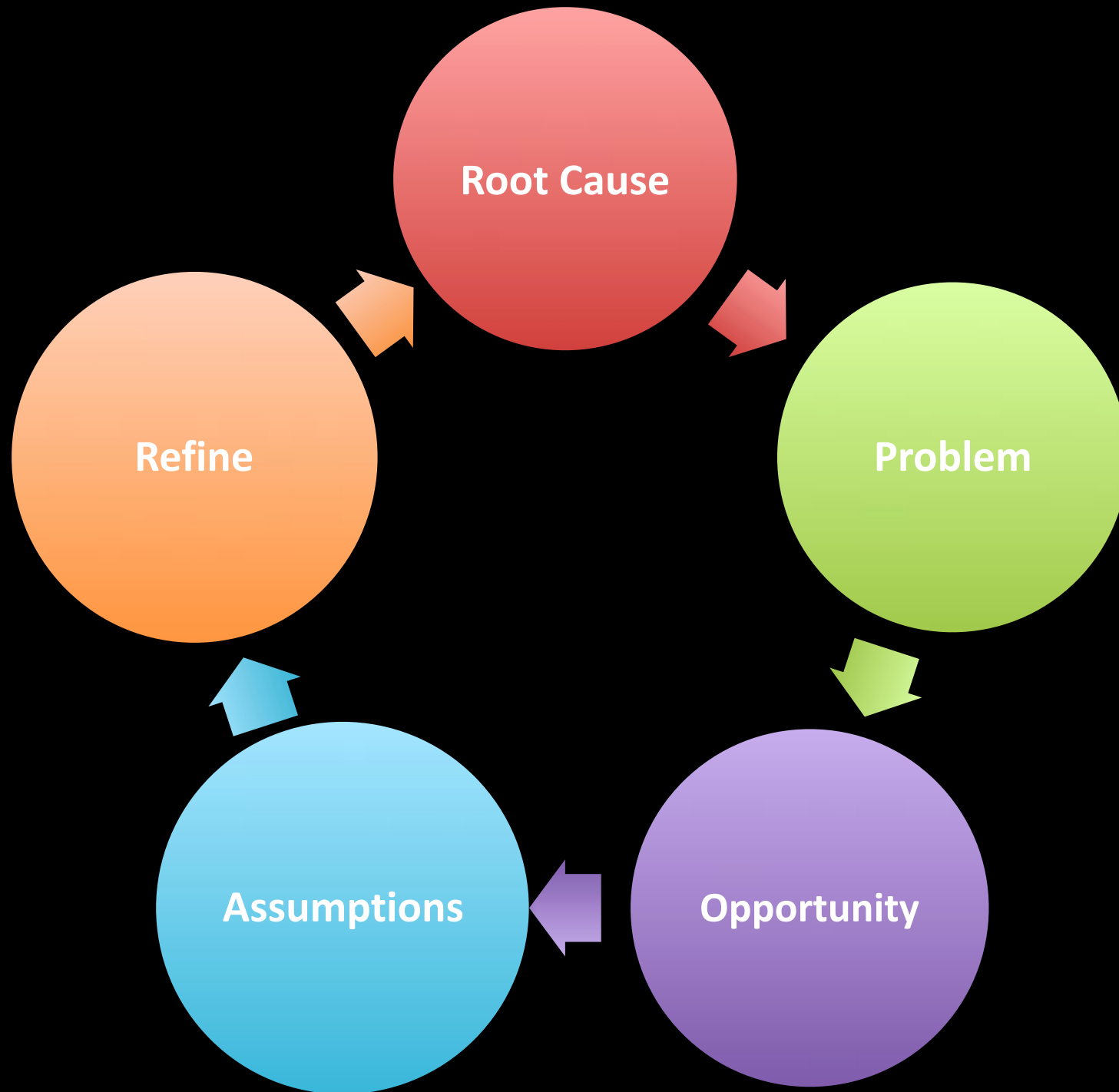
Refine

Problem

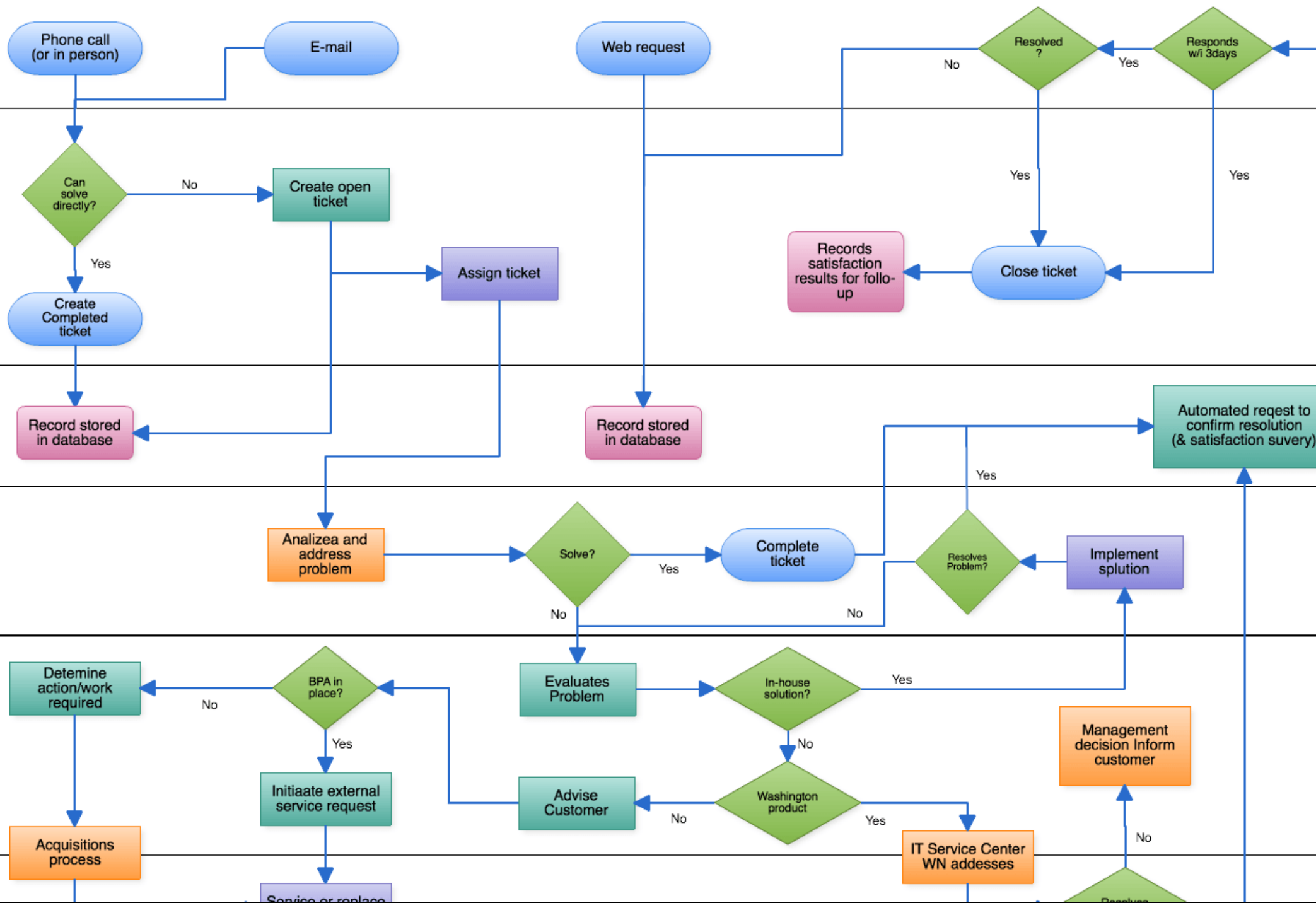
Root Cause Analysis

Assumptions

Opportunity









A photograph of a city street in ruins, likely after a disaster. The foreground is filled with a large pile of rubble, including bricks, wood, and debris. In the background, several multi-story buildings are visible. One building on the left has a distinctive diamond-patterned facade. Another building in the center has a water tower on its roof. A utility pole with wires is on the right. A large blue circle is overlaid in the center of the image, containing the text "Understanding Your Problem" in white.

Understanding Your Problem

Simple

Complicated

Problem Types

Complex

Chaotic

Simple

**Cause & effect
repeatable**

Data provides answers

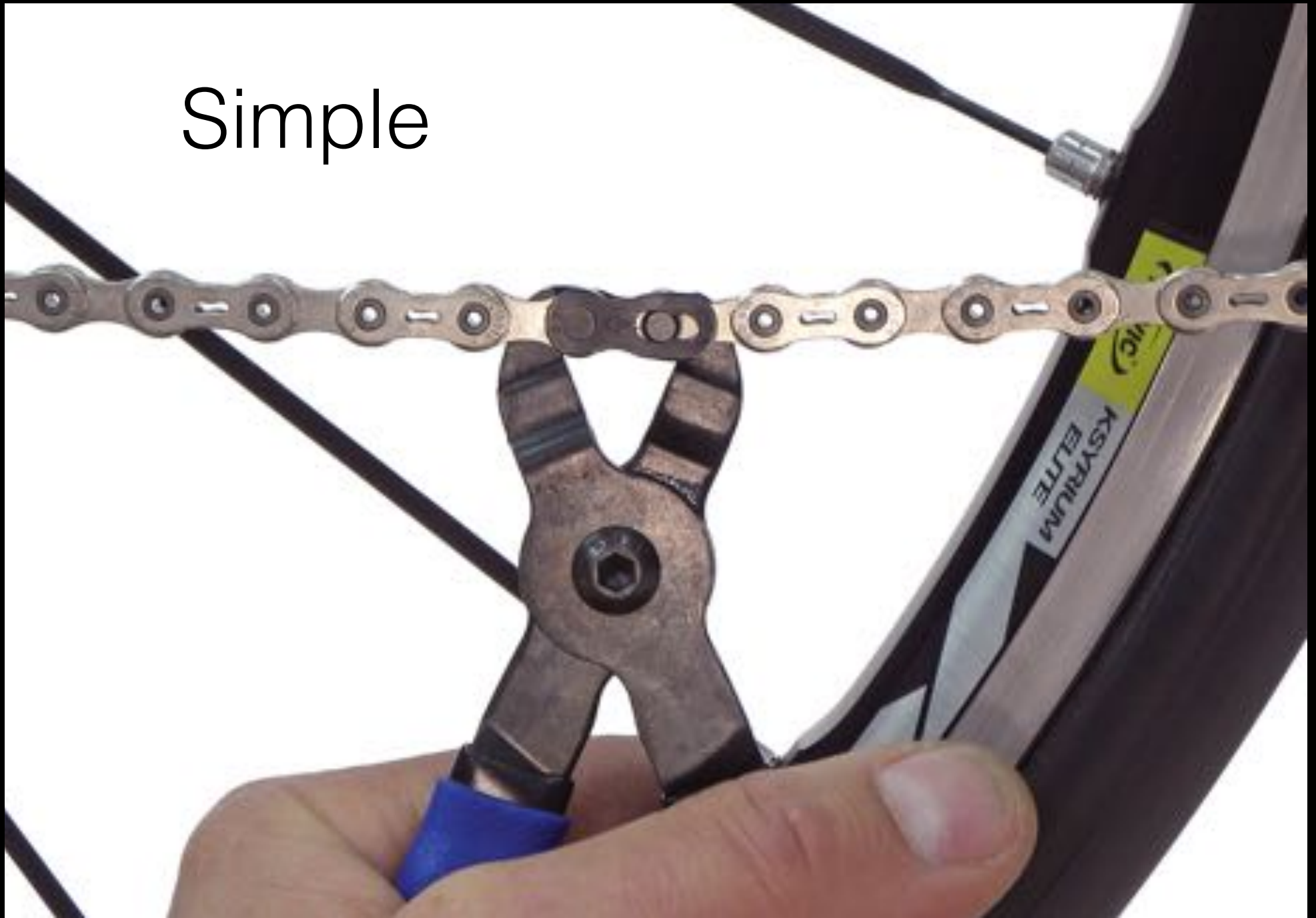
Anyone can interpret

Complicated

Complex

Chaotic

Simple



Simple

Over simplified or
incorrectly classified

Risk:

Condense or ignore
information regardless
of the complexity



Simple

Complicated

**Cause & effect
separated over time**

Data provides options

Experts interpret

Complex

Chaotic

The connection has timed out

The server at www.google.com is taking too long to respond.

- The site could be temporarily unavailable or too busy. Try again in a few moments.
- If you are unable to load any pages, check your computer's network connection.
- If your computer or network is protected by a firewall or proxy, make sure that Firefox is permitted to access the Web.

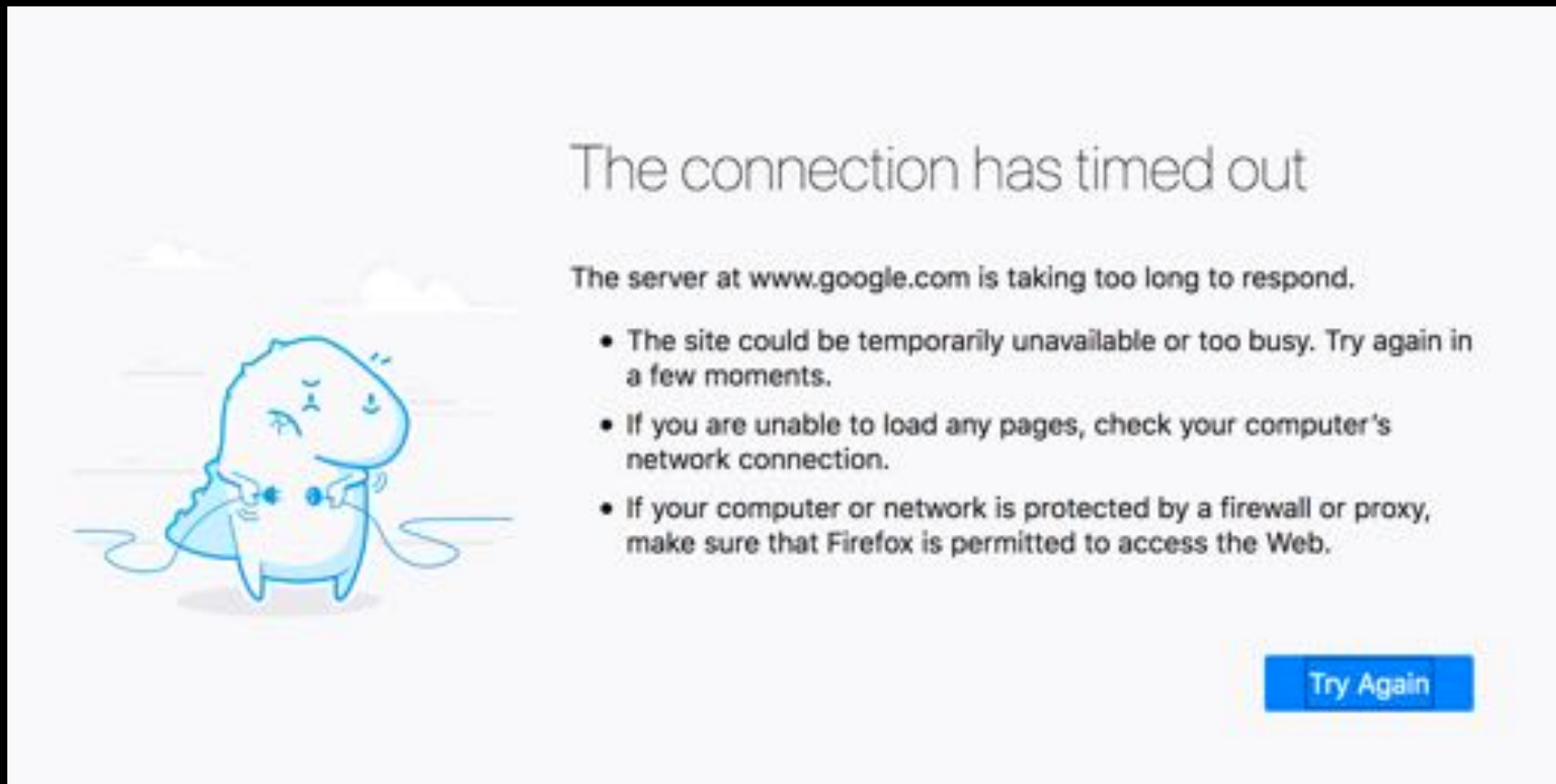


[Try Again](#)

Complicated

Can take a lot of time
Often trade-offs

Risk:
If the answer is
elusive, may have a
complex problem



Simple

Complicated

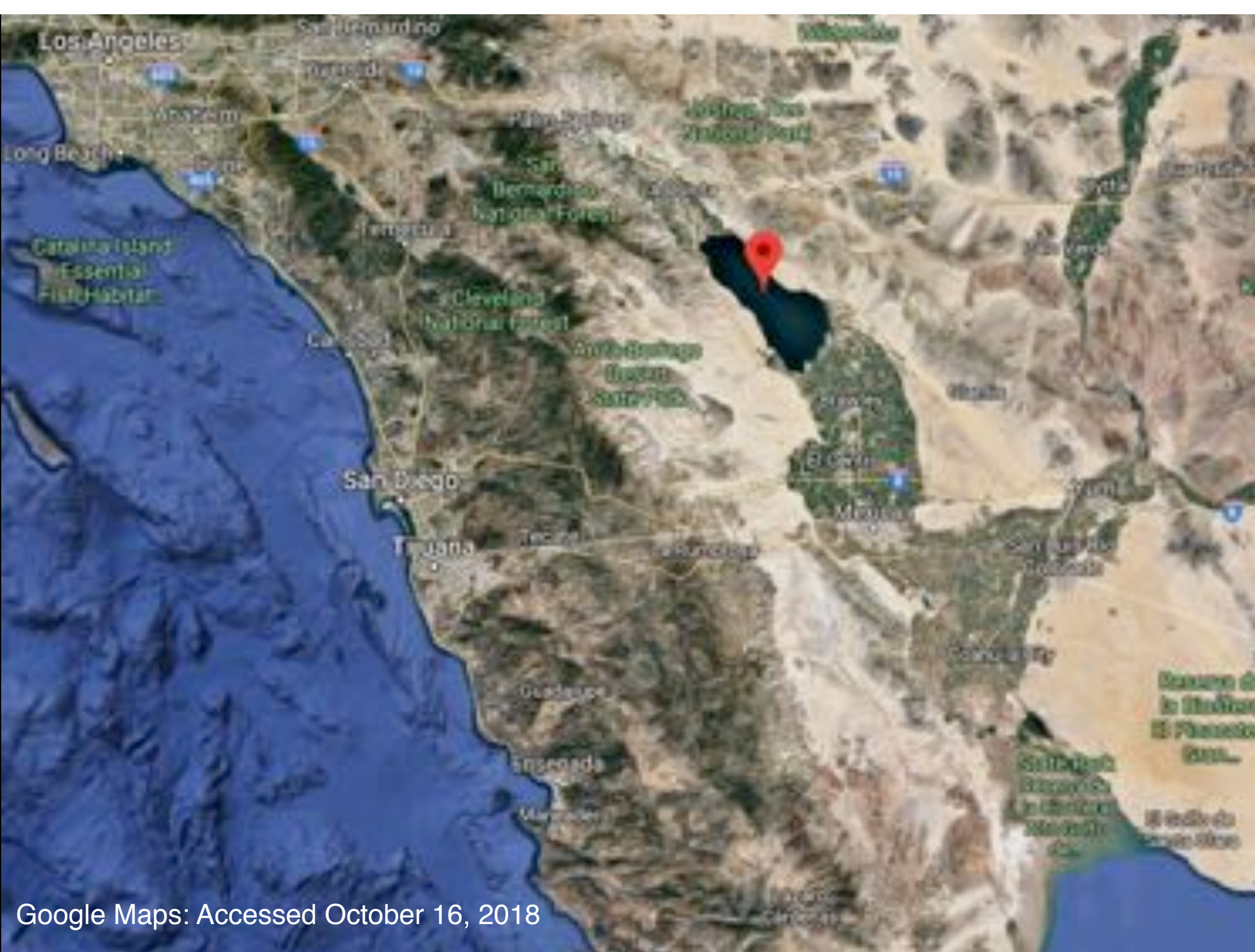
**Multiple perspectives,
causes & effects**

No single answer

**Variables constantly
change**

Complex

Chaotic



Google Maps: Accessed October 16, 2018



Jay Calderon/Desert Sun: December 6, 2015



Simple

Complicated

Complex

Stop the bleeding
Rapid response based
on experience
No time to determine
root cause

Chaotic

Multi-Car Collision



Your turn . . .

Sport car is knocking



Recession



Our focus
today...

Simple

Cause & effect
repeatable

Data provides answers

Anyone can interpret

Complicated

Cause & effect
separated over time

Data provides options

Experts interpret

Multiple perspectives,
causes & effects

No one answer

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Stop the bleeding
Rapid response based
on experience

No time to determine
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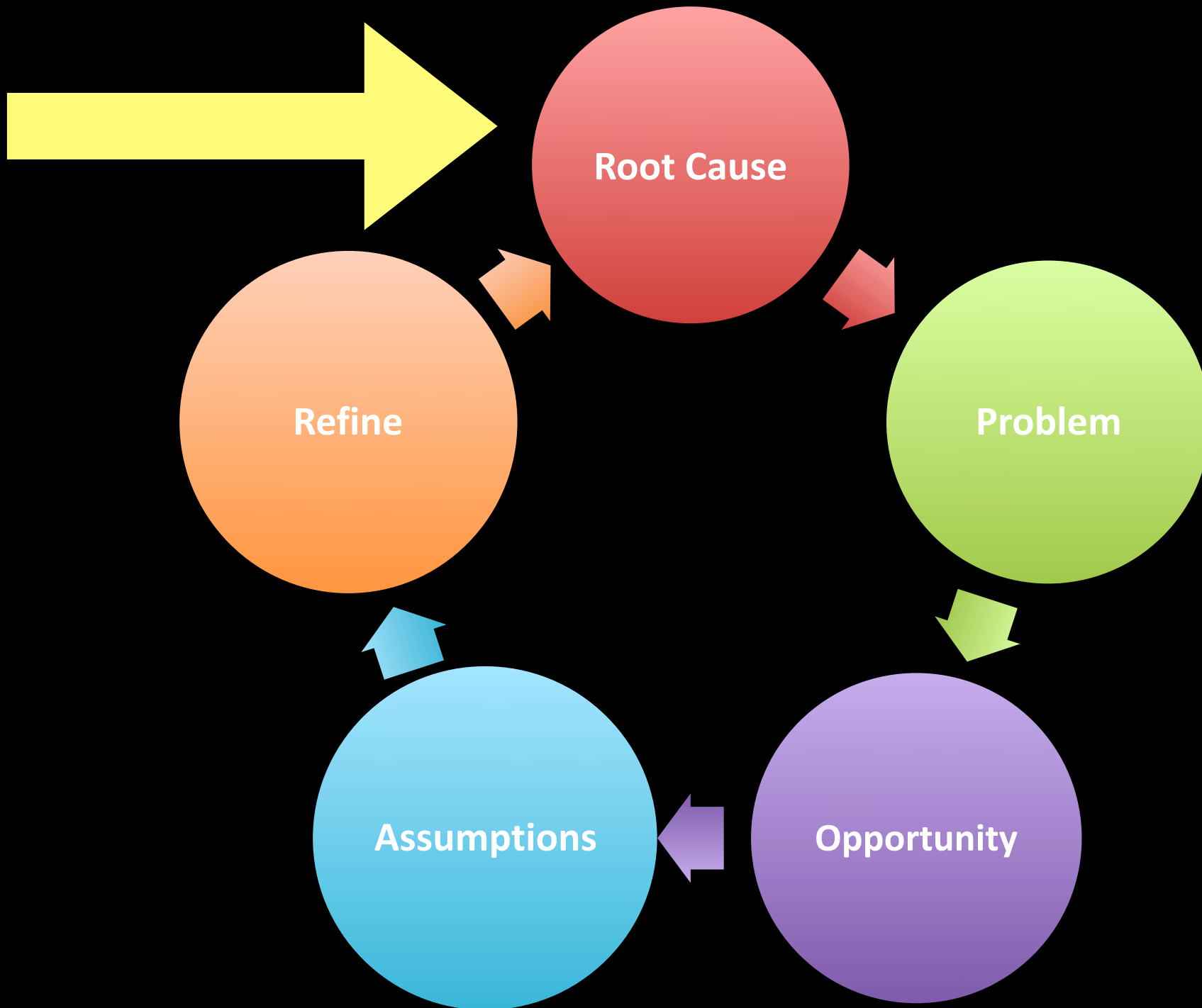
Chaotic

**Multiple perspectives,
causes & effects**

No one answer

**Variables constantly
change**

Complex



5 whys

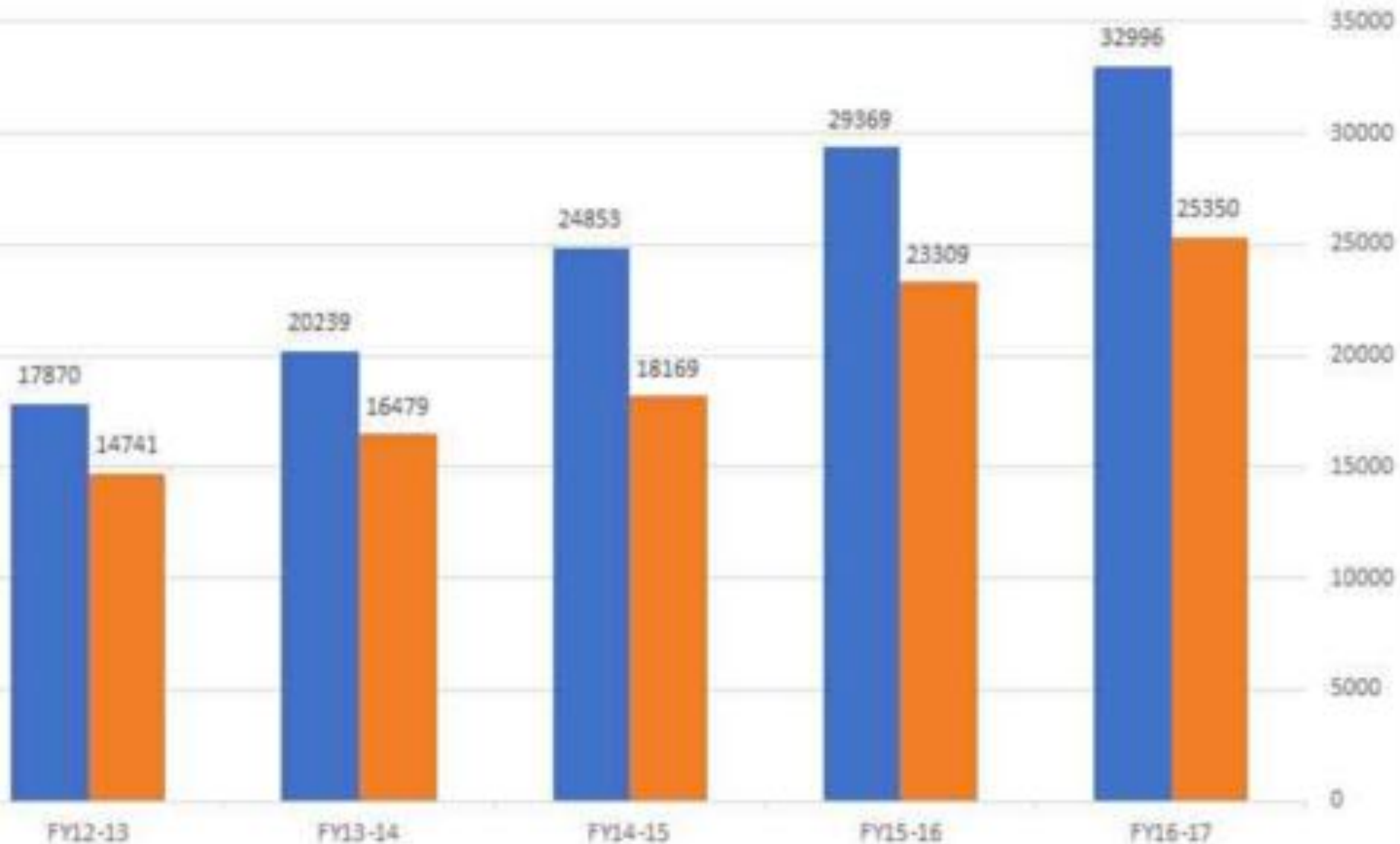


AQS TV: <https://www.youtube.com/watch?v=voWki-dCRWw>



Illegal Dumping: OPW Pick Ups and Requests from Public - Last 5 FYs

■ OPW Pick Ups ■ Requests from Public





Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, OpenStreetMap contributors, and the GIS User Community

WHY?

State a Problem:

Political

Economic

Social

Environmental

Technological

Legal/Regulatory

Why?

Why?

Why?

Why?

Why?

Root Cause


The logo features five concentric ovals in shades of brown, orange, and red, centered on a black background. The word "PESTEL" is written in white, bold, sans-serif capital letters across the middle of the ovals.

PESTEL



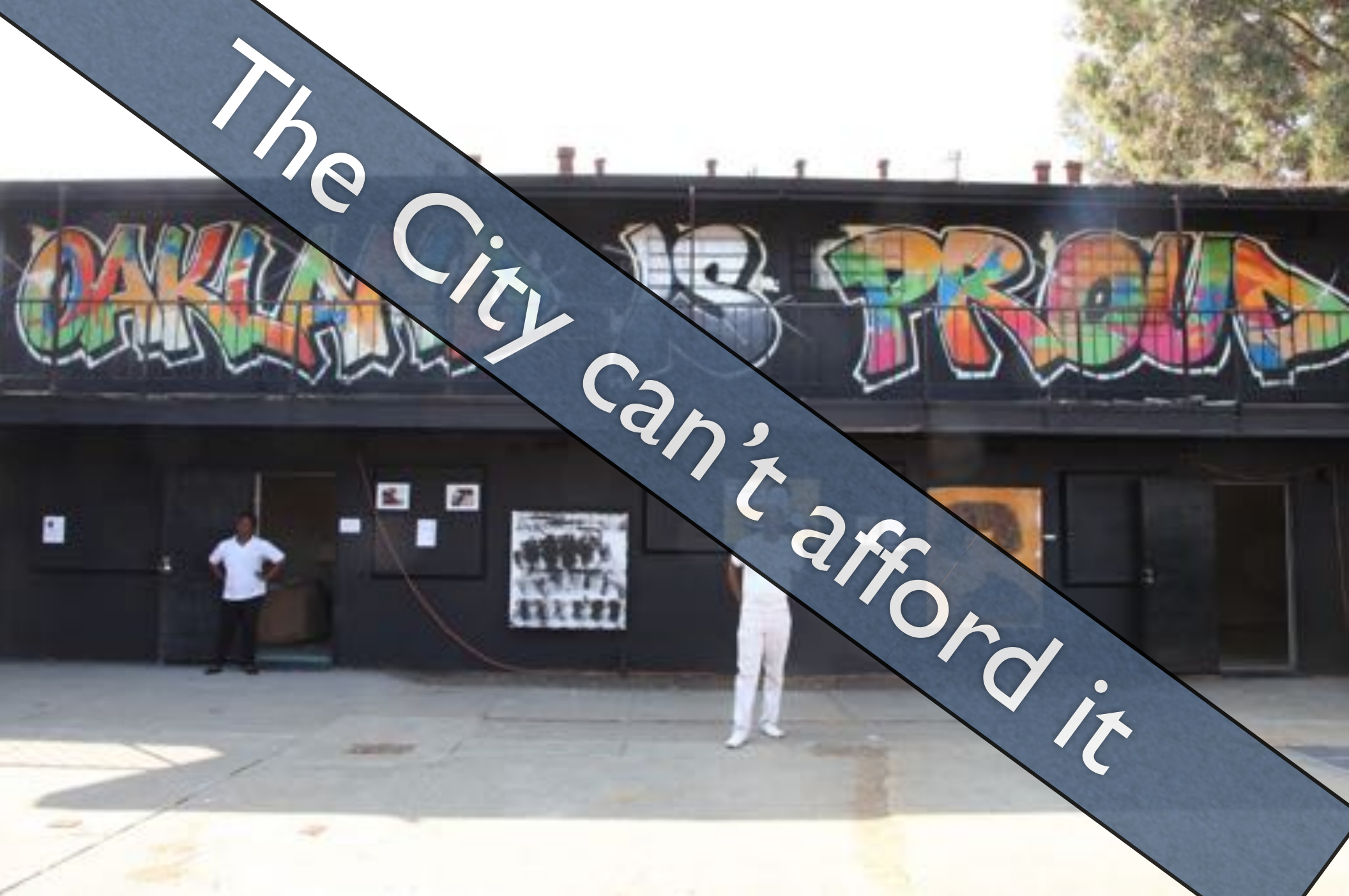
Political

Not doing their job!



Economic

The City can't afford it



Social





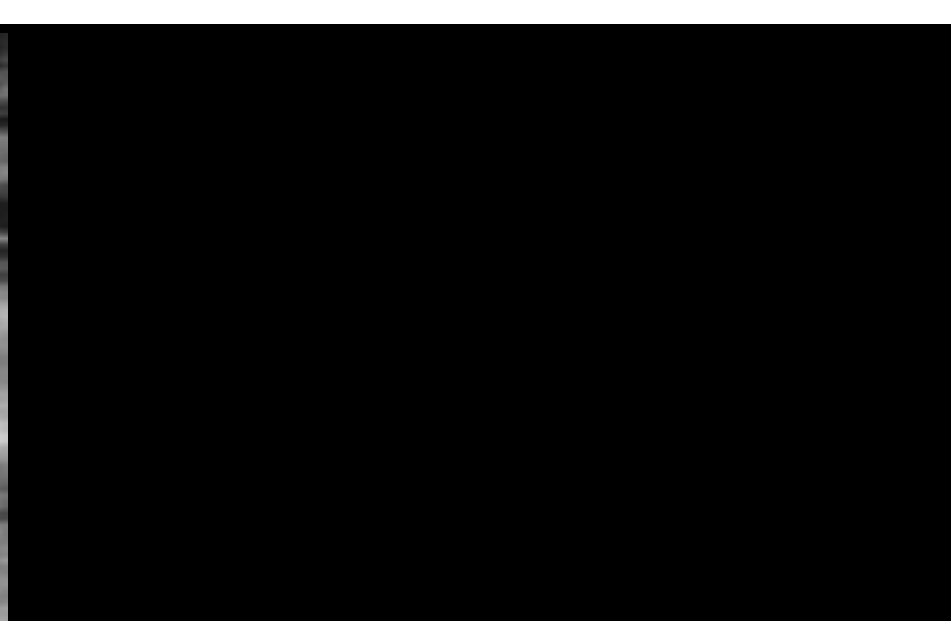
People don't sign up

Technological

Environmental

Low Priority





Legal/
Regulatory

Dump garbage in streets



PESTEL is a Guide:
PPPTLL
PEEESSSSL
etc.

Evaluate the root cause of a problem



State a Problem:

Illegal dump sites in East Oakland

Political

Economic

Social

Technological

Environmental

Legal/Regulatory

Why?

Why?

Why?

Why?

Why?

Root Cause

Political

Why?

PW doesn't clean up
illegal dump sites

Why?

Elected officials don't
think it's important

Why?

They get reelected
anyhow

Why?

The people aren't
informed

Why?

There's no local news or
watchdog agency

Root Cause: Lack of civic knowledge

Economic

Why?

The City can't afford
to pick it all up

Why?

PW budget hasn't kept
up with the problem

Why?

Trade offs in budgeting
compared to revenues

Why?

Low tax revenues

Why?

The loss of working class
jobs over decades

Root Cause: Low tax base

Social

Why?

Many citizens don't care about the issue

Why?

Bigger issues with more serious consequences

Why?

Lack of opportunities for education and jobs

Why?

Low quality education and low graduation

Why?

No city-wide effort to improve education/skills

Root Cause: Low tax base

Technological

Why?

People don't sign up
for waste pickup

Why?

Waste collection rates
have increased

Why?

City lacked leverage to
negotiate rates

Why?

WM sued the city to win
the franchise back

Why?

WM won contract with
higher rates

Root Cause: Cost of pickup increasing

Environmental

Why? Environmental problems aren't a priority

Why? Citizens do not view garbage as their issue

Why? Little public education on the issues/impacts

Why? Env. orgs. aren't in poor neighborhoods

Why? Lack funding for env. nonprofits

Root Cause: Lack of environmental awareness and organizations

Legal/ Regulatory

Why? People dump their
garbage the streets

Why? They know there will
be no consequences

Why? City doesn't enforce
dumping laws

Why? People aren't
complaining

Why? Lack of civic pride to keep
litter off the streets

Root Cause: Lack of civic pride

State a
Problem:

Illegal dump sites in East Oakland

Political

Economic

Social

Technological

Environmental

Legal/Regulatory

Why?

The city PW
doesn't clean up
illegal dump
sites

The City can't
afford to pick it
all up

Many citizens
don't care about
the issue

People don't
subscribe to
waste pickup

Environmental
problems aren't
prioritized

People dump
their household
garbage in the
streets

Why?

Elected
officials do not
consider it
important

PW budget
hasn't kept up
with the growing
problem

Crime is a bigger
problem with
more serious
consequences

Waste collection
rates have
increased
significantly

Citizens do not
view garbage as
their issue

They know there
will be no
consequences

Why?

Because they get
reelected
without doing
anything about it

Environment is
not prioritized
by elected
officials

Lack of
opportunity for
education and
jobs

City lacked
leverage to
negotiate rates
due to lawsuit

There is little
public education
on the issues/
impact

City doesn't
enforce dumping
laws

Why?

Because the
people aren't be
informed

Trade offs to
manage budgets
with low tax
revenues

Low quality
education and
low graduation
rates

WM sued the
city to win the
franchise back

Environmental
orgs aren't
located in poor
neighborhoods

People aren't
complaining or
voting

Why?

There is no local
news source or
watchdog
agency

The loss of
working class
jobs over
decades

No city-wide
effort to improve
education and
build job skills

WM regained
lucrative contract
with even higher
rates

Lack funding for
environmental
orgs in Oakland

There's a lack of
civic pride around
keeping litter off
the streets

Root
Cause

Lack of civic
knowledge

Low tax base

Lack of
opportunities

Cost of pickup

Lack of Env
Awareness/Presence

Lack of civic pride

Root Causes for My Problem

P - Lack of civic knowledge

E - Low tax base

S - Lack of opportunities, especially youth

T - Cost of pick up

E - Lack of environmental awareness/
presence

L/R - Lack of civic pride for litter in streets

Explore your influence and impact



Impact

High

Low

High Impact
Low Probability

Have a plan

High Impact
High Probability

Take active steps

Low Impact
Low Probability

Think about it
“just to be sure”

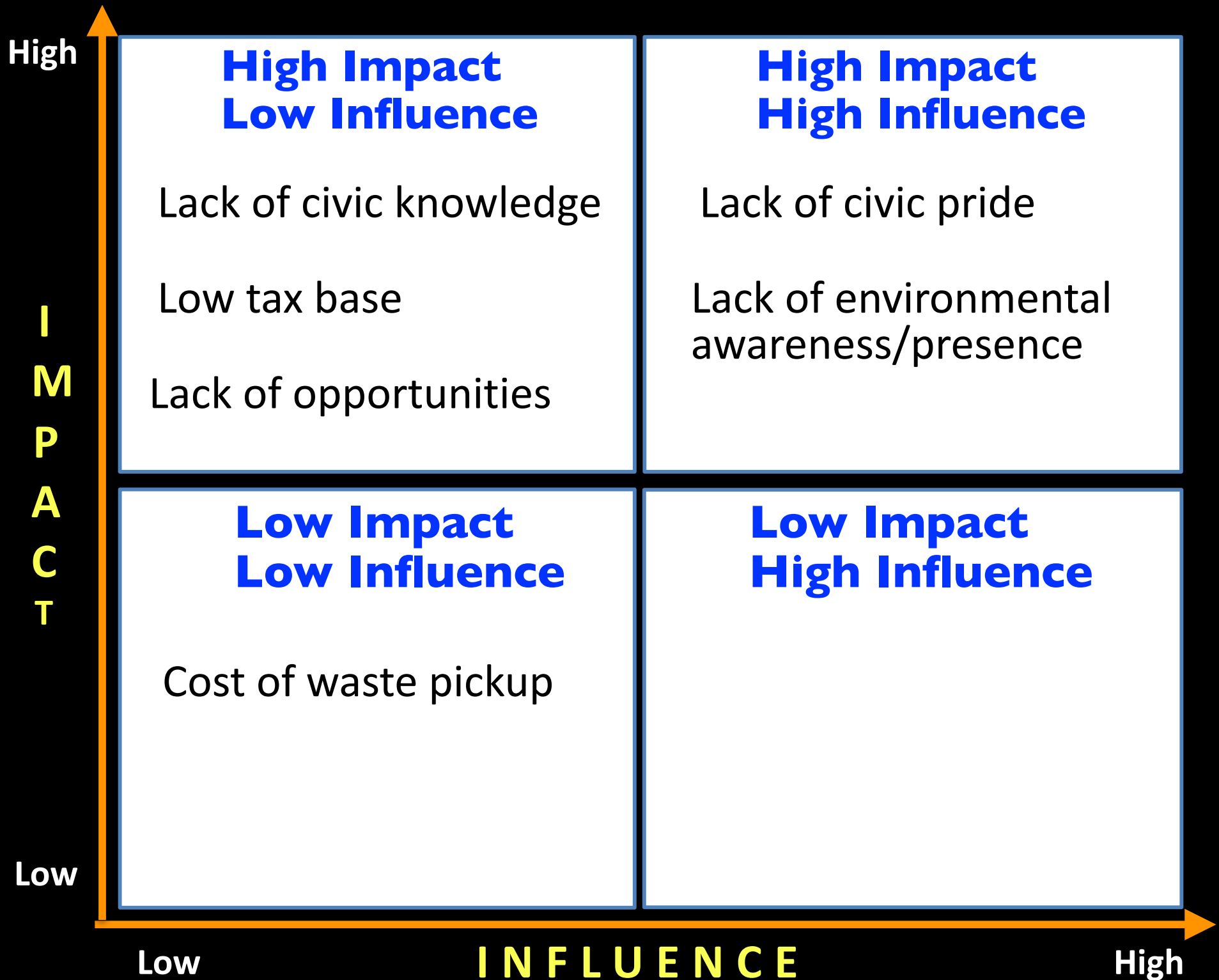
Low Impact
High Probability

Think about it
“just to be sure”

Probability

Low

High



State a
Problem:

| |
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|--|

#1 Root
Cause

Political

Economic

Social

Environmental

Technological

Legal/Regulatory

Why?

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|--|--|--|--|--|--|
| | | | | | |
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Select at least one **High-High** root cause

Why?

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Why?

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Root
Cause

Develop Next Steps / Action Plan

