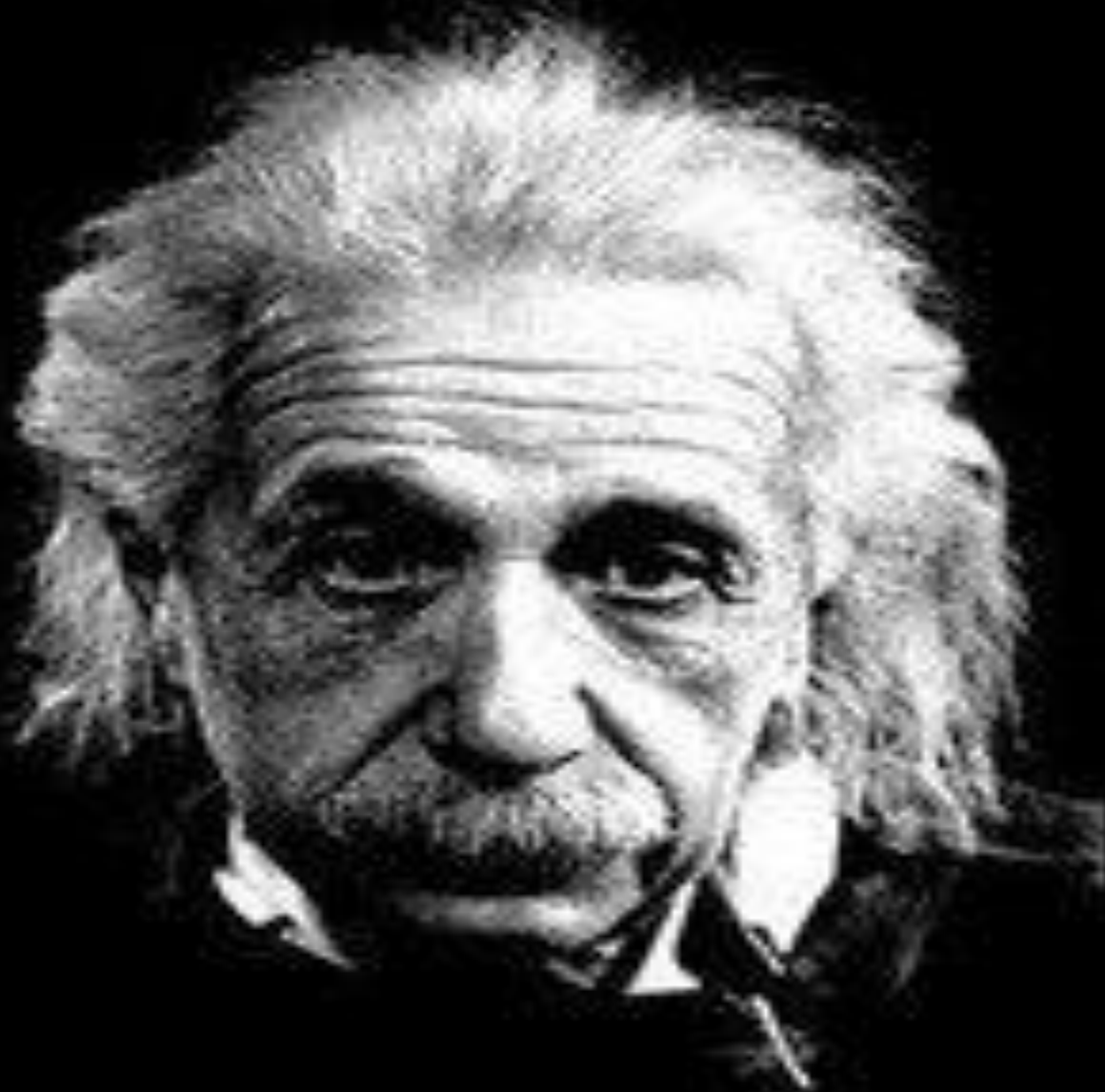




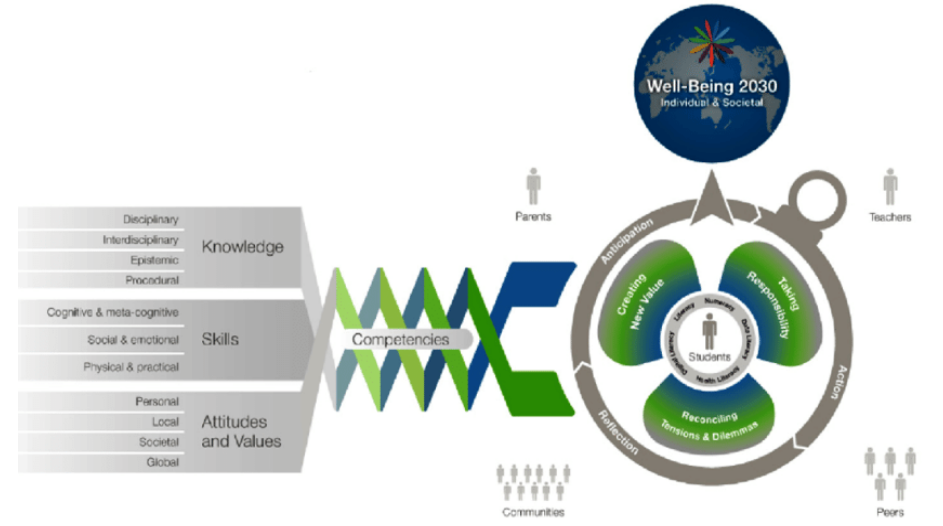
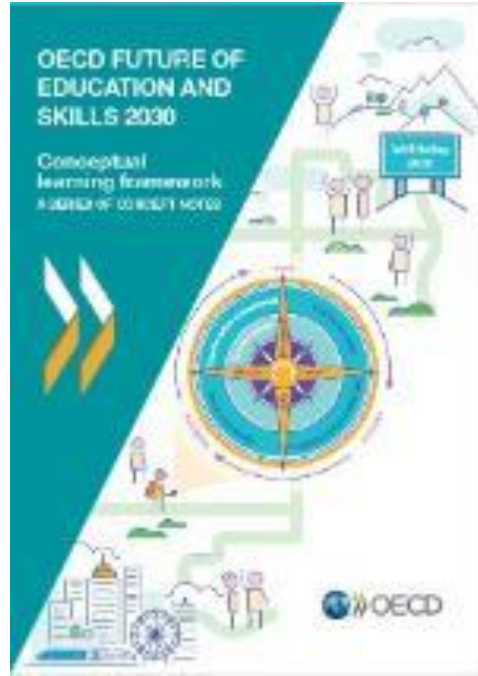
SYSTEM THINKING CONCEPTS

AJ Murthy

"WE CANNOT
SOLVE OUR
PROBLEMS
WITH THE SAME
THINKING WE
USED WHEN WE
CREATED THEM"



OECD EDUCATION IMPERATIVE 2030



Source: OECD (2018b, p. 4)

V14 | OECD Learning Framework 2030

SOURCES:

<https://www.oecd.org/education/2030/learning-framework-2030.htm/>

<https://futurework.org.au/research/>

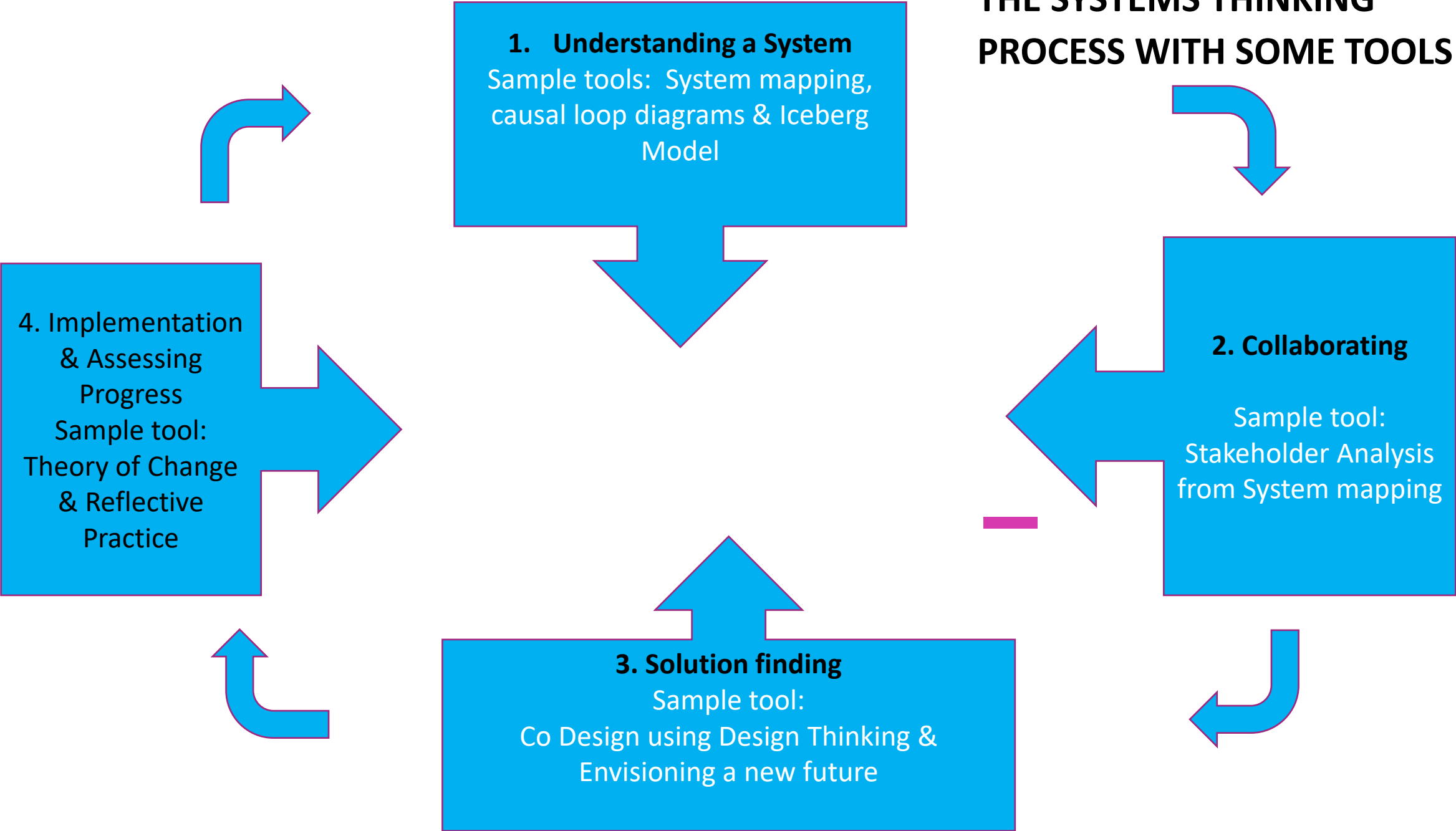
<https://www.aisc.net.au/>



KEY DEFINITIONS

- **System:** a group of interacting, interrelated, or interdependent elements forming a complex whole. Almost always defined with respect to a specific purpose. The terms system and structure are sometimes used interchangeably. Example a house has many rooms with different purposes.
- **Structure:** the manner in which the elements of a system are organized or interrelated; the building blocks of a larger system. Example how a house rooms are placed provides a structure on how best heating/ cooling is done in the home.
- **Boundary:** where systems stops or changes its characteristics. Where two systems interact is the boundary point. Example when one room stops, and another room starts i.e. dry bedroom to a wet bathroom.

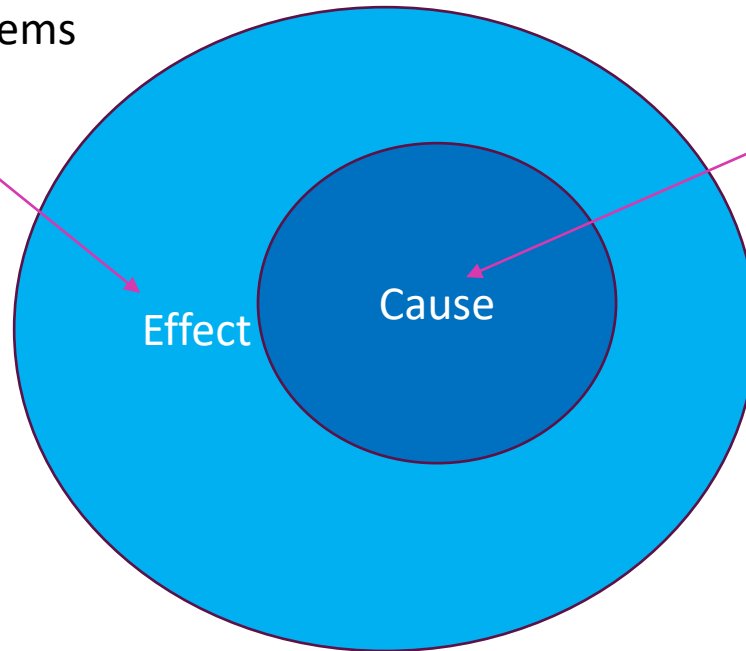
THE SYSTEMS THINKING PROCESS WITH SOME TOOLS



STAGE 1: SYSTEM AWARENESS

PROBLEM DEFINITION- KEY PROBLEMS

Obvious problems



To get to the root cause
as why five(5) times

Problem Statement:

Why is my house so cold?

THE SYSTEM ICEBERG MODEL- STAGE 1 (SYSTEMS AWARENESS)

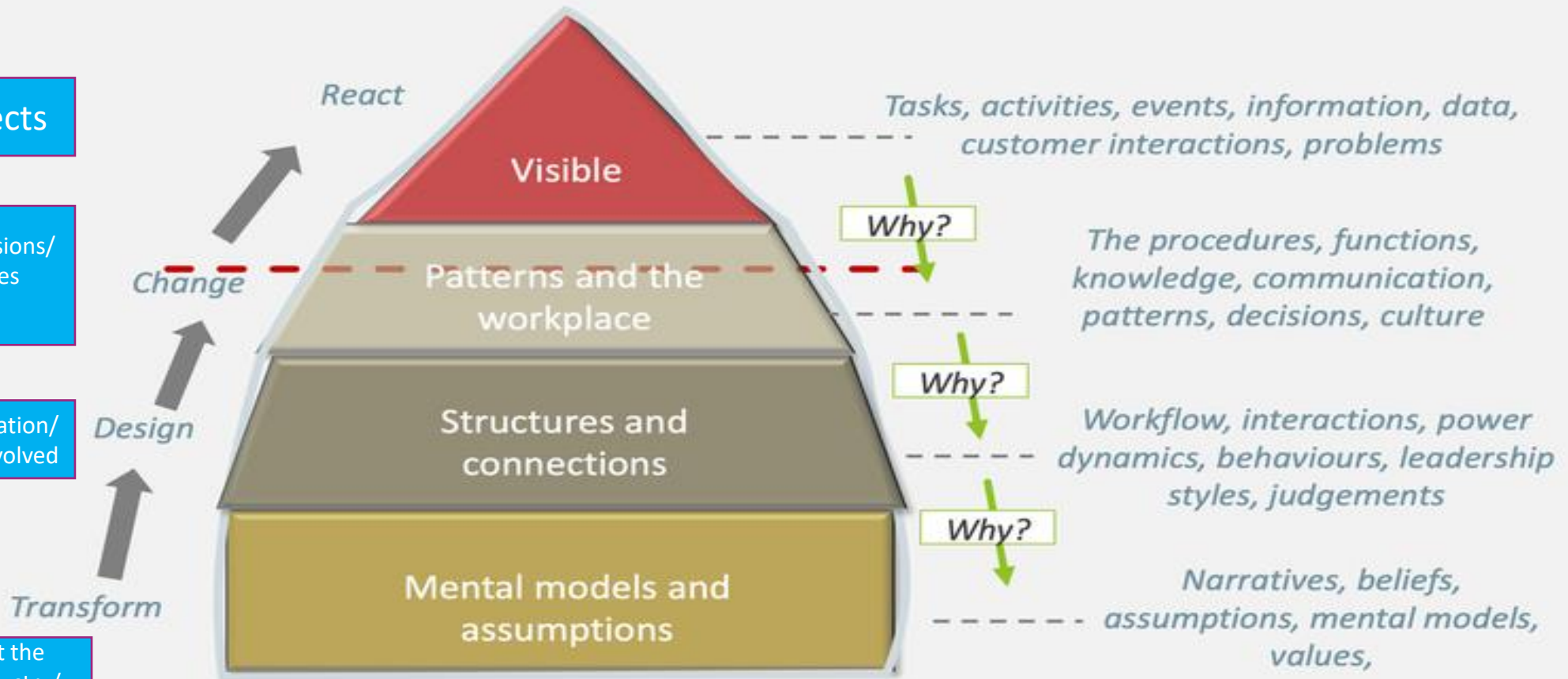
SOURCE: [HTTPS://WWW.IMPROCONSULT.CO.UK/SERVICE-DESIGN-EXAMPLE-7-347720.HTML](https://www.improconsult.co.uk/service-design-example-7-347720.html)

Causes/ Effects

Interactions / decisions/
culture of parties
involved

Government Legislation/
Policies/ parties involved

Thinking about the
issue/ in the industry/
past ways of thinking/
behaving

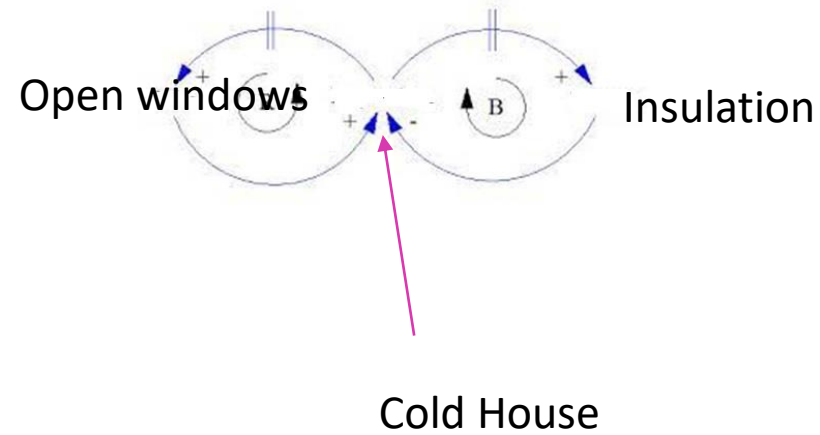


STAGE 1: SYSTEM AWARENESS

CAUSAL LOOP MAPPING- HOW THINGS INTERACT

R: Reinforcing

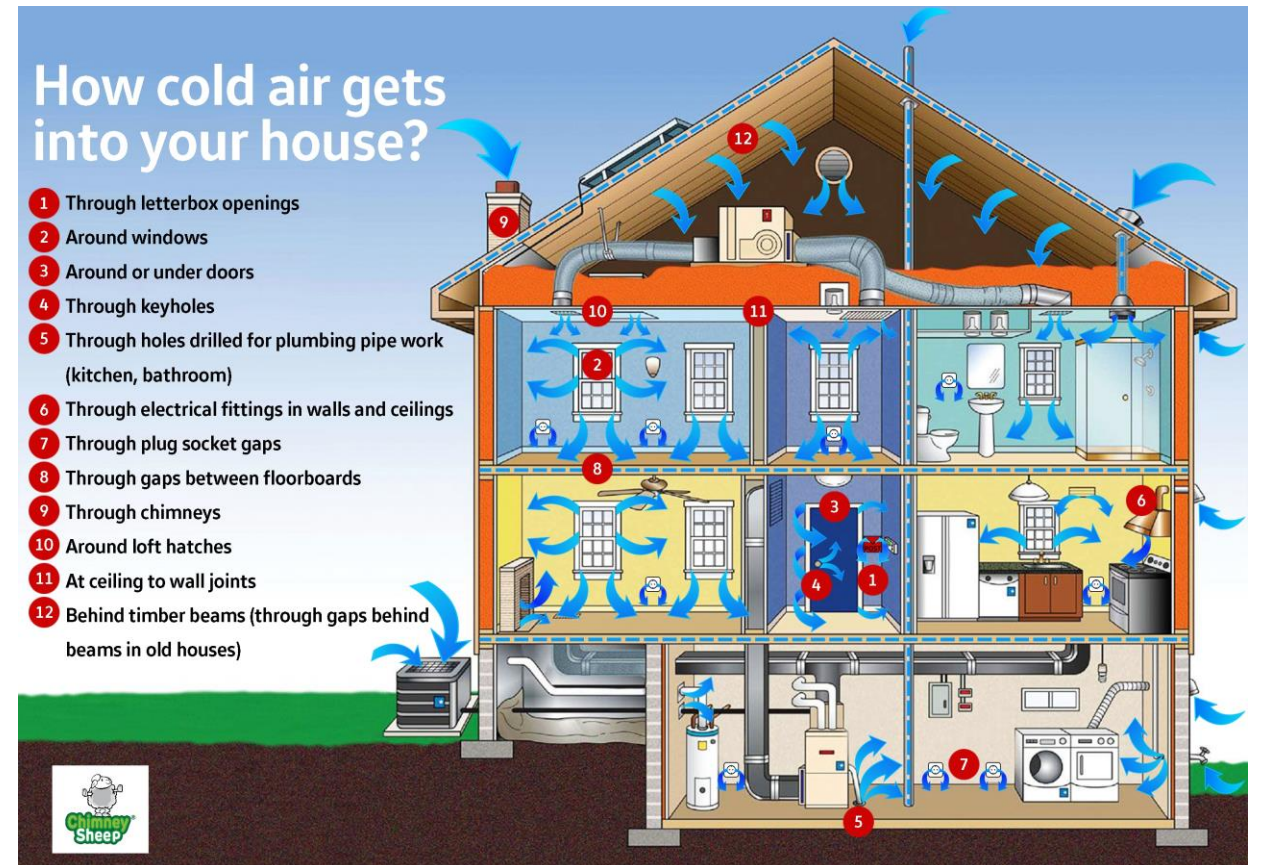
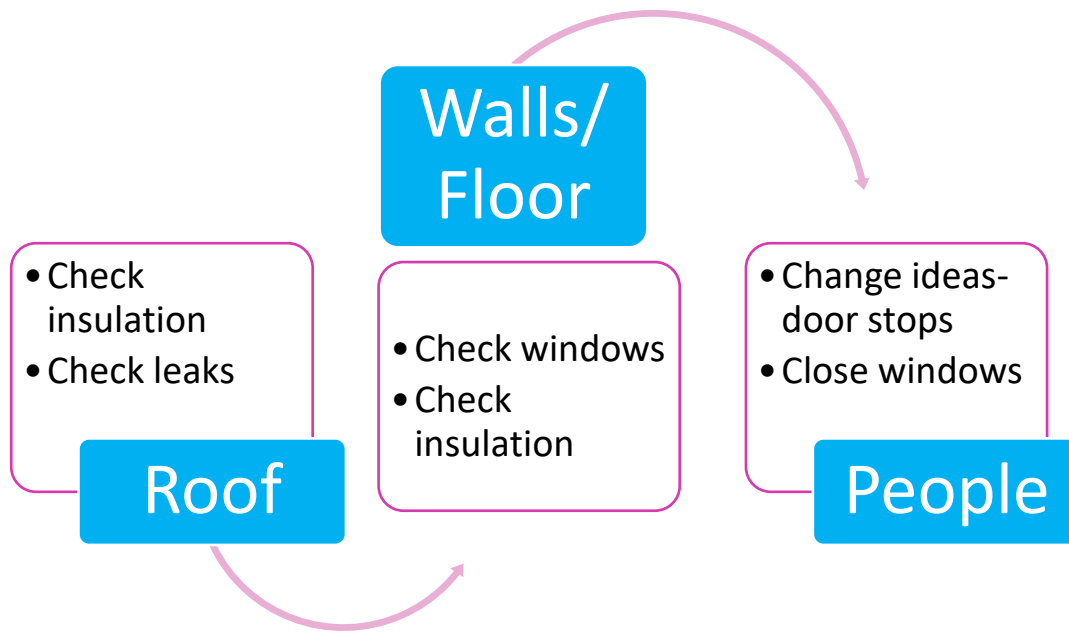
B: Balancing



Feedback loops have either positive (i.e., reinforcing

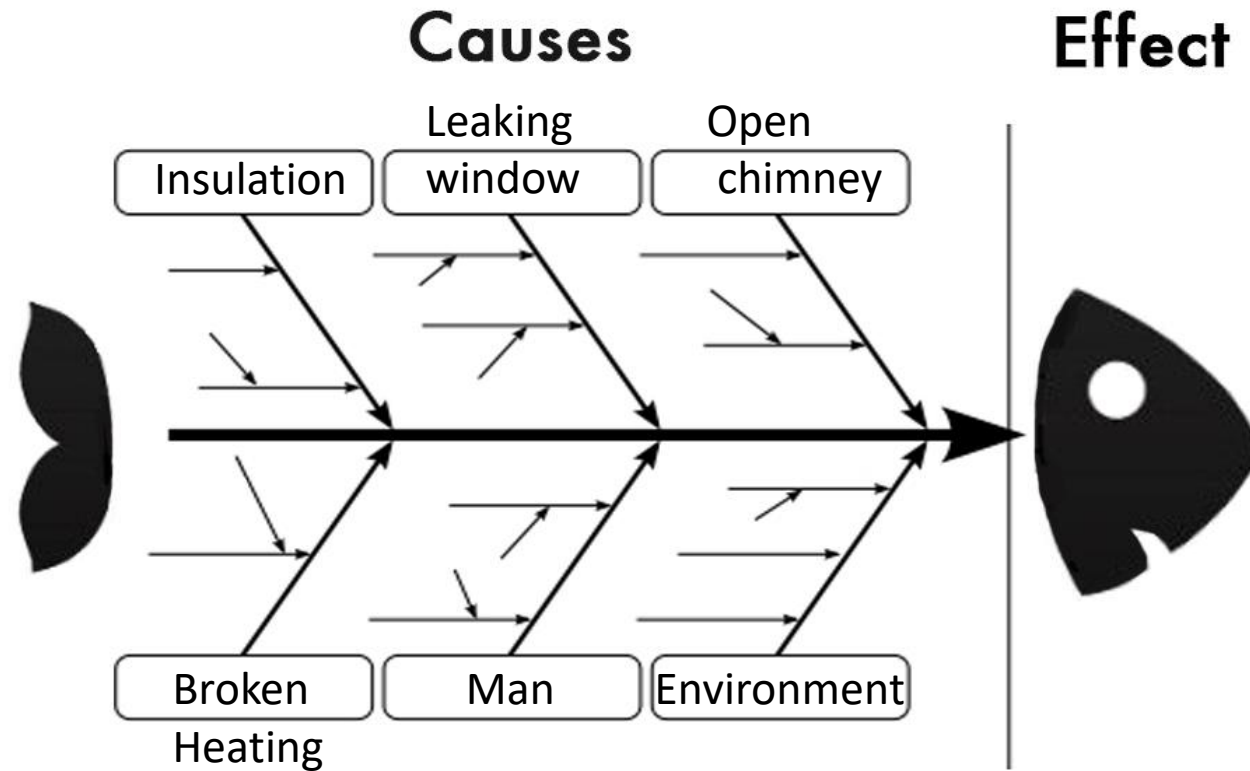
STAGE 1: SYSTEM AWARENESS & STAGE 2: COLLABORATION

SYSTEM MAPPING- WHAT/WHO IS INVOLVED?



STAGE 3: SOLUTION FINDING

BRAINSTORMING- FISH BONE DIAGRAM



These causes will vary based
On type of system and
Structures within that system

STAGE 4: IMPLEMENTATION & ASSESSING PROGRESS

- Recommendations- what are the best solutions?
- Implementation- how do you implement those solutions
- Change management- how do you measure success and institutionalise change.

QANTAS ISSUES

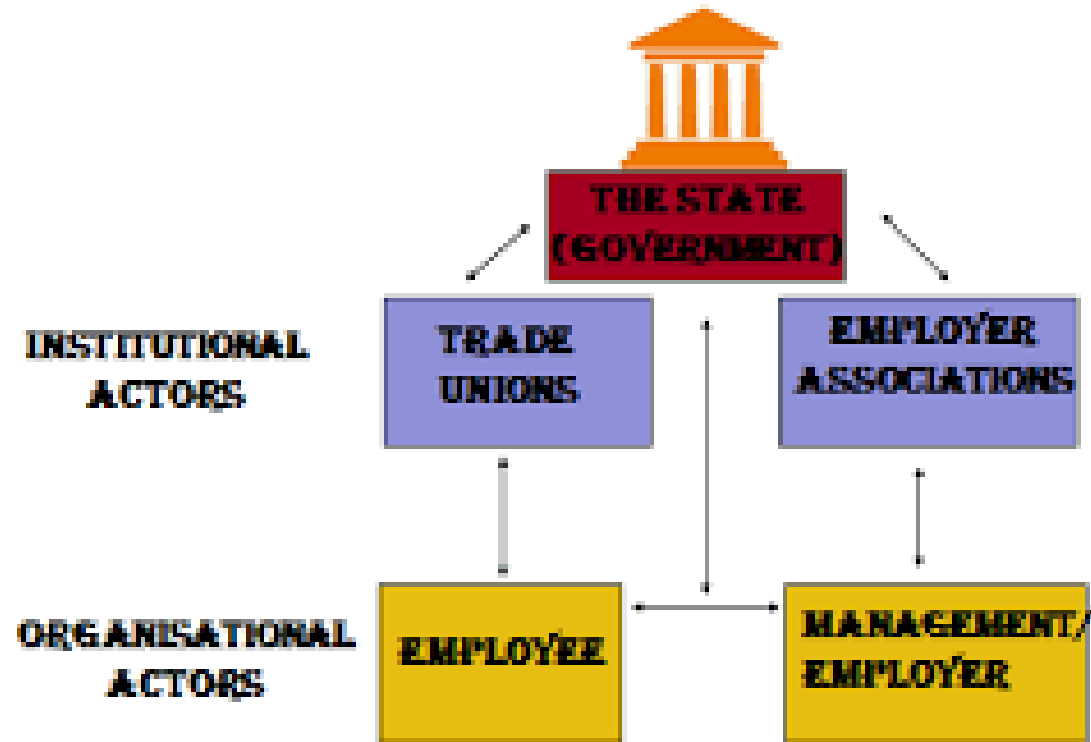
Cause

Effect



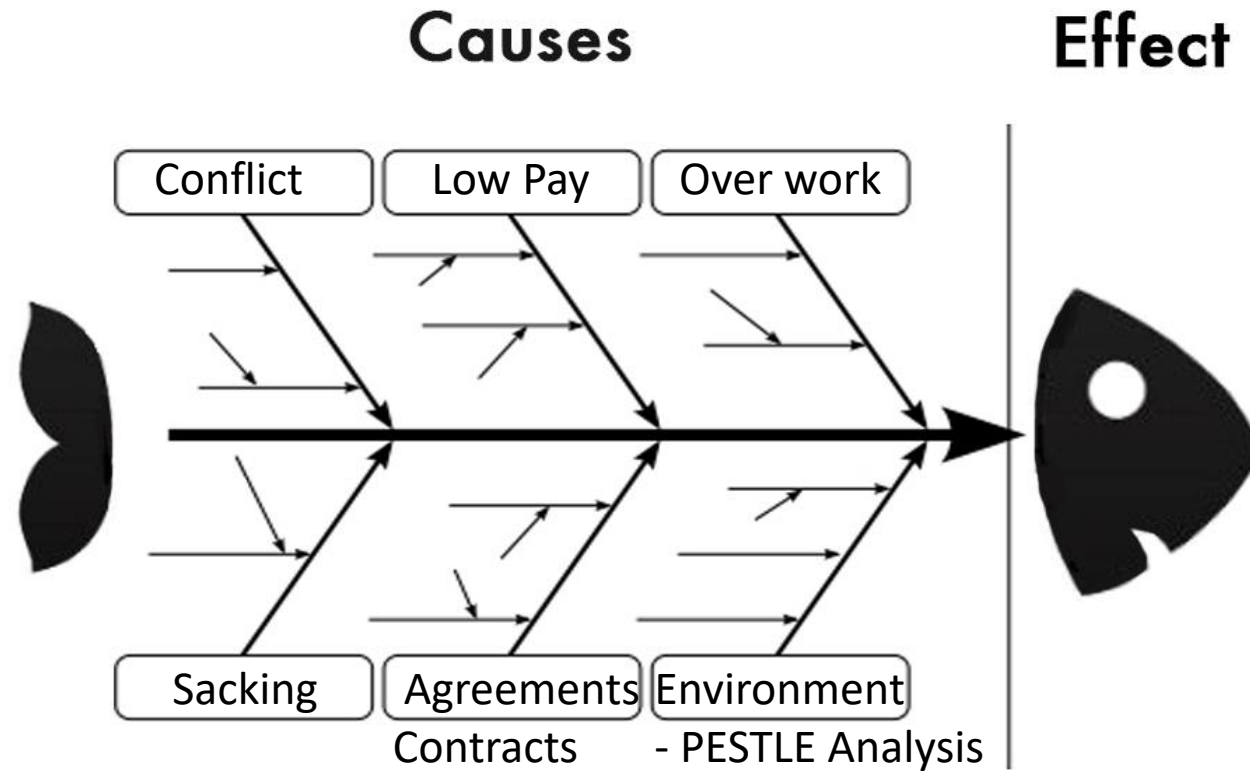
STAGE 1: SYSTEM AWARENESS & STAGE 2: COLLABORATION

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STAGE 4: IMPLEMENTATION & ASSESSING PROGRESS

- <https://www.qantas.com/agencyconnect/au/en/agency-news/agency-news-november-20/qantas-response-to-customer-service-restructure.html>
- https://www.pc.gov.au/__data/assets/pdf_file/0004/187915/sub0116-workplace-relations.pdf