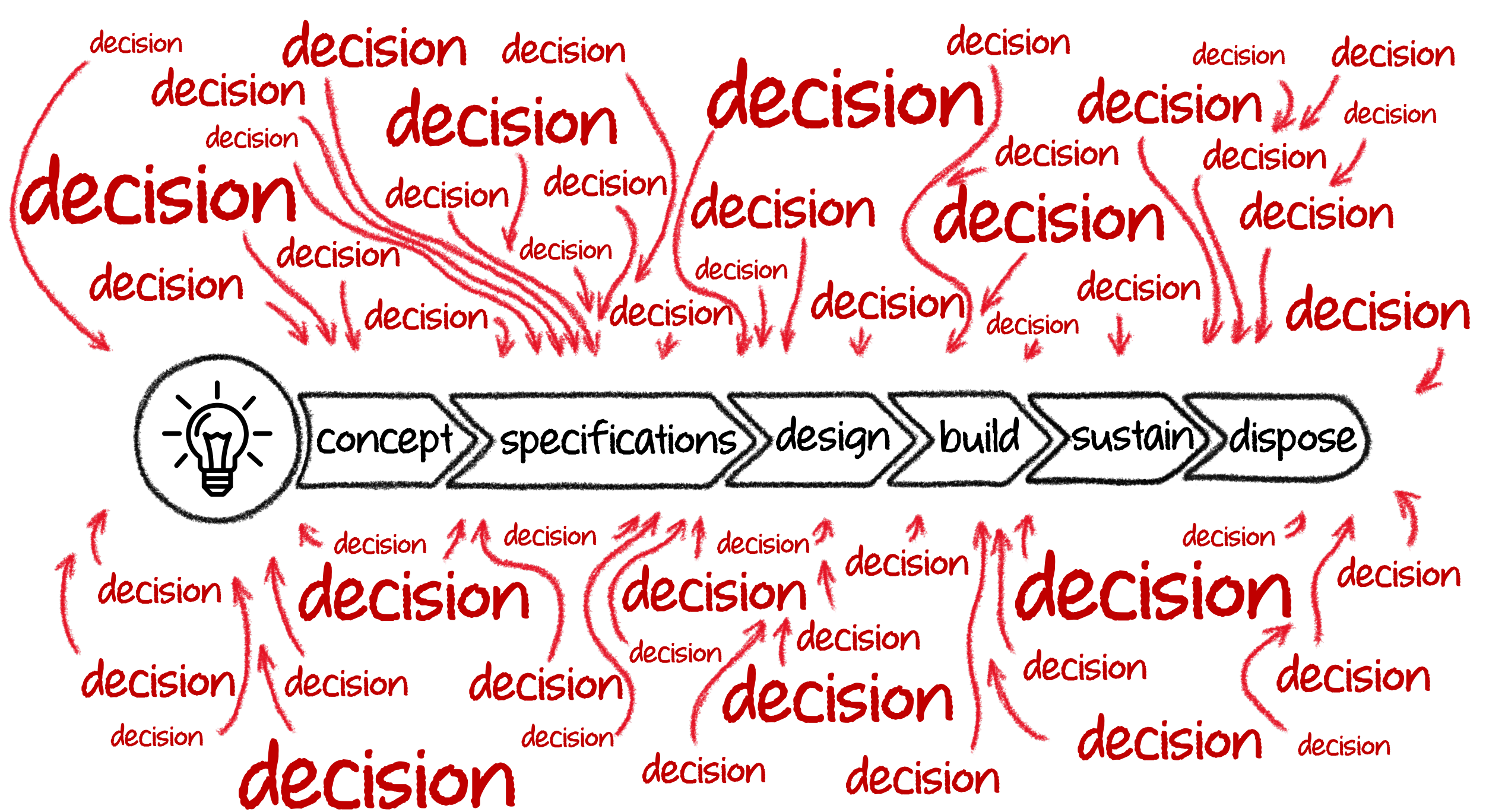


how to make a  
DECISION

... reliability happens  
at the points of  
DECISION



decision

problem  
#5

problem  
#1



RELIABILITY happens at the point of DECISION(s)

decision



decision

problem  
#5

problem  
#1



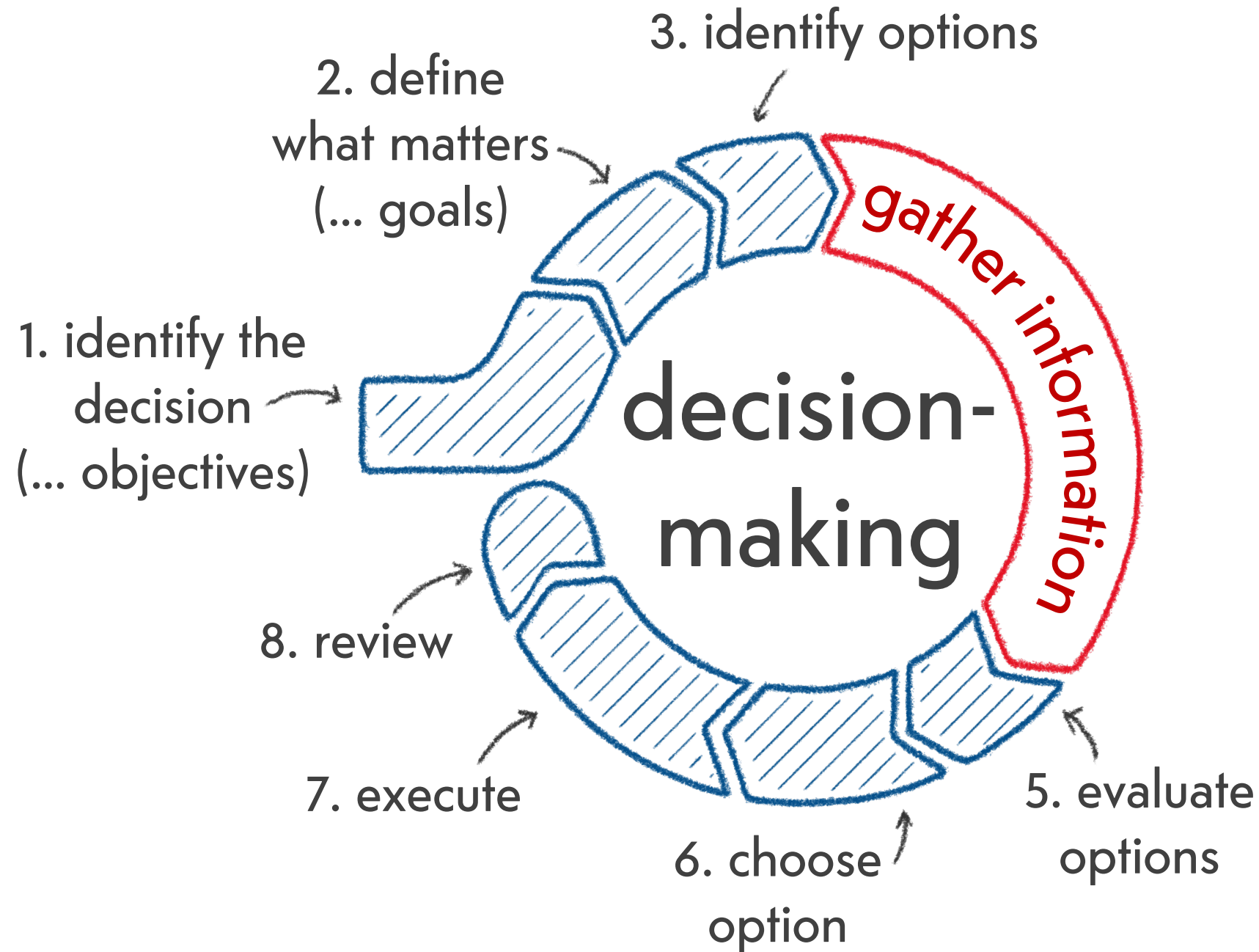
RELIABILITY happens at the point of DECISION(s)

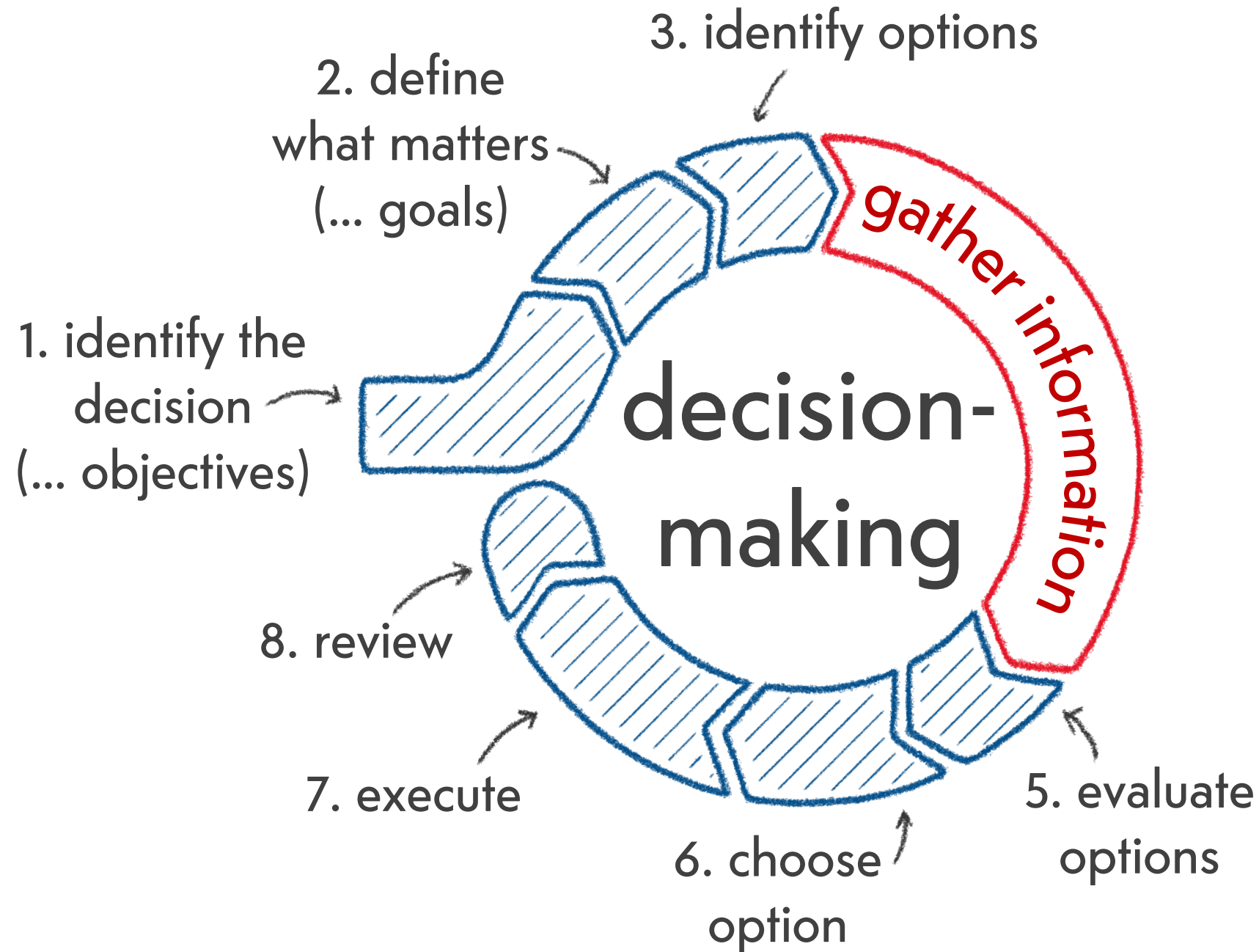
decision

1. What are the GOALS I NEED TO GIVE?
2. What do I need to CHANGE ON MY DESIGN?
3. What are the DOMINANT FAILURE MECHANISMS?
4. Can I PROCEED TO THE NEXT STEP?
5. WHAT WILL I DO to help my team?
6. What TESTS AND TOLERANCES do I need?
7. What part of our BUSINESS CASE needs to change?
8. What MANUFACTURING OR PRODUCTION activities and parameters need to change?
9. What CONTINGENCIES do I need to change?
10. What SUSTAINMENT AND MAINTENANCE ACTIVITIES and schedules should we change?
11. What do we need to do NEXT TIME?
- X. And no doubt PLENTY OTHERS ...

... so what if you feel  
**OVERWHELMED?**

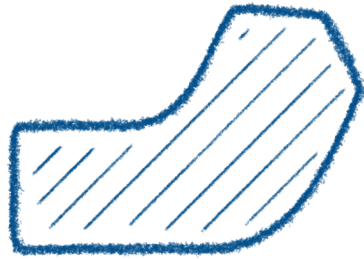
... break your  
decision down





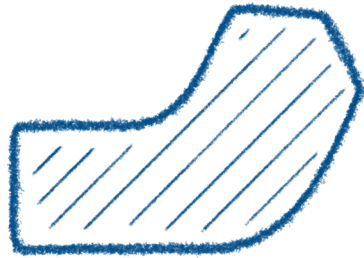


1. identify the  
decision  
(... objectives)



do we need to  
DO SOMETHING  
because we are not getting  
the results we want?

1. identify the  
decision  
(... objectives)



do we need to  
DO SOMETHING  
because we are not getting  
the results we want?

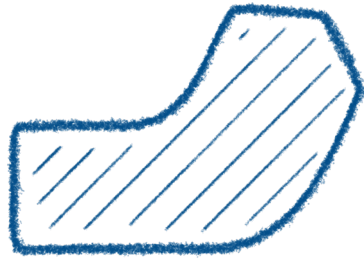
do we need to  
IMPROVE  
reliability?



do we need to  
MEASURE  
reliability?

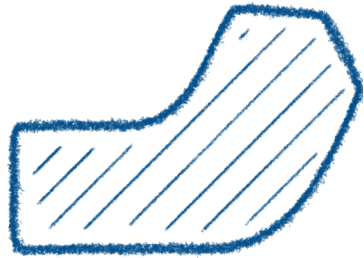
what if our customers are  
unhappy with reliability?

1. identify the  
decision  
(... objectives)



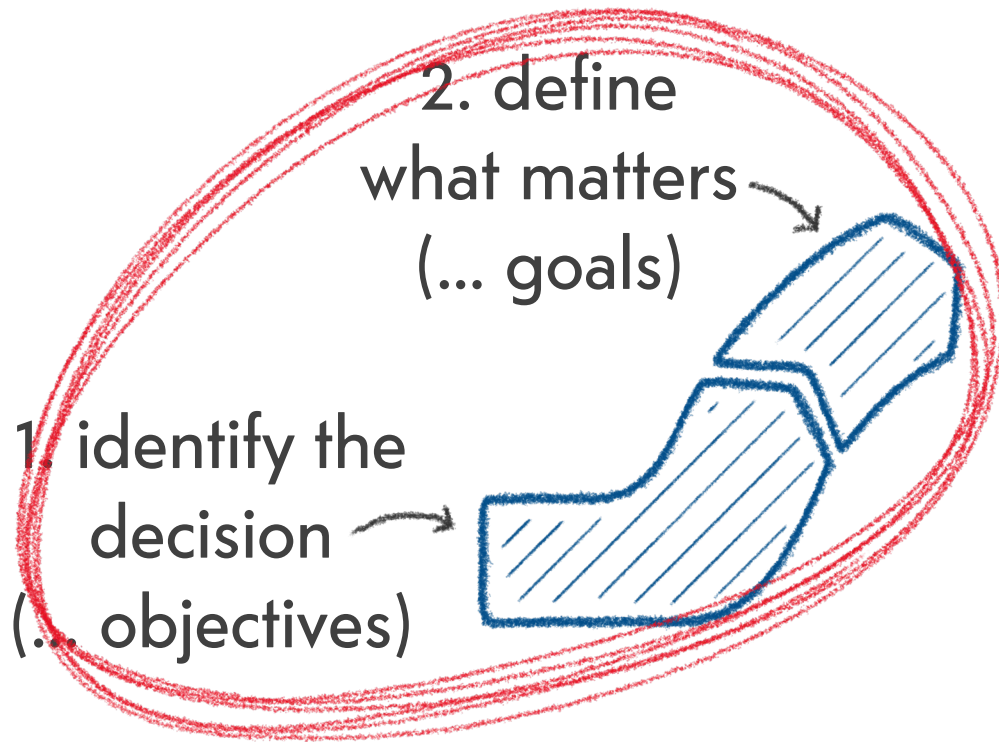
1. What are the GOALS I NEED TO GIVE?
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10. What SUSTAINMENT AND MAINTENANCE ACTIVITIES and schedules should we change?
11. What do we need to do NEXT TIME?
- X. And no doubt PLENTY OTHERS ...

1. identify the  
decision  
(... objectives)



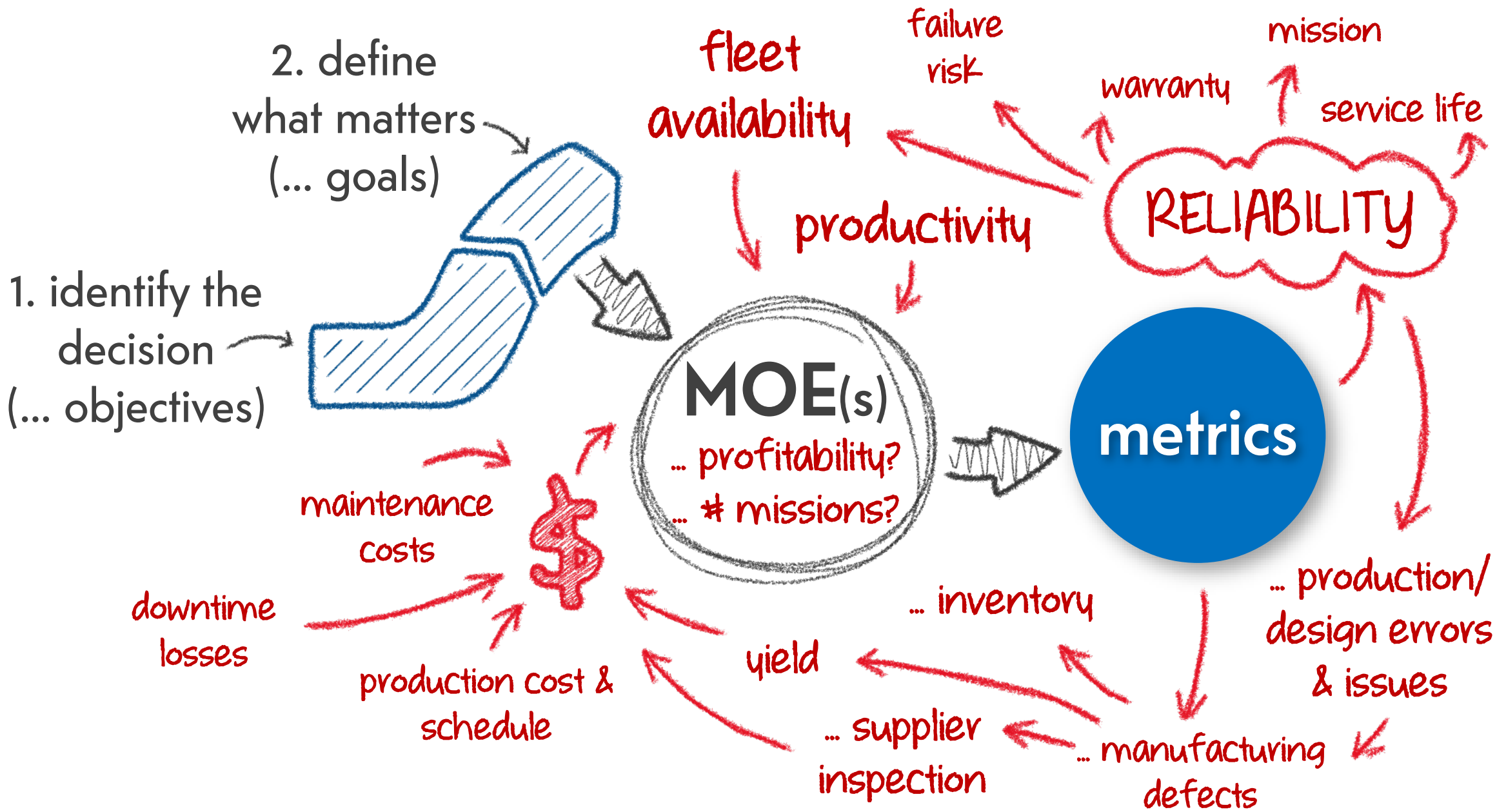
what should our  
WARRANTY PERIOD  
be?

1. What are the GOALS I NEED TO GIVE?
2. What do I need to CHANGE ON MY DESIGN?
3. What are the DOMINANT FAILURE MECHANISMS?
4. Can I PROCEED TO THE NEXT STEP?
5. WHAT WILL I DO to help my team?
6. What TESTS AND TOLERANCES do I need?
7. What part of our BUSINESS CASE needs to change?
8. What MANUFACTURING OR PRODUCTION parameters need to change?
9. What CONTINGENCIES do I need to change?
10. What ENVIRONMENT AND MAINTENANCE and schedules should we change?
11. What do we need to do NEXT TIME?
12. And no doubt PLENTY OTHERS ...



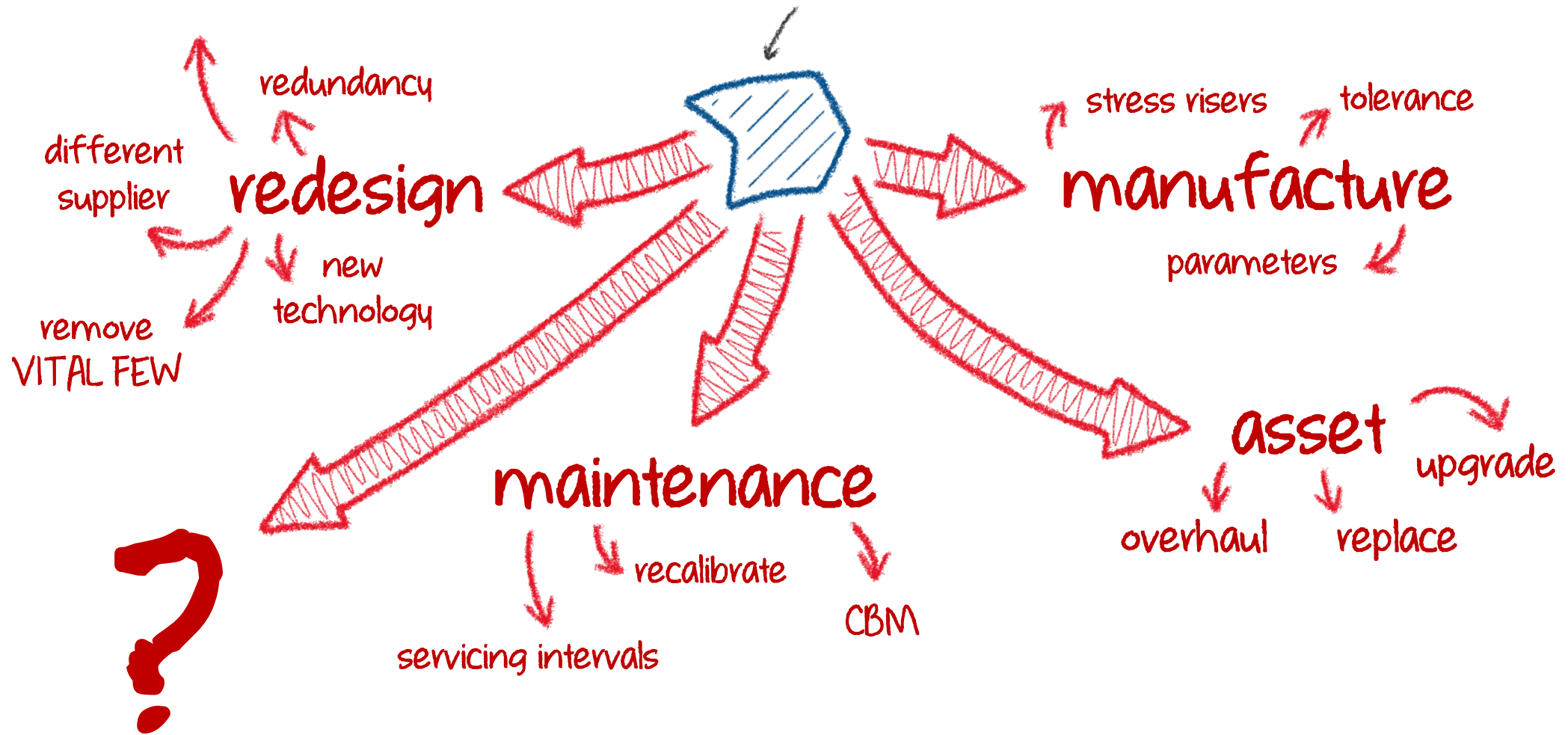
→ ... if we don't  
**think**

about these enough  
(or couldn't be bothered to  
think about them at all) ...

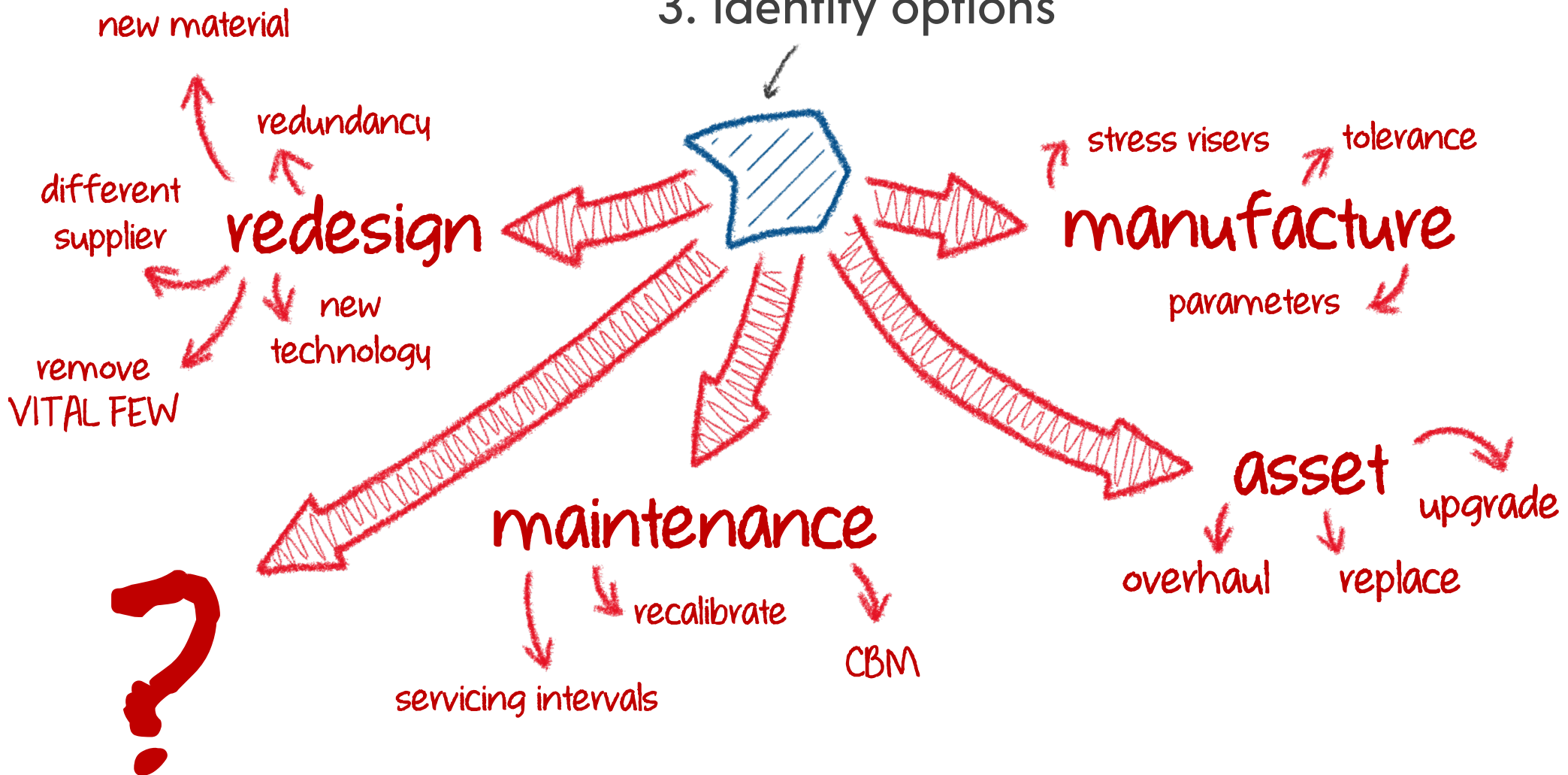


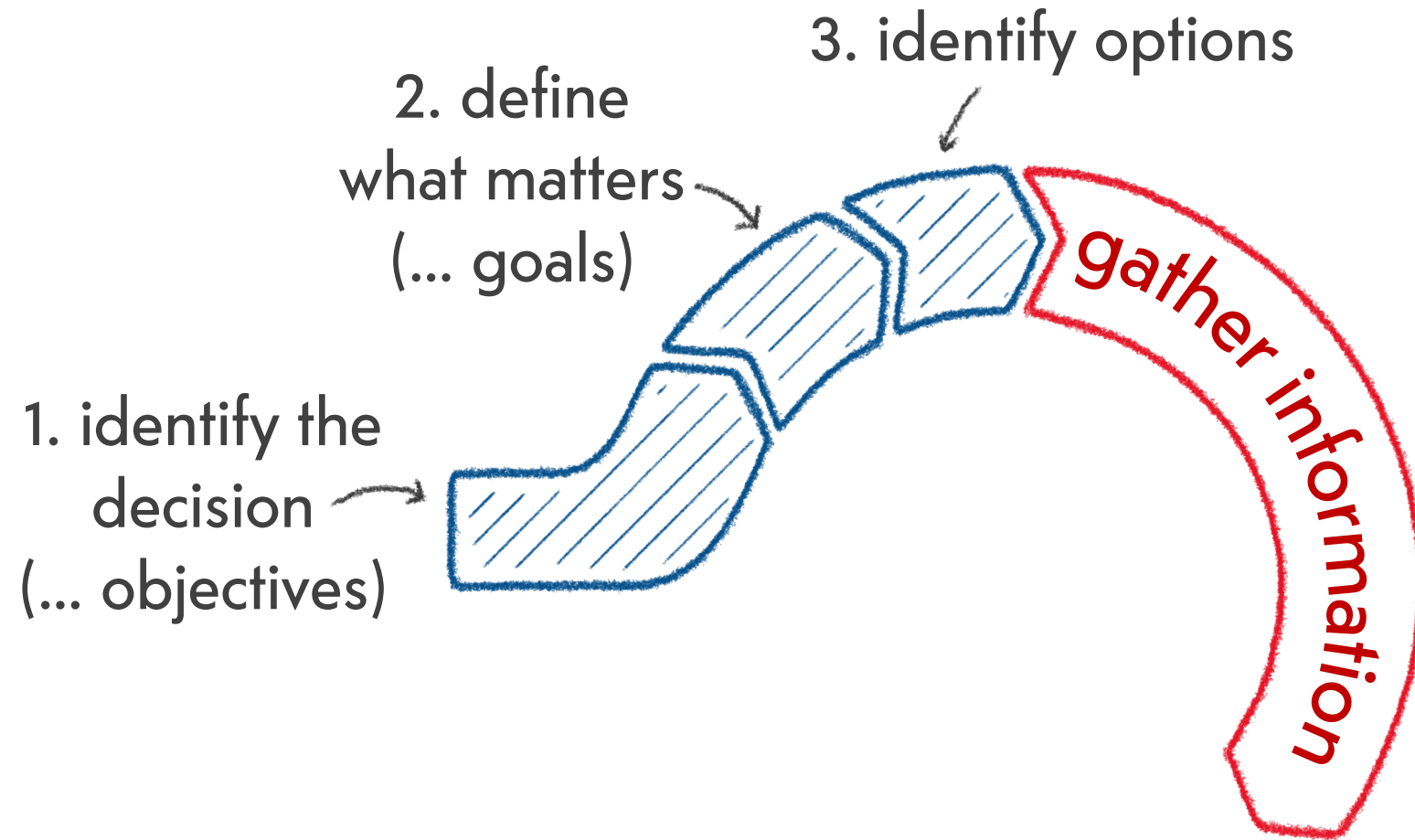


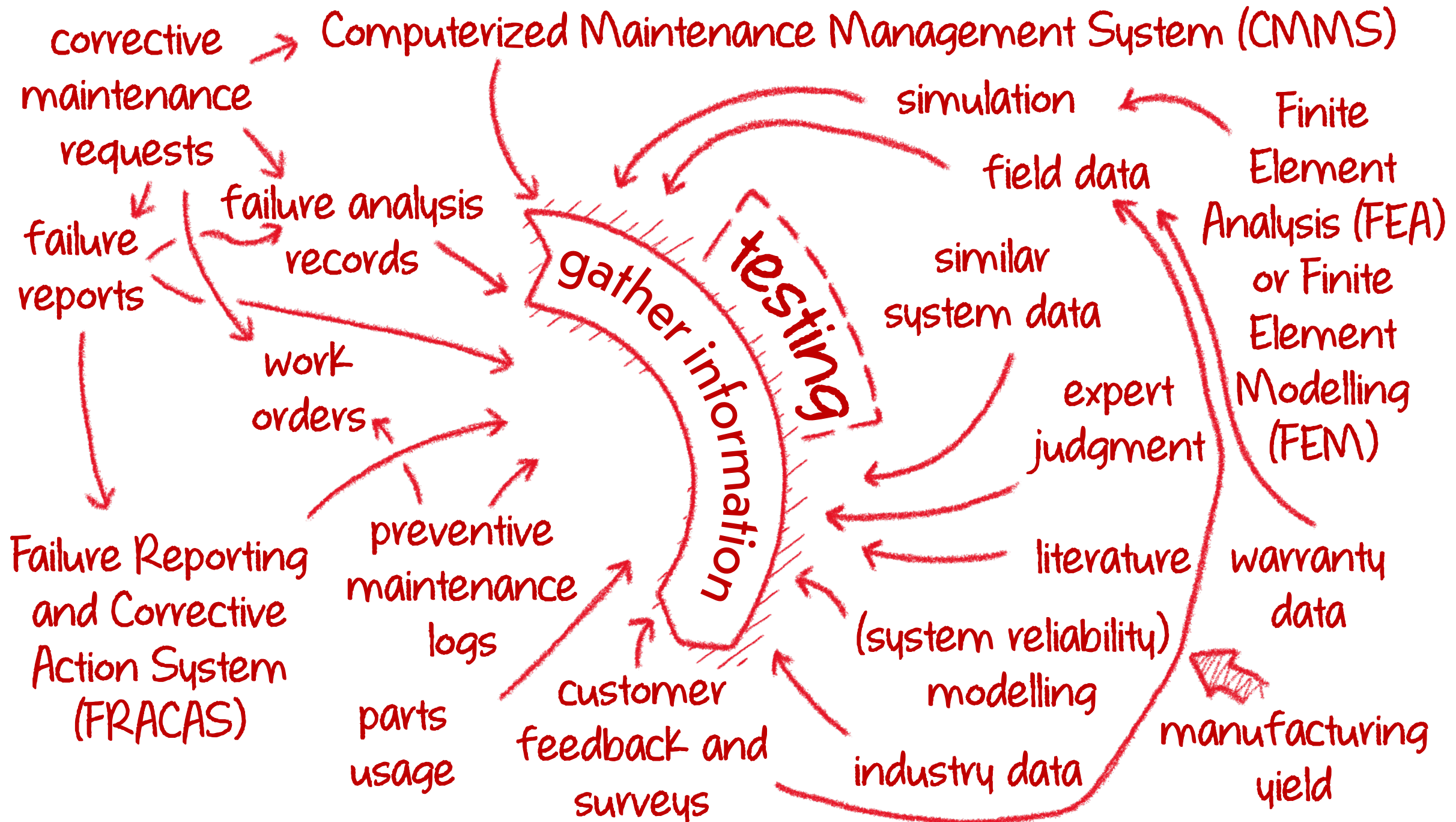
### 3. identify options



### 3. identify options







2. define  
what matters  
(... goals)

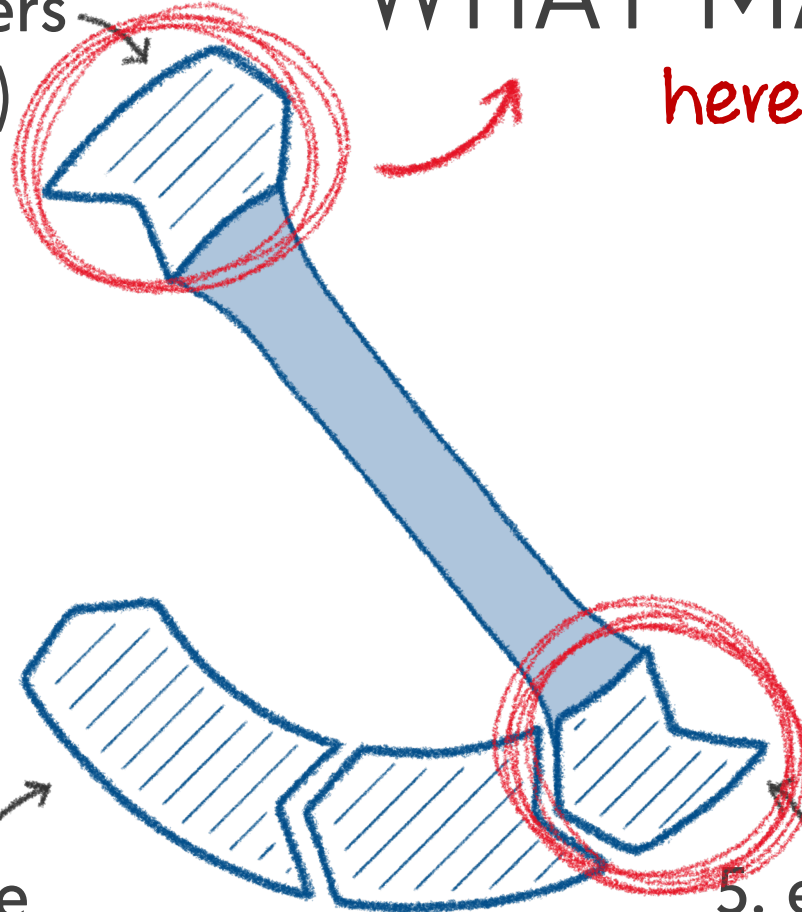
... if you don't agree on  
**WHAT MATTERS**  
here ...

... you will be  
**BIASED &  
EMOTIONAL**  
here ...

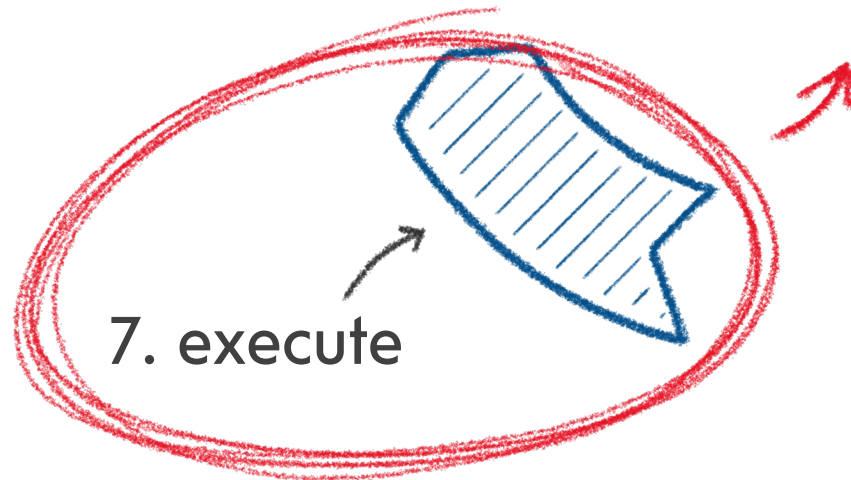
7. execute

6. choose  
option

5. evaluate  
options



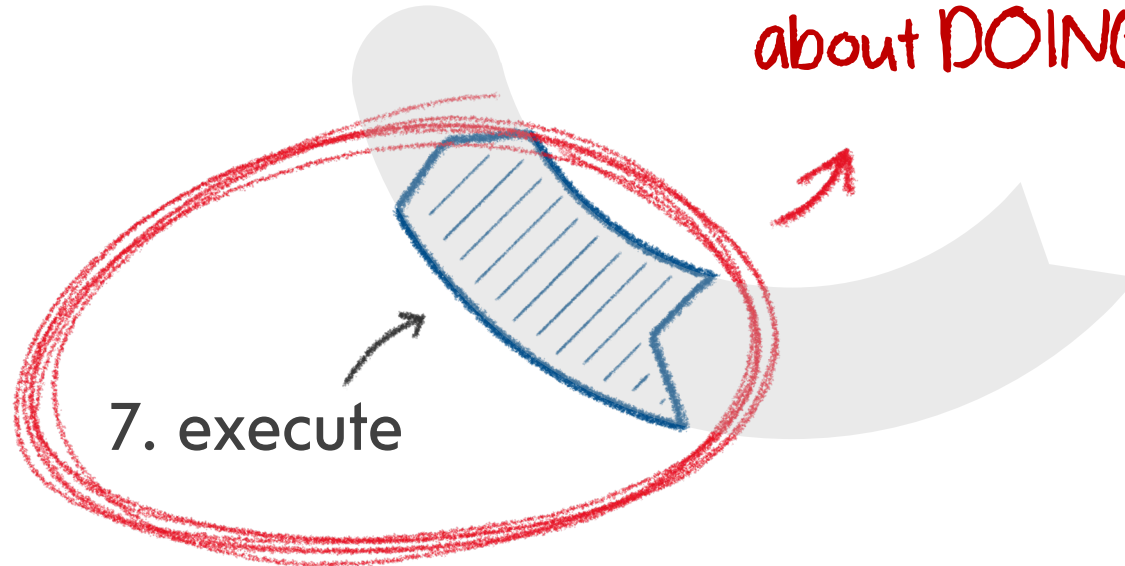
... or our  
organization  
is not serious  
about DOING reliability

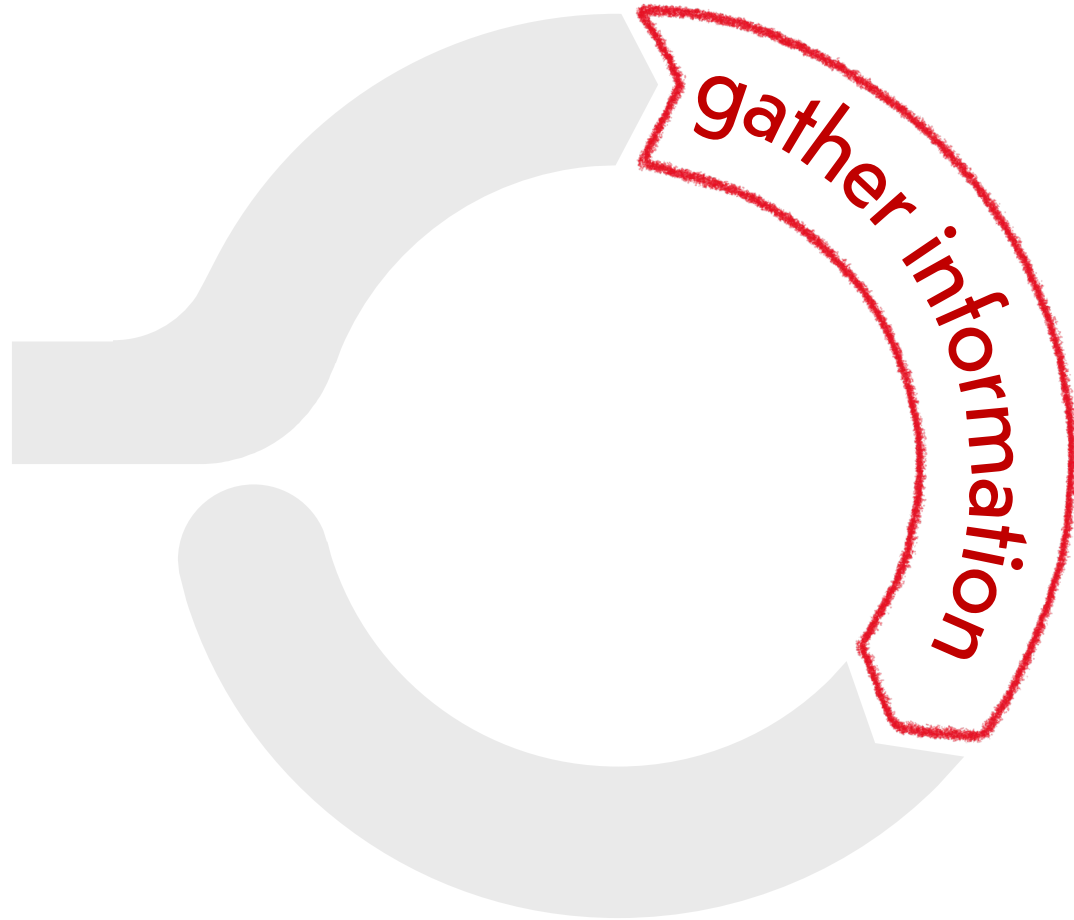




... or our

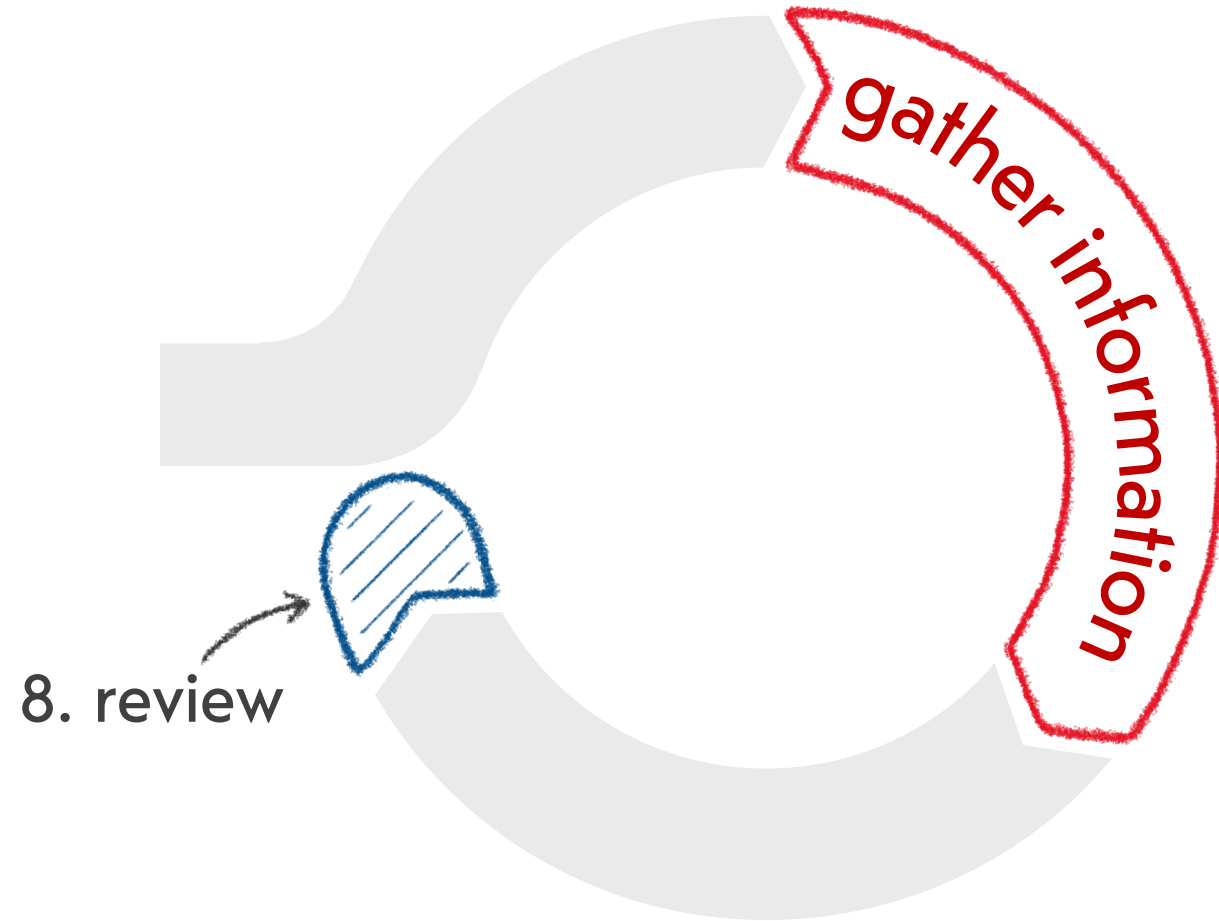
organization  
is not serious  
about DOING reliability





... then all this is a

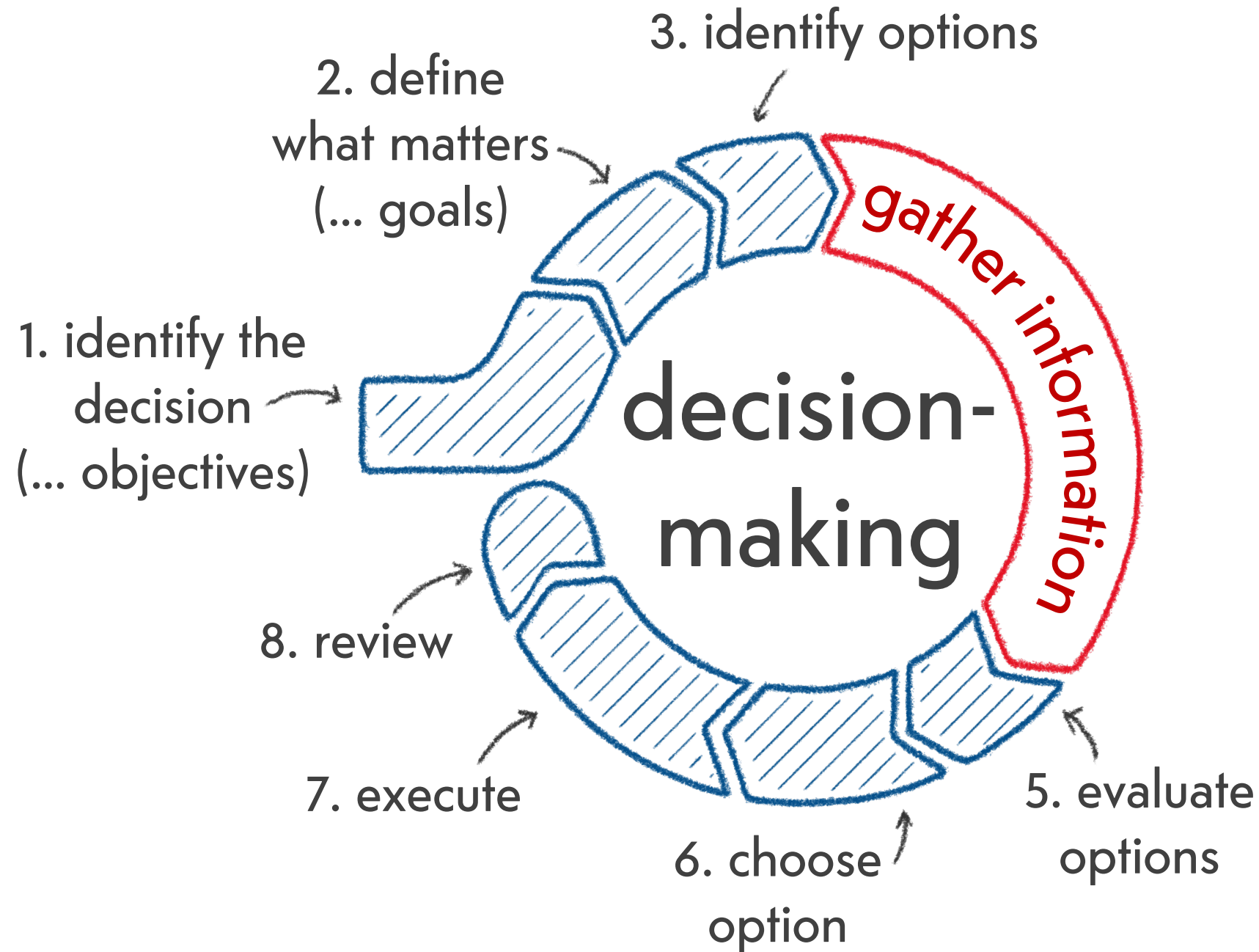
waste  
of  
time



... reliability decisions

... reliability decision-making

... ??? culture

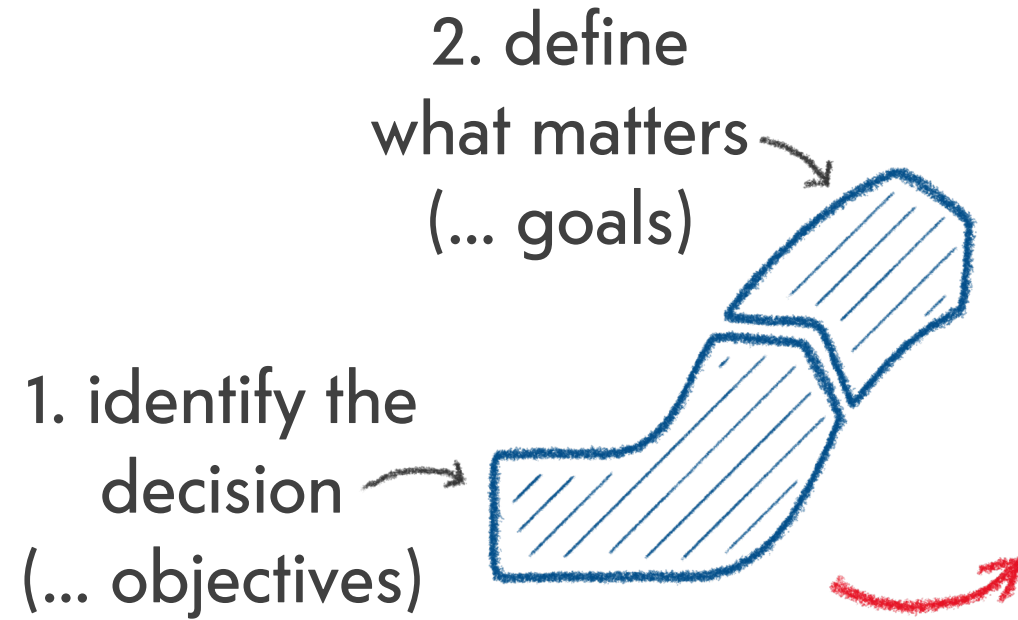


1. identify the  
decision  
(... objectives)



*... have you worked out*  
YOUR PROCESS?





... have you worked out  
YOUR PROCESS?

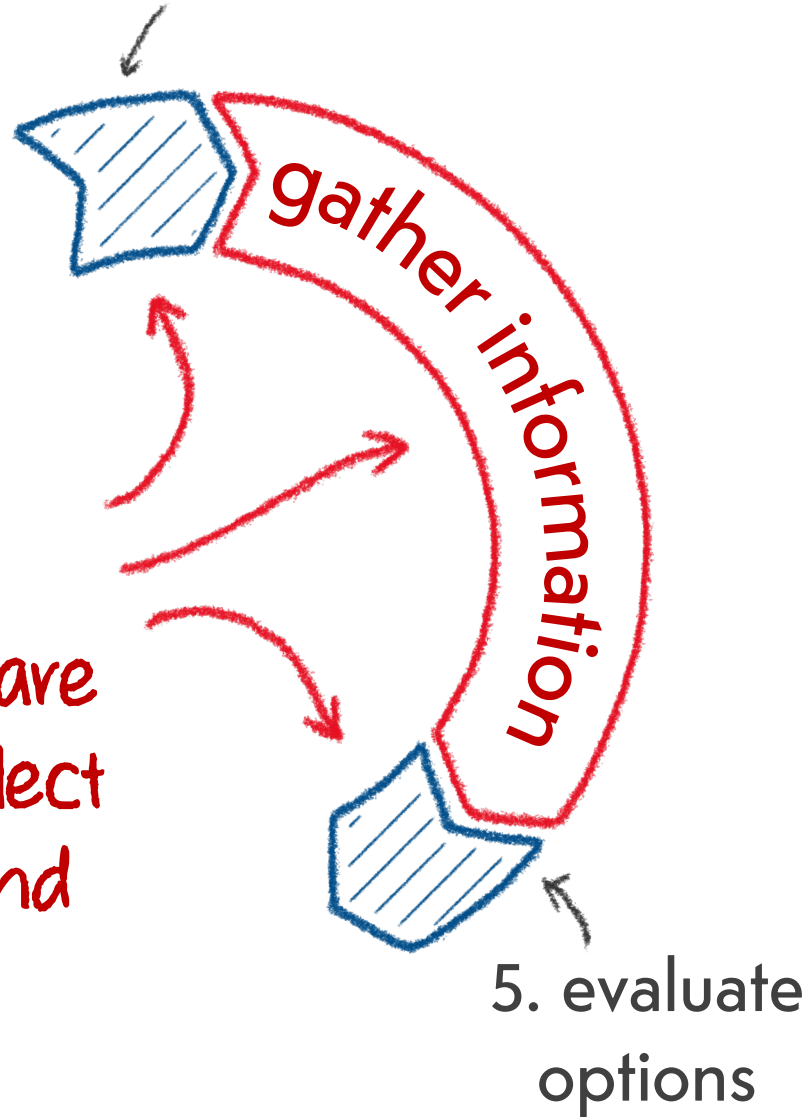
2. define  
what matters  
(... goals)



... do  
PERSONAL &  
ORGANIZATIONAL  
GOALS ALIGN  
and are clearly understood?

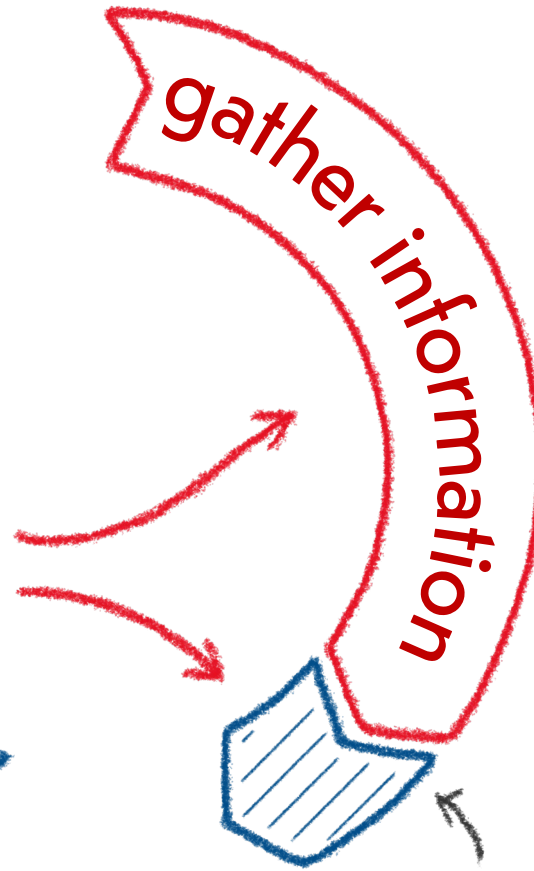
... are people  
TRAINED & HAVE  
ALL THE SKILLS  
to understand what options are  
available to them, how to collect  
and then analyse data to find  
the right ones?

3. identify options



... are there established  
PROGRAMS & PLANS  
that help you gather and  
interpret the right data?

7. execute

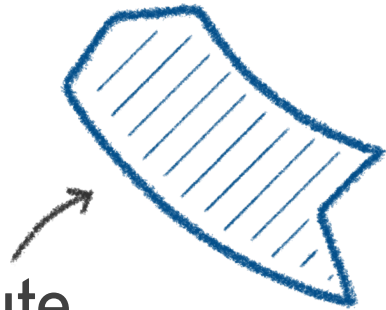


5. evaluate  
options

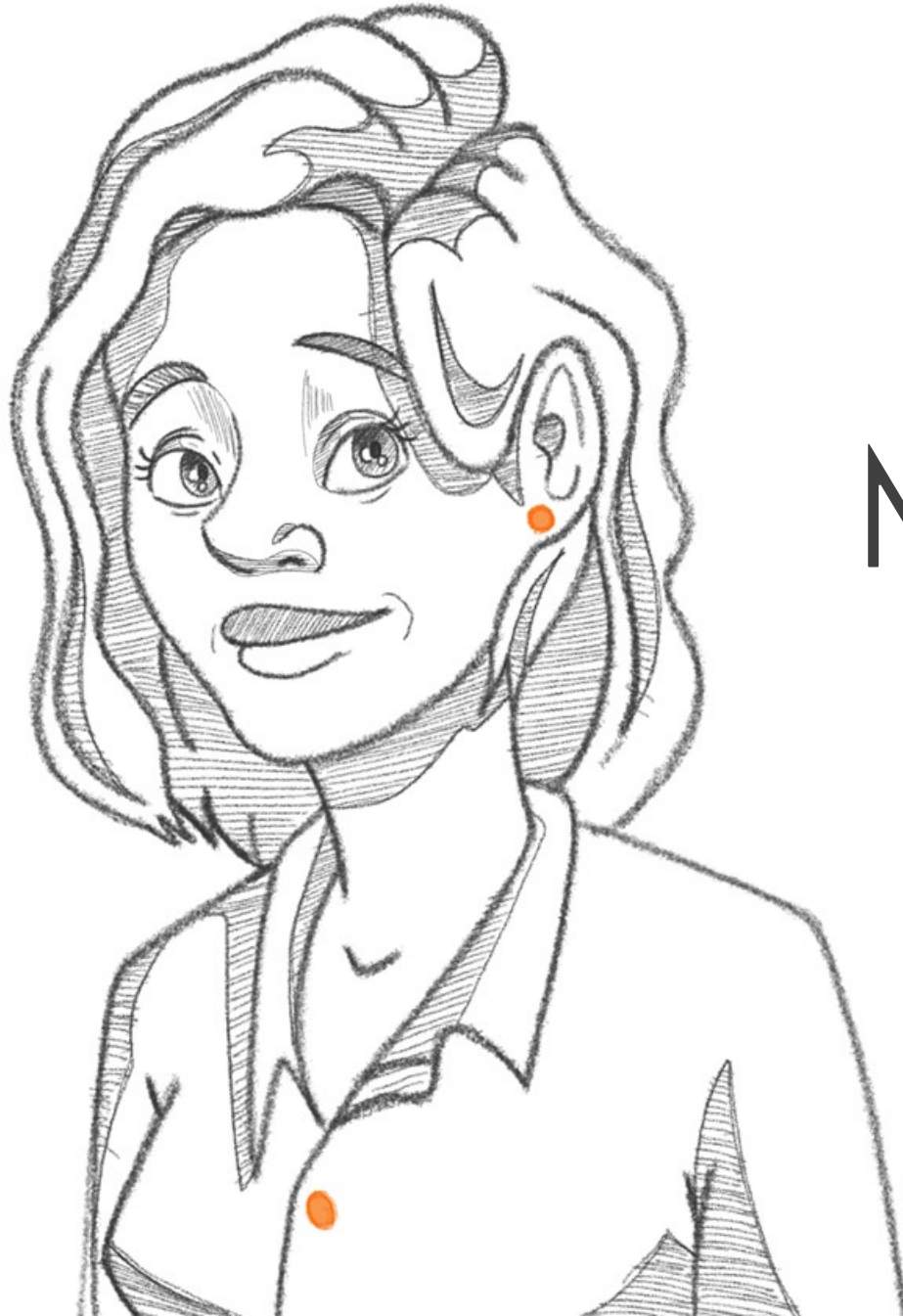


... does leadership  
MOTIVATE  
people to do the  
'right' things?

7. execute



... it's all about  
**CULTURE**  
as this (by definition)  
is all about collective  
behaviours ... which  
are themselves  
decisions we make



... and you can  
**MEASURE  
IT**

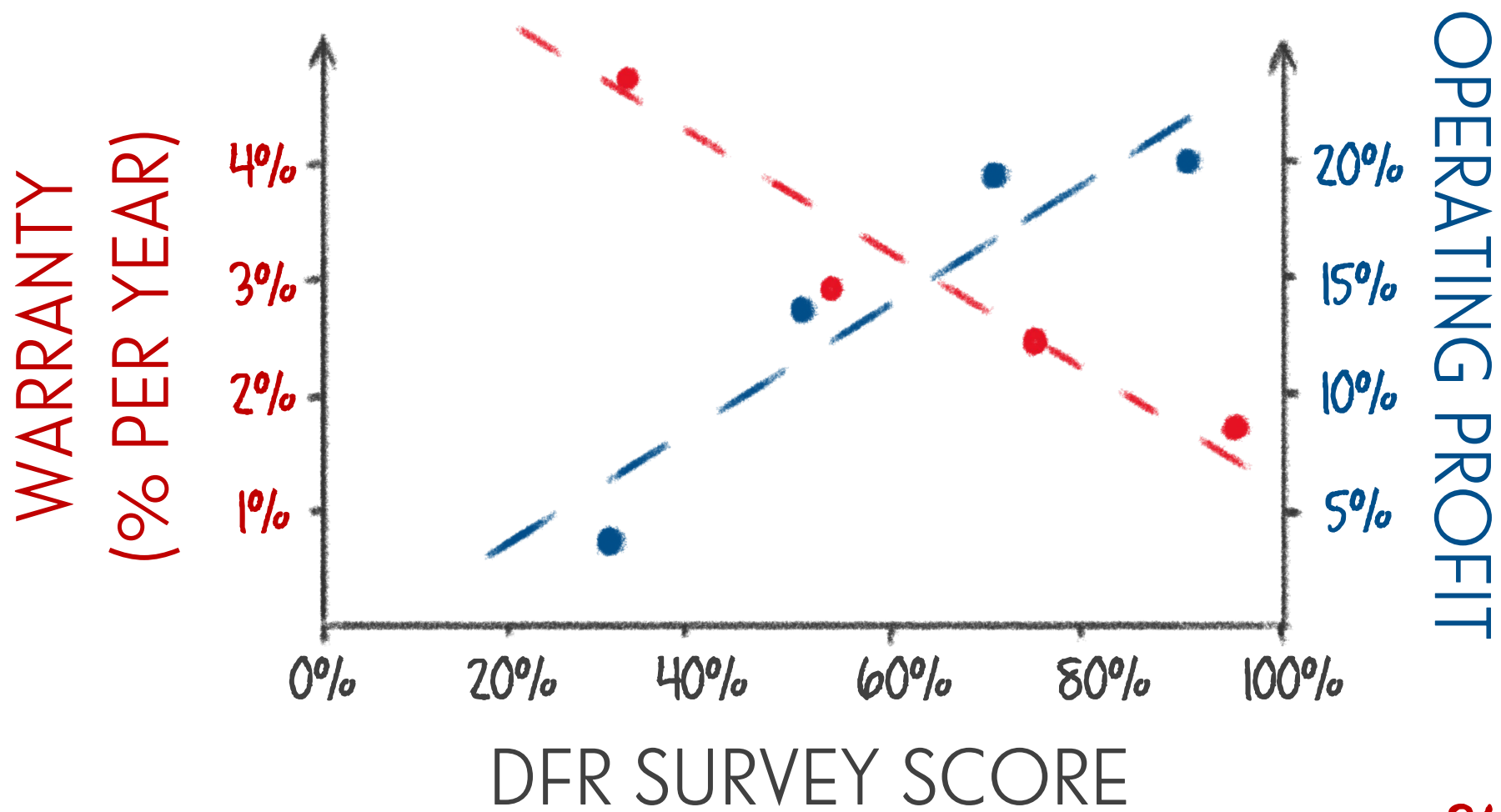
... many reliability engineers  
measure culture through a  
Design for Reliability  
(DfR) Survey



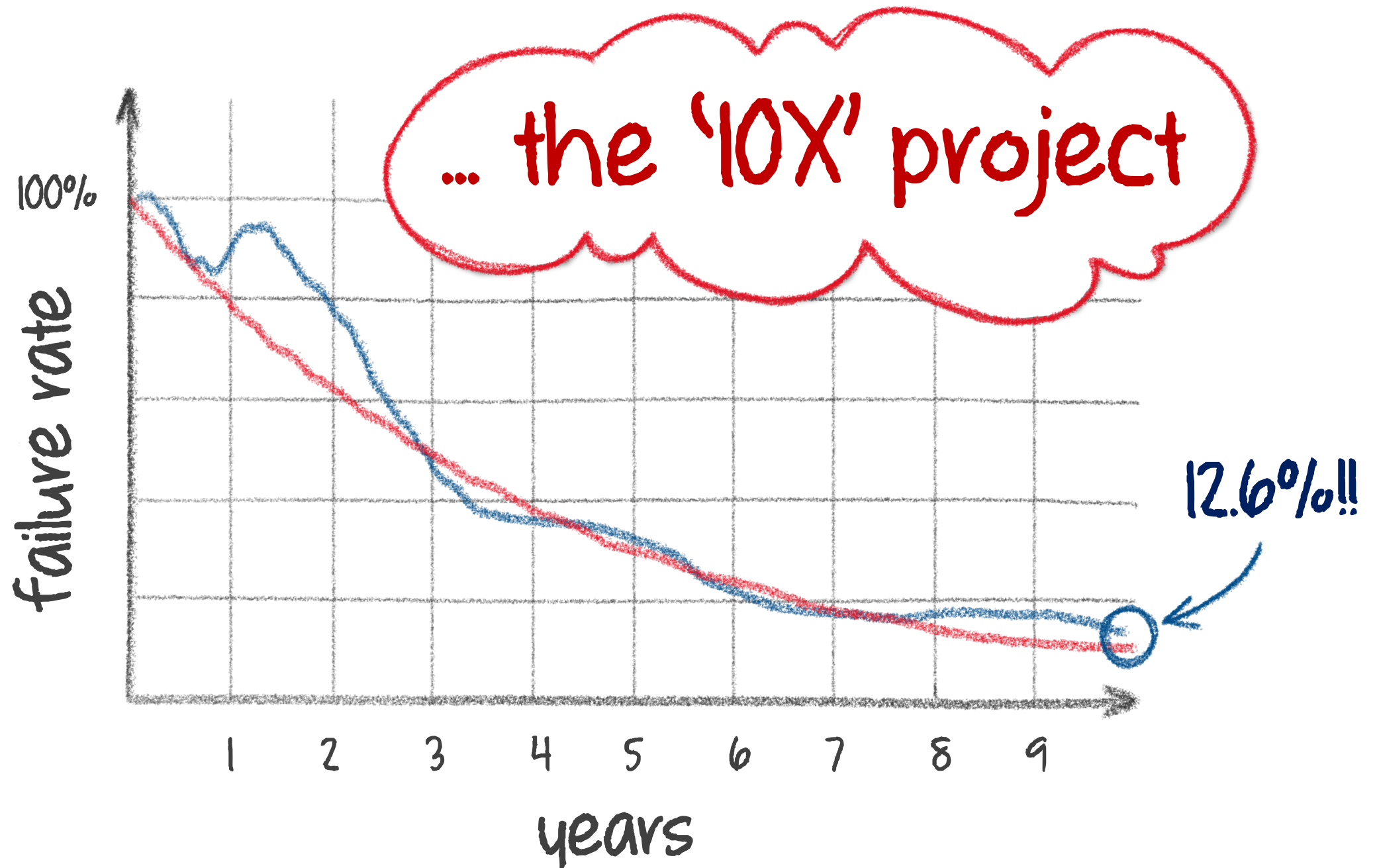


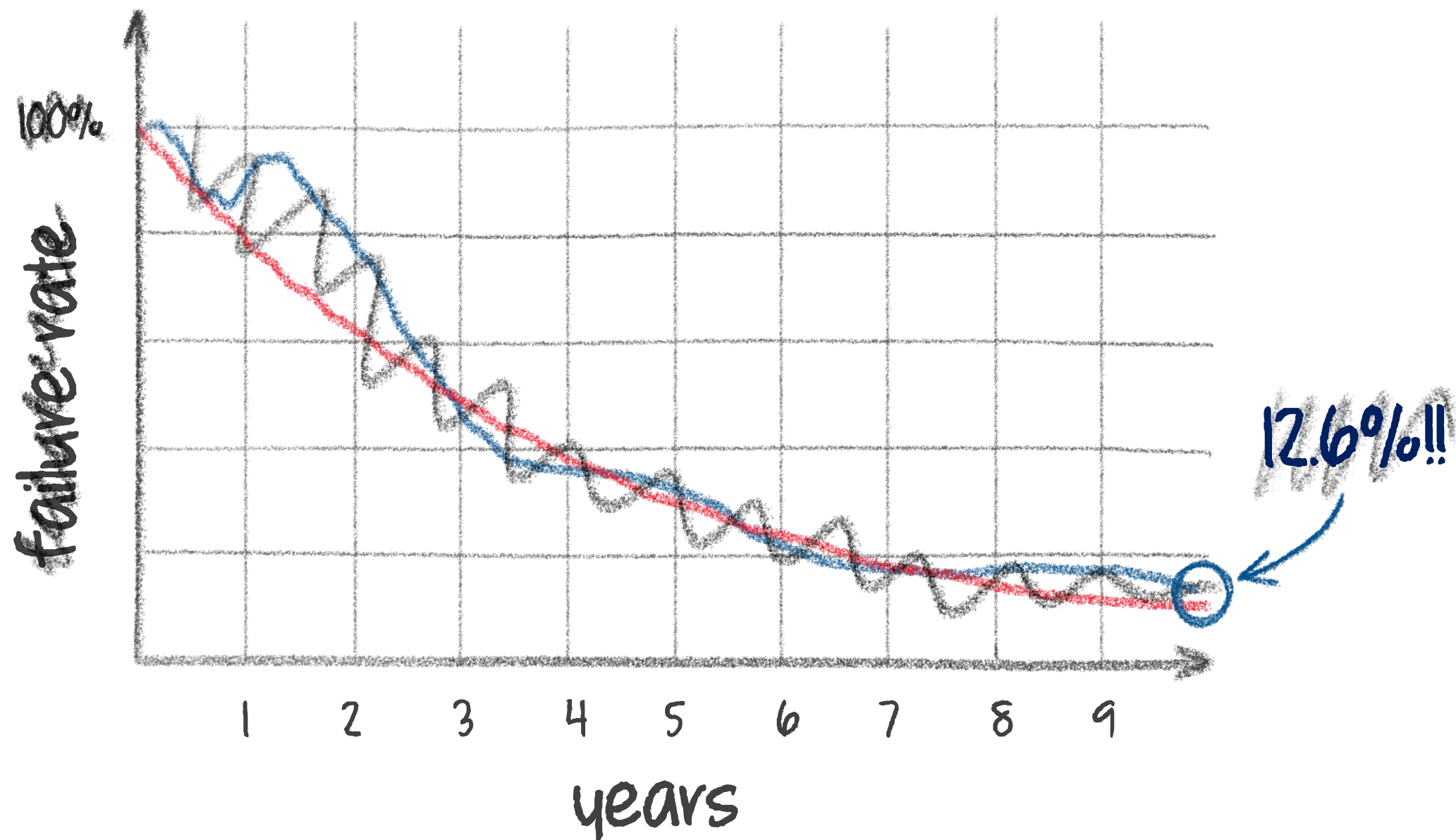


**HEWLETT®**  
**PACKARD**

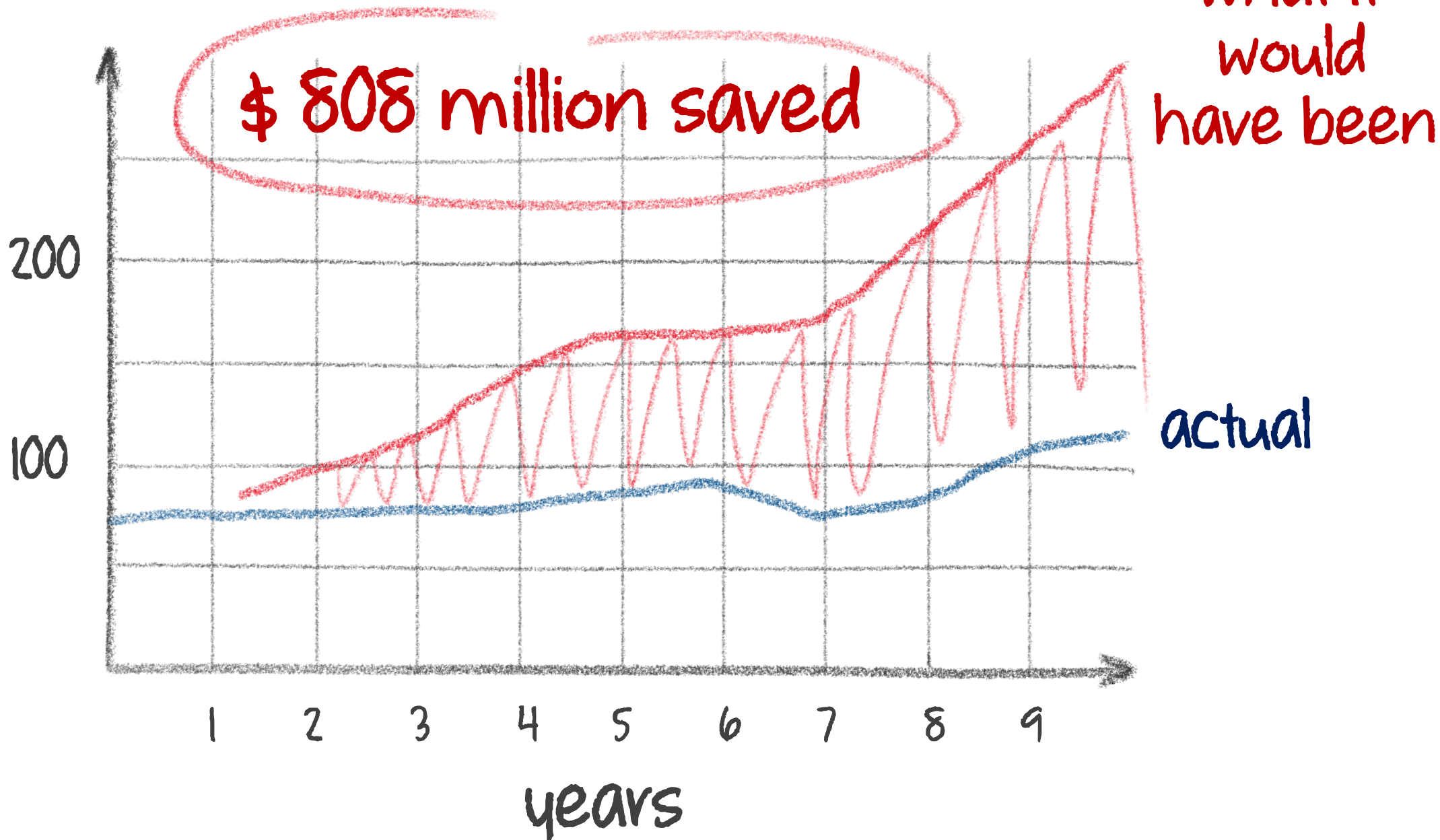


... across 36 divisions





warranty cost  
(\$ millions per year)





The background features a line chart on a grid. The x-axis is labeled 'years' with markers from 3 to 7. The y-axis has a marker at 100. Two lines are plotted: a solid blue line labeled 'actual' and a dashed red line labeled 'what it would have been'. The blue line starts at 100 and decreases to approximately 65 by year 7. The red line starts at 100 and decreases more sharply to approximately 35 by year 7. The area between the two lines is shaded light blue. Five red cloud-shaped callouts are overlaid on the chart, each containing a specific savings metric.

warranty cost  
savings of  
\$ 808 MILLION

reduced  
PRODUCTION  
TIME BY 30%

reduced cost of  
MAINTENANCE BY 35%

inventory savings of  
\$ 200 MILLION

reduced  
RRP BY 16%

... wo what are you  
waiting for!

