



Reliability Engineering versus Quality Engineering

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Is conformance
good enough?



Do all
failures
matter?





What do
customers
really
want?

Is an out of box
failure a

quality or reliability
issue?

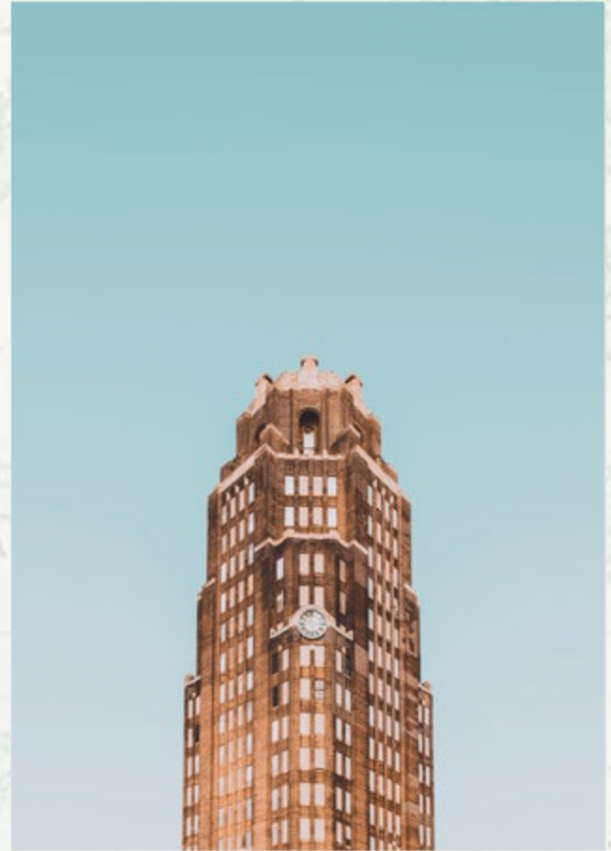
Quality Characteristics



Requirements



Process



Experience

Do we meet Requirements



Including do we have the right requirements

marketing requirements

design requirements

vendor requirements

assembly requirements

storage and transport

installation...

It's all about the Process



Process improvement
anyone?

product development process

CAPA/FRACAS

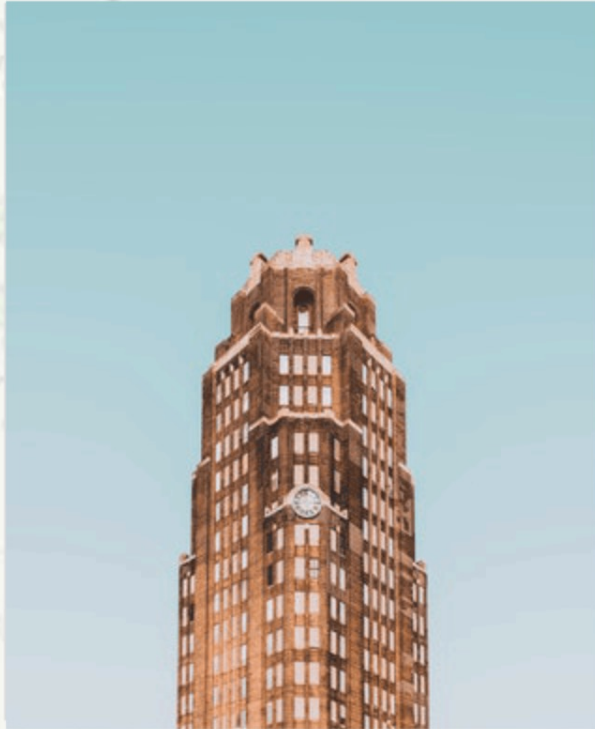
statistical process control

vendor management

quality management system

risk management process

Customer Experience



From awareness to
retirement

do you remember your first memory of
ice cream?

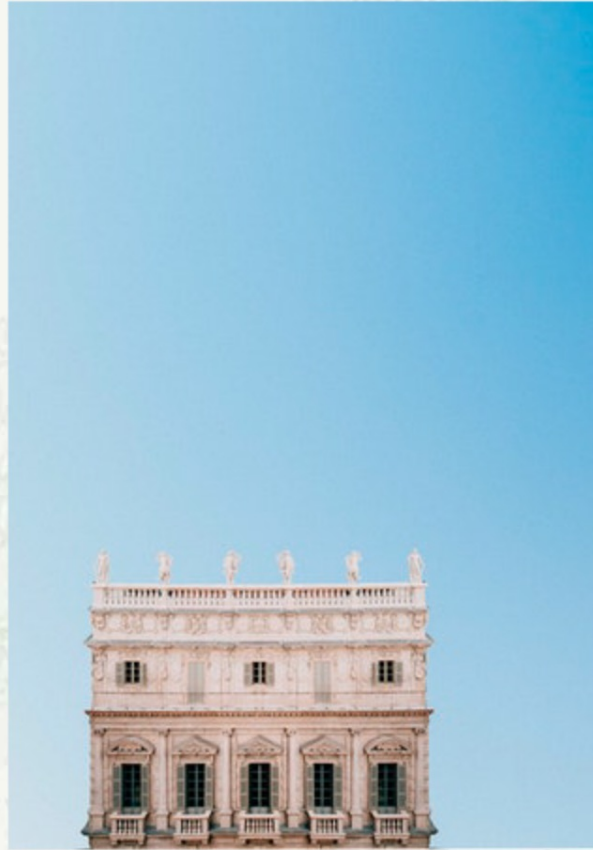
Do customers always
agree

and never change
their minds?

Reliability Characteristics



Stability



Trust



Duration

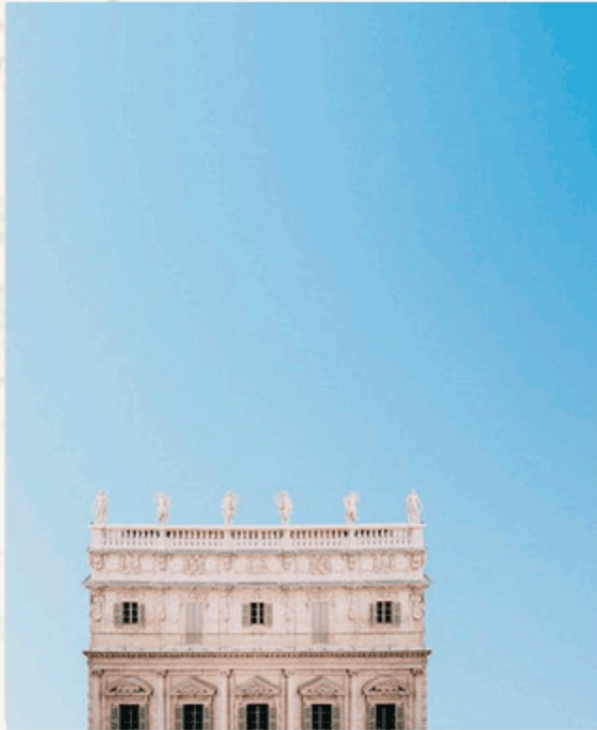
Stability is good



Predictions work best from a
stable base

same design and manufacturing team
same vendors and parts
same customers and use cases
extensive history
- yet we do have to take some risks

Customer Trust & Brand

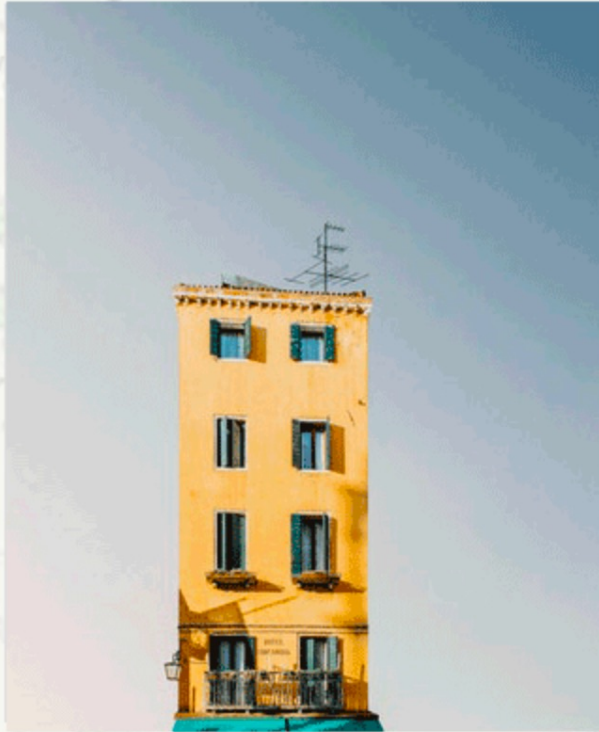


How much do you enjoy
calling customer support?

What proportion of the buying decision is
based on reliability of your product?

Do customers use your product beyond
the warranty period?

Quality over the Duration



Everything changes
over time

Which changes matter?

Which durations matter?

Do quality expectations change over
time? with long use of product?

Can a reliability
engineer do

everything a quality
engineer can?

Common Tools



Goals



Evaluations



Improvements

Set Goals and Monitor



Objectives, requirements, goals,
milestones, etc

Do you write a separate reliability plan?

if a prototype fails during a 'quality' test,
should reliability care?

Evaluate how we're doing



Measure, test, track, check,
experiment, query, survey,
etc

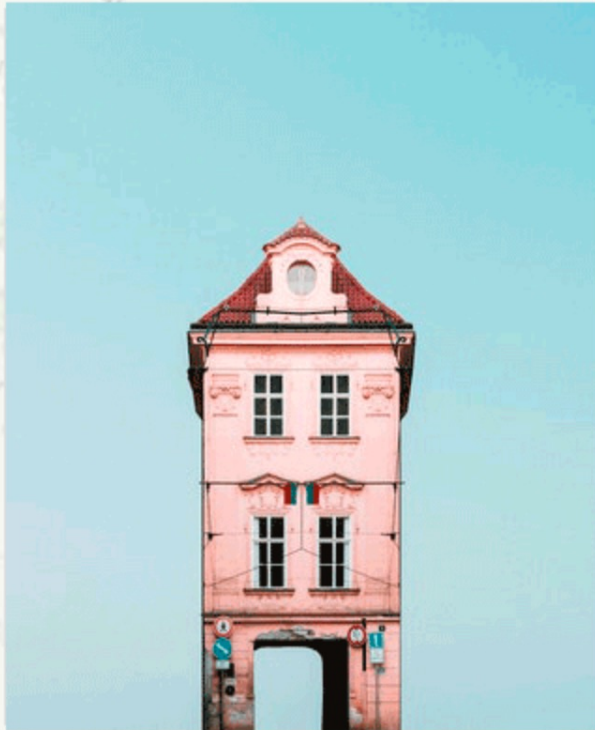
Design of experiments

stress testing

vendor qualifications

change management

Make Improvements



lessons learned, PDCA,
retrospective, reviews, learn,
evolve

closed loop

failure analysis

corrective action

preventative action

failure mechanisms & systems

What tools are
unique

to quality?
to reliability?

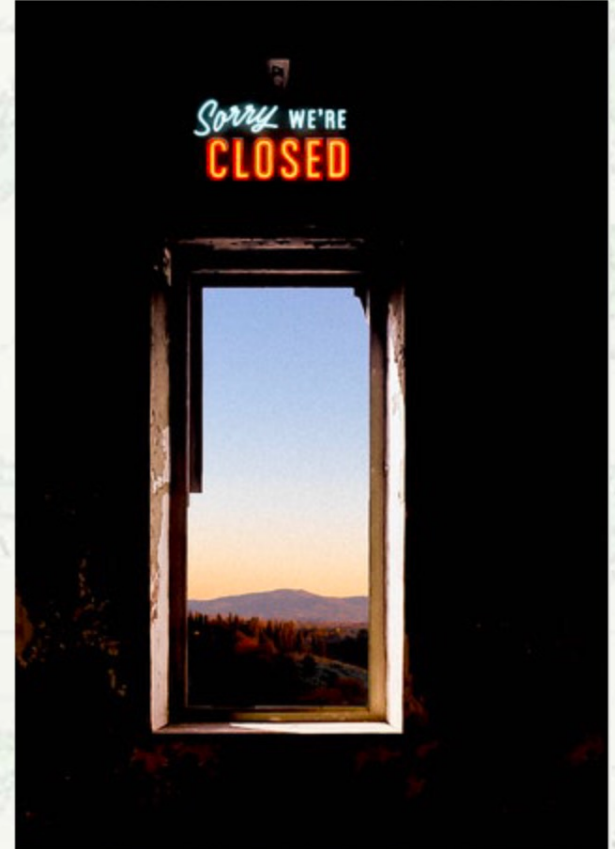
Common Results



Influence



Satisfaction



Value

Influence Decisions



It's all about influencing
decisions

Despite the location and status in the
organization

we tend to influence decisions

guidelines, checklists, best practices, etc.

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Always Add Value



Do what makes a difference.

Estimate the value of proposed actions
Calculate the achieved value or actions

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In Summary



More Information

Visit [AccendoReliability.com](https://www.AccendoReliability.com)

Images by Jeffery Czum found on Pexels

Check out the reliability engineering podcast network at [Reliability.FM](https://www.Reliability.FM)

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