

Product Quality & Change Stewardship

ENSE 805 with Tim Maciag



University
of
Regina



FACULTY OF **ENGINEERING**
& **APPLIED SCIENCE**
Software Systems Engineering

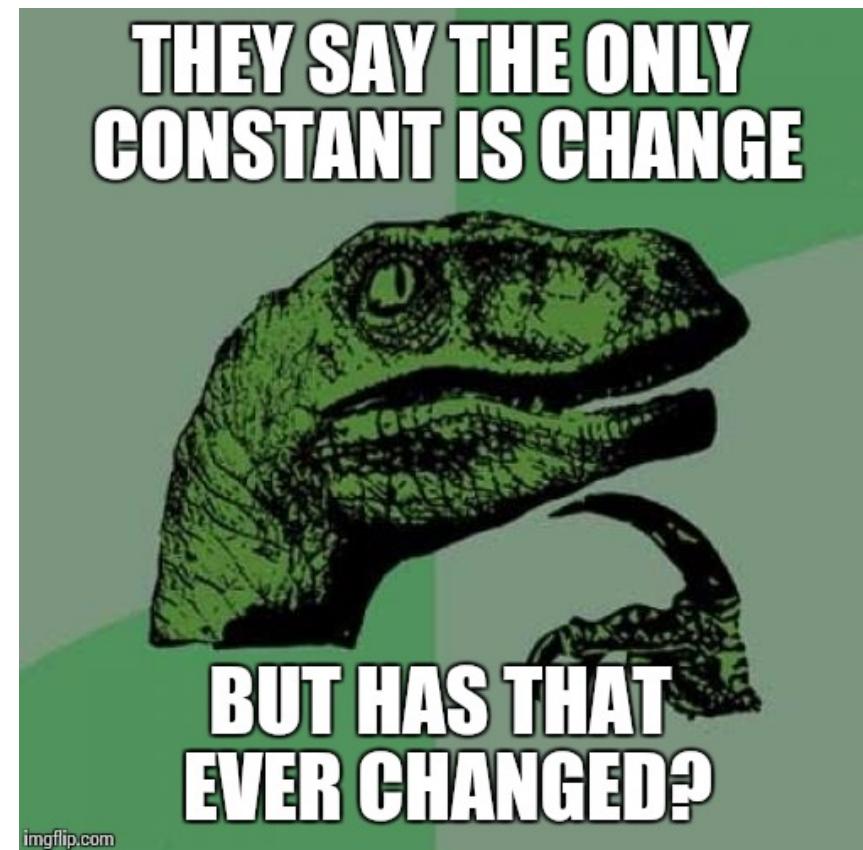


Outline

- Change Management (CM)
- The importance of quality
- Processes of CM
- Do's/don'ts of CM
- Key tips toward quality and change stewardship

Change Management

- Change – A given constant



Change Management

- Change – A given constant
- WAT is CM?



Change Management

- Change – A given constant
- What is CM?
- Coordination & collaboration



Why do we care?

- Operational excellence



Why do we care?

- Operational excellence
- Risk management



Why do we care?

- Operational excellence
- Risk management
- Overall business strategy



Why do we care?

- Operational excellence
- Risk management
- Overall business strategy
- It's about providing quality customer experiences



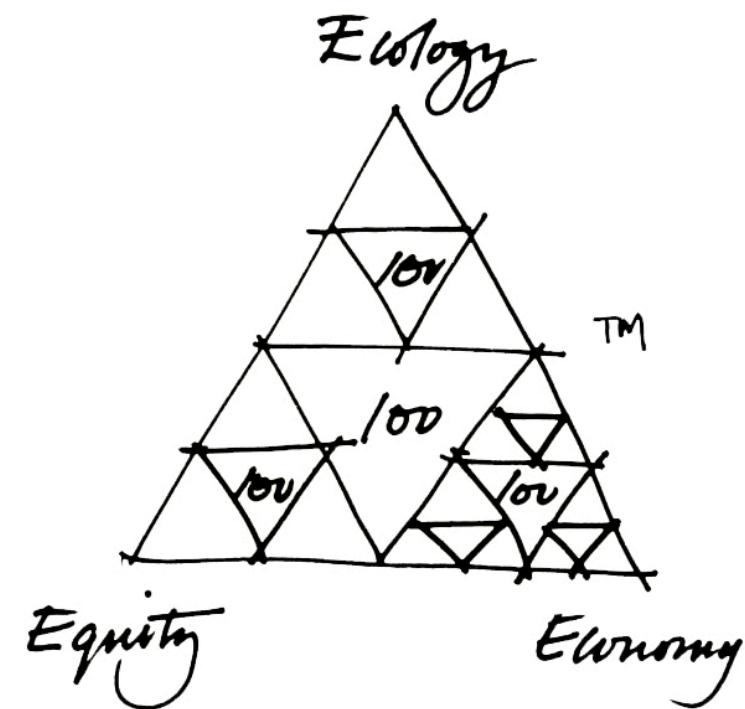
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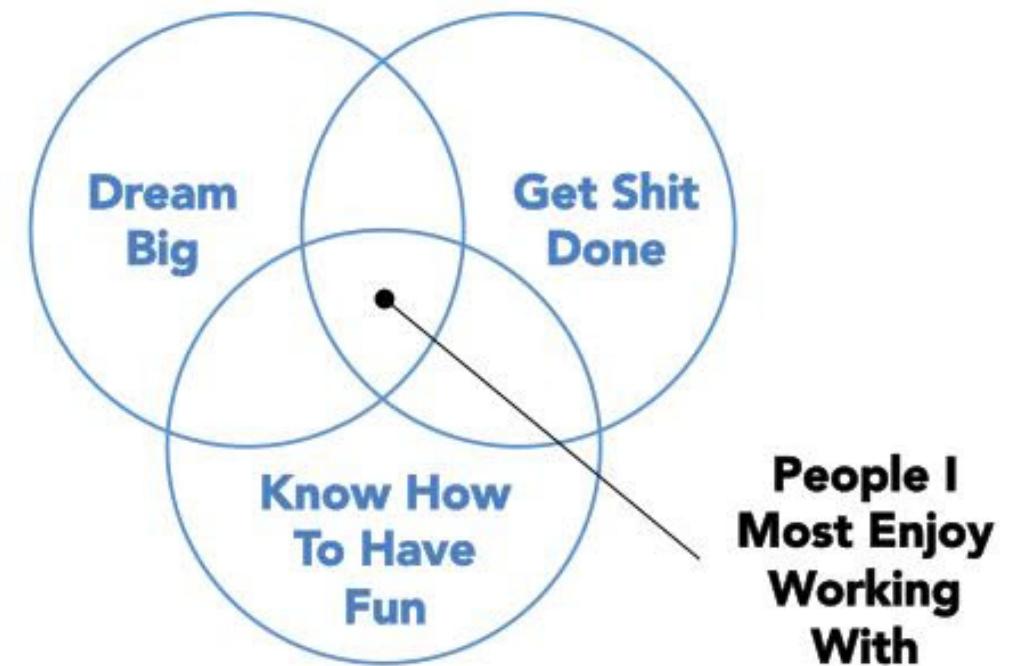
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 - Part of how we measure change success or failure (new & old products)
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What defines quality medical care?



Total Quality Management (TQM)

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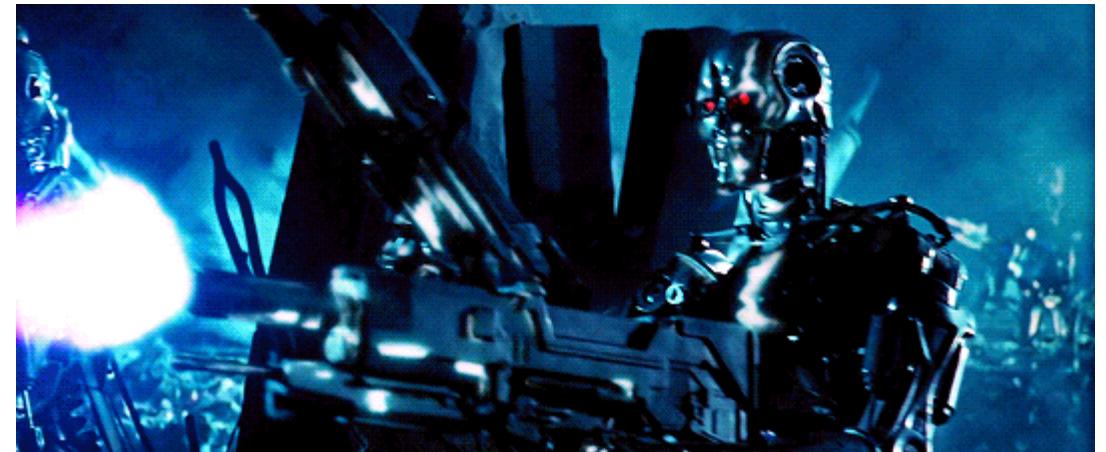
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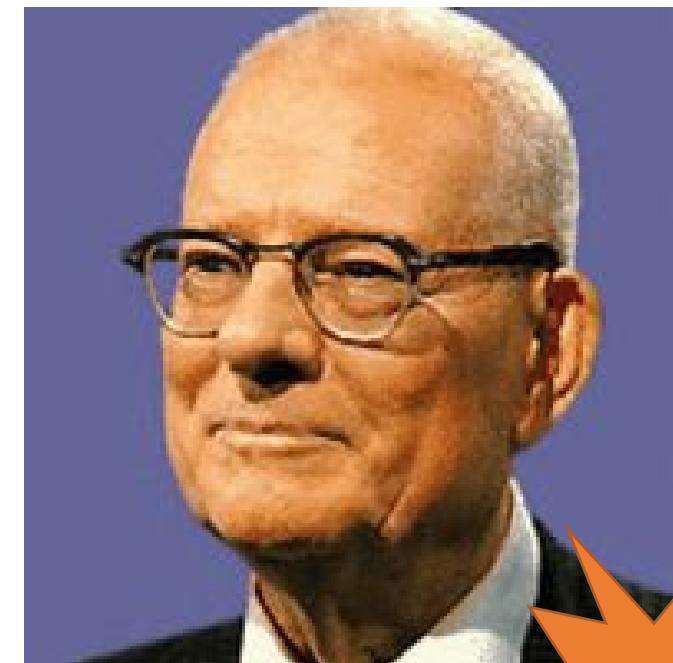
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- Pre-TQM era
 - Labour intensive
 - Perceived as only the inspector's responsibility
 - Inspection can never be 100% fail-safe
 - Too late in the process – products get reworked or discarded
 - Or more delicious



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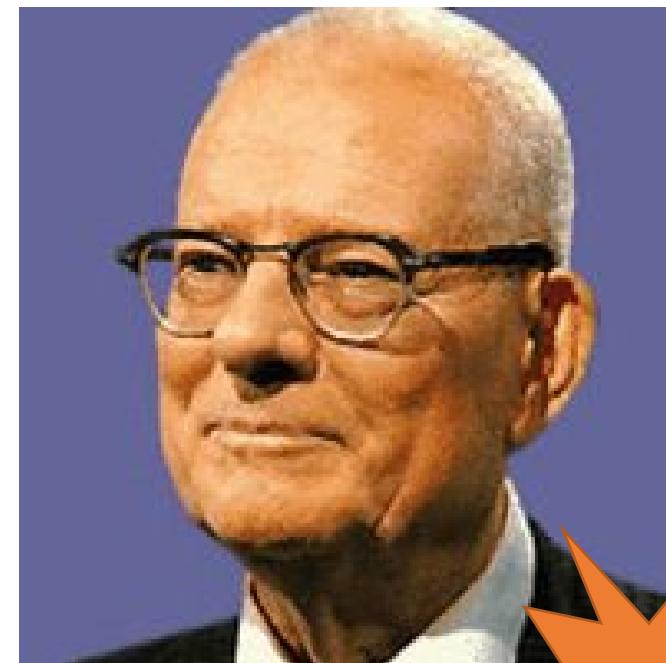
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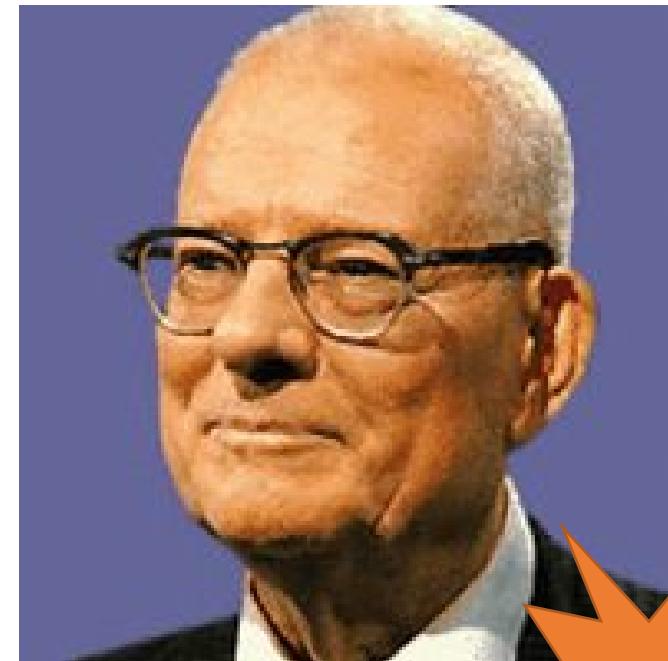
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- Emphasizes the idea of quality in all areas of an organization
- Everybody is a customer



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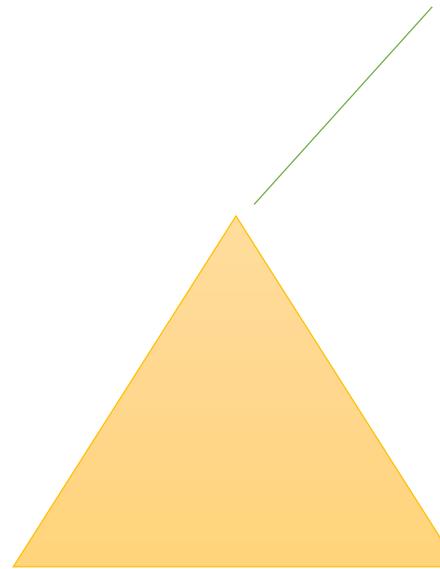
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Three corners of quality

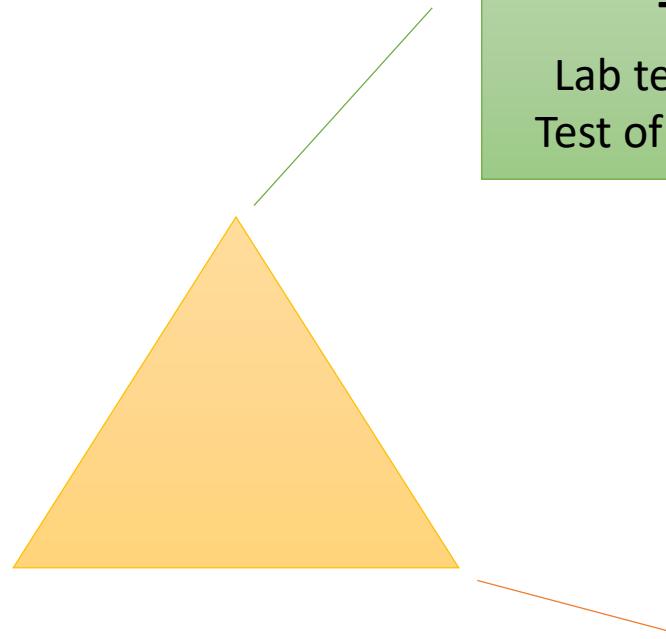


The product

Lab tests & simulations
Test of product in service

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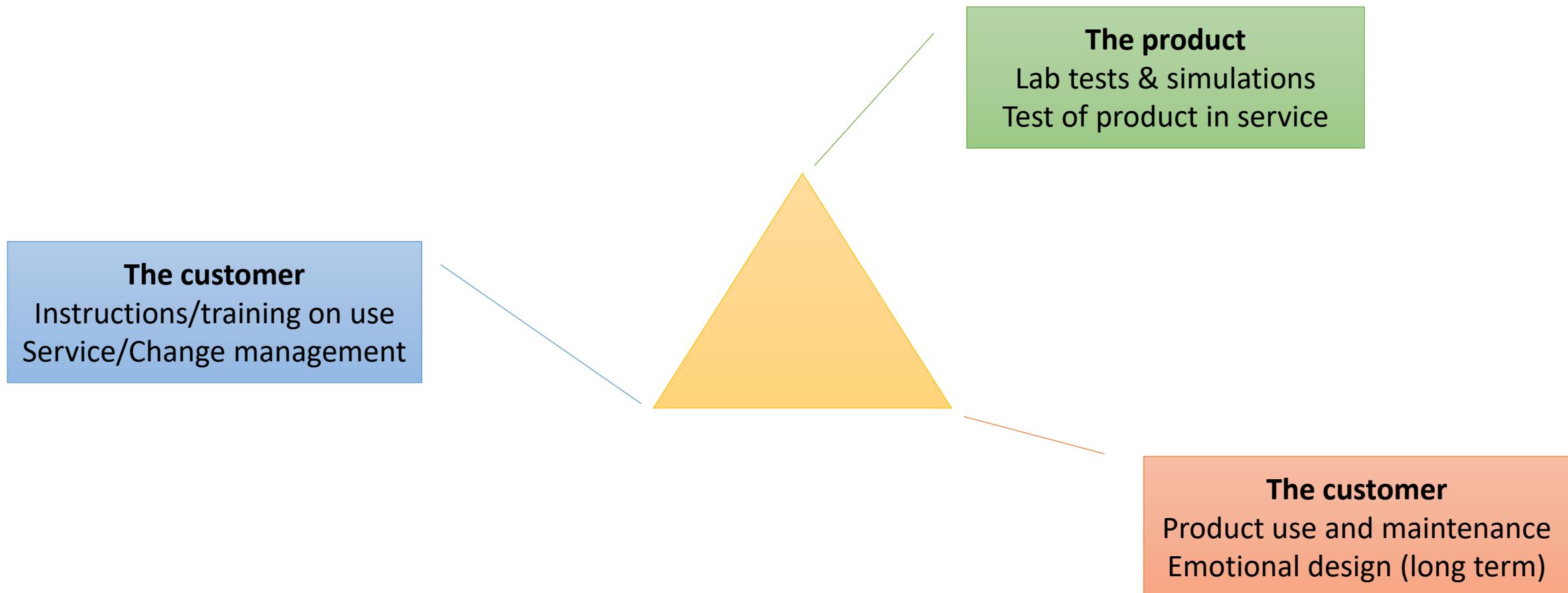
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The customer

Product use and maintenance
Emotional design (long term)

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 - ISO 9001:2015

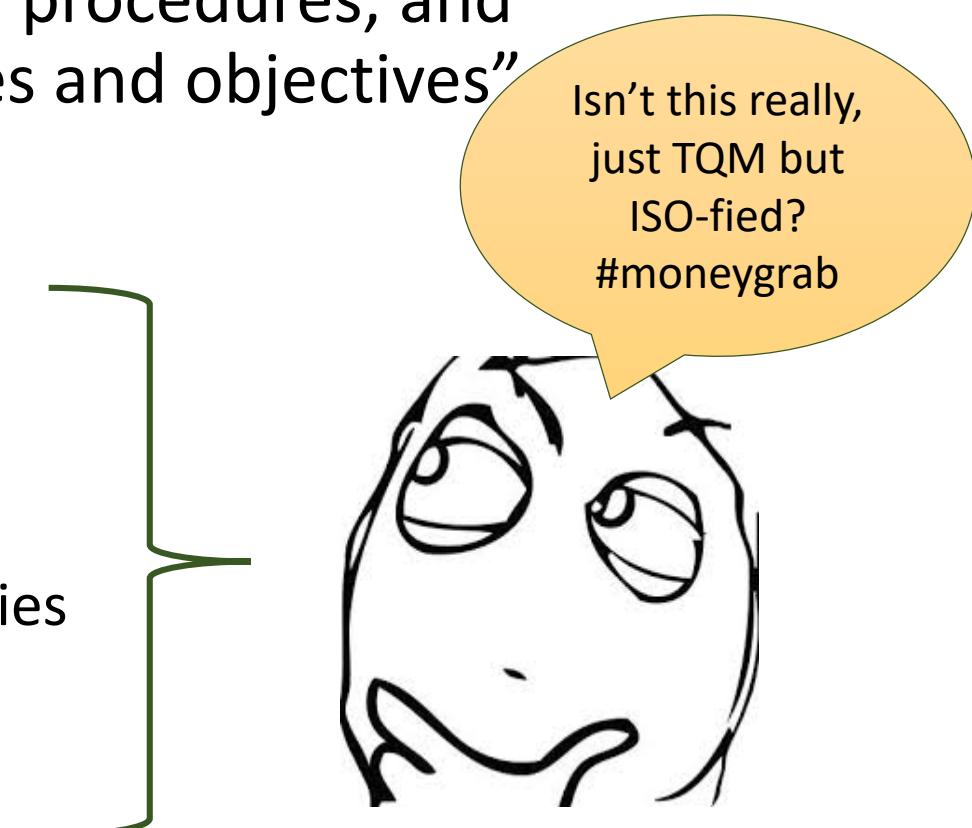
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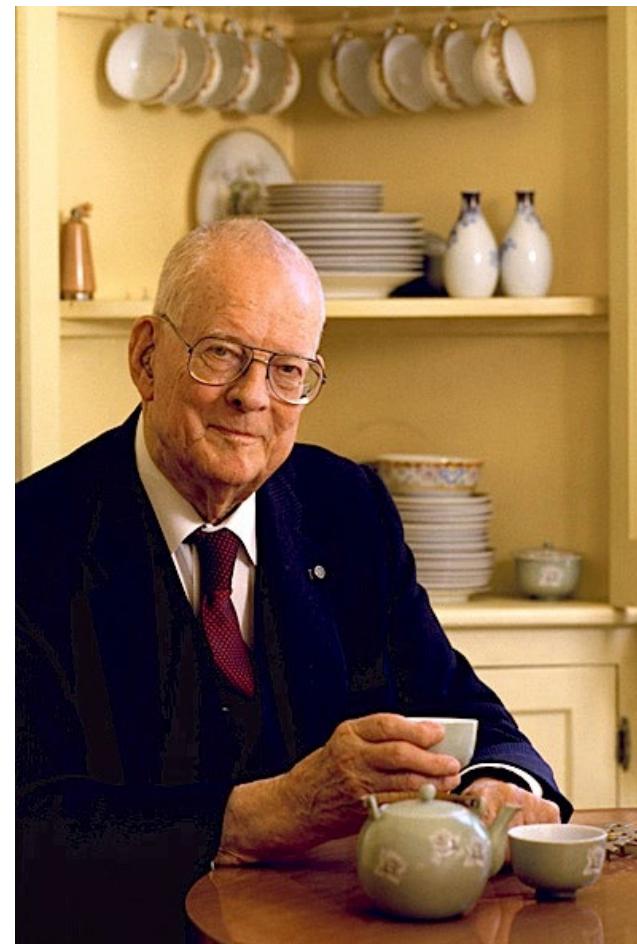
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 - Then how
 - Then what



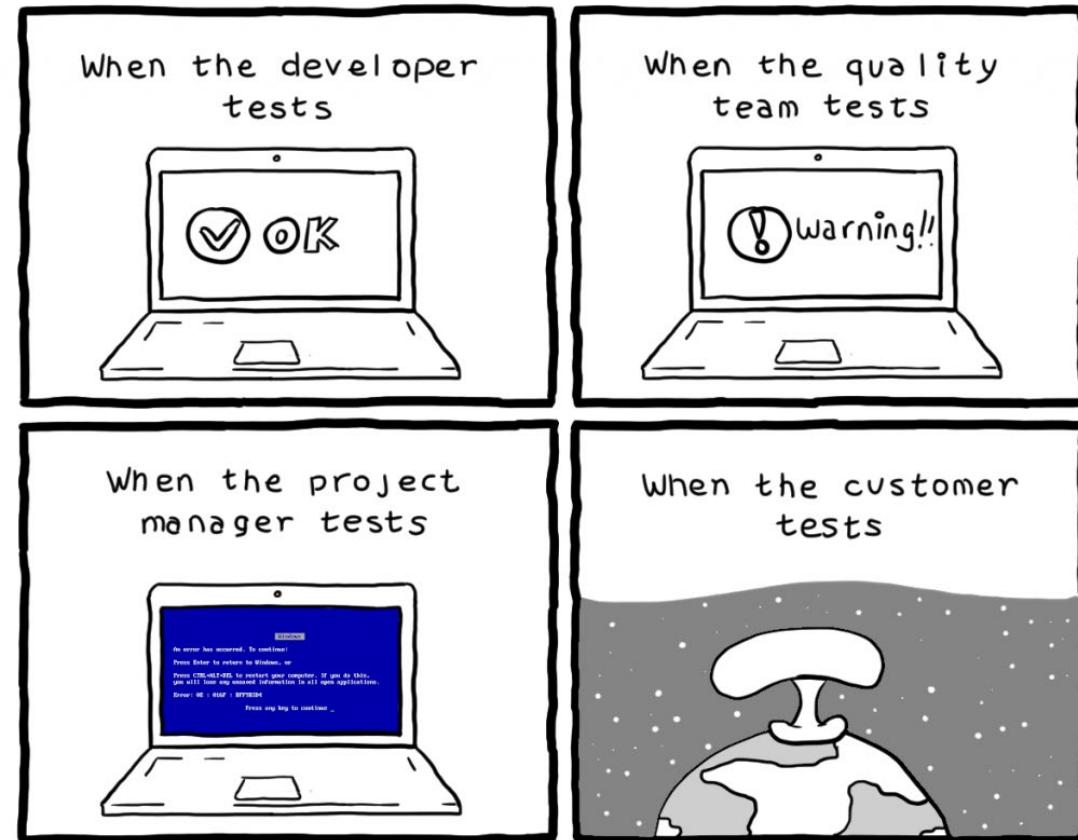
Quality: It's all about leadership (stewardship)

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- Quality will follow
 - Deming: "This I can do for you, here's what you can do for me"



Why, as it relates to software (code) quality

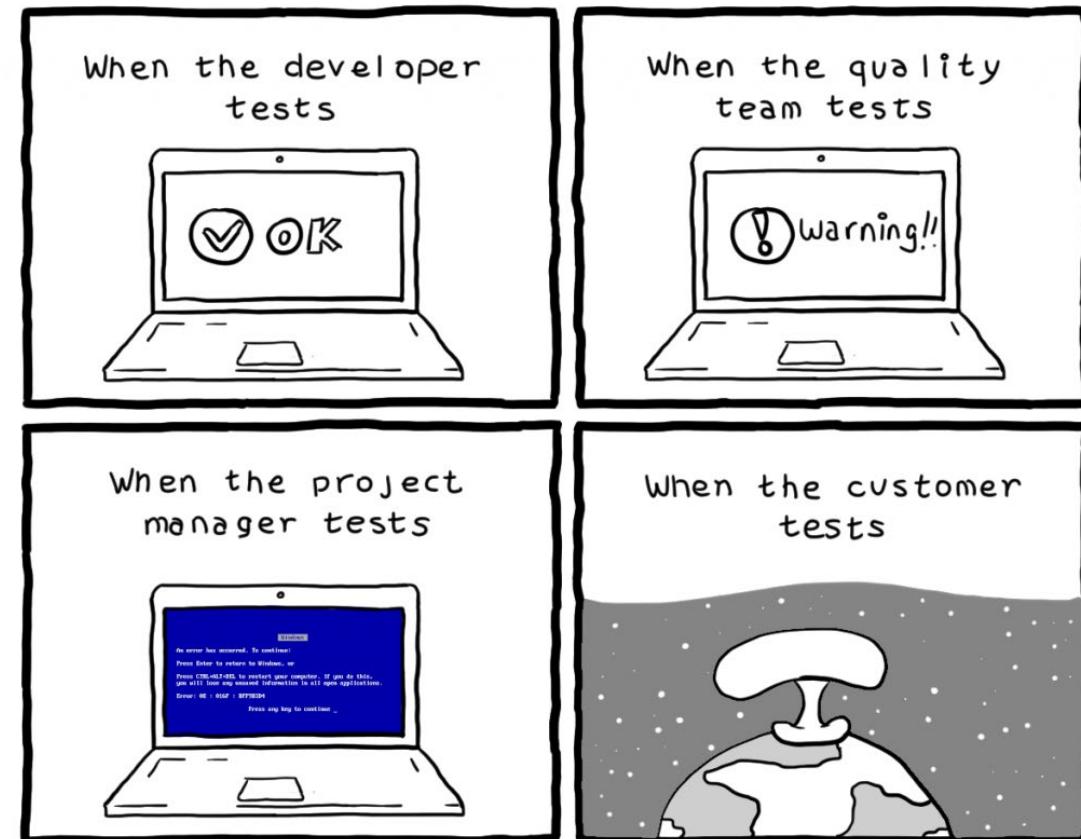
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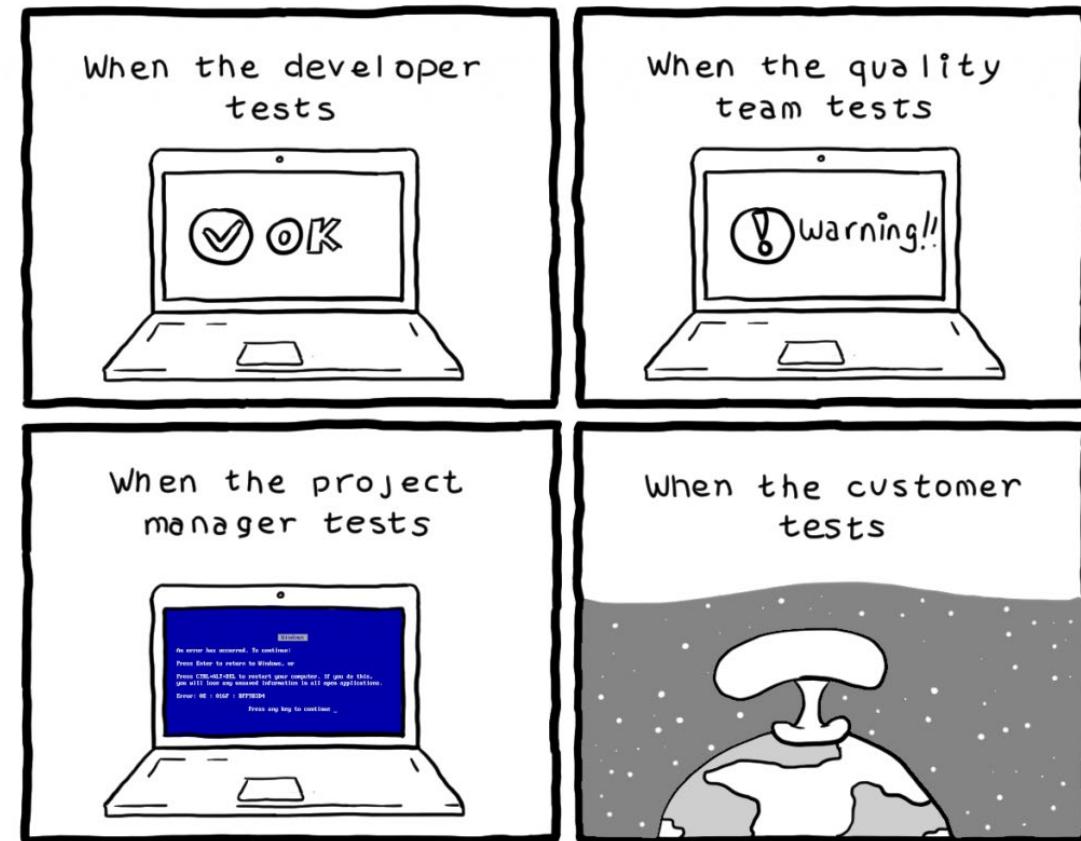
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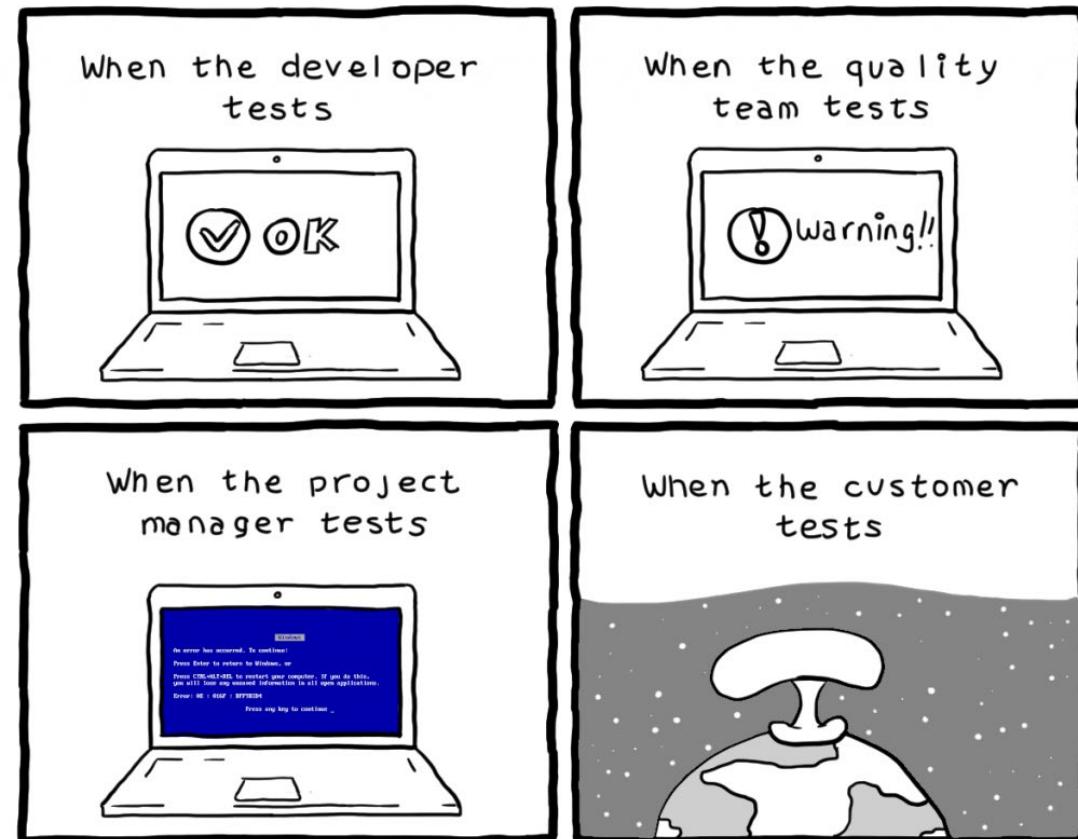
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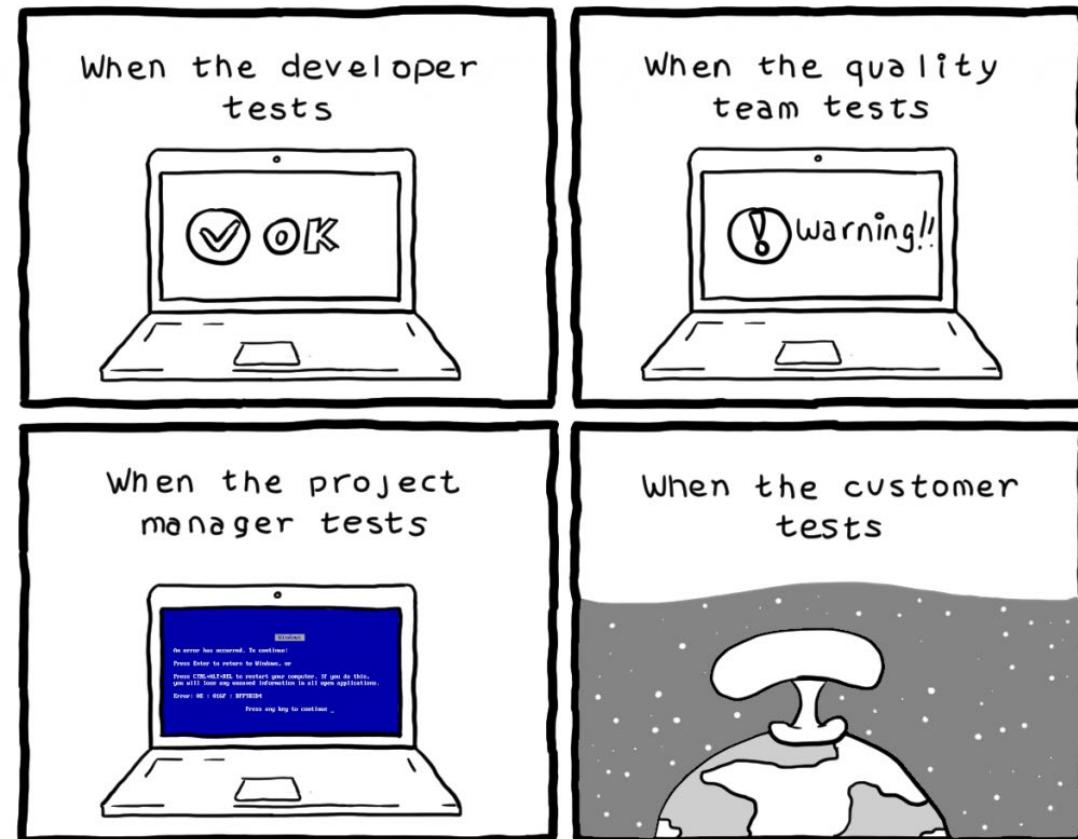
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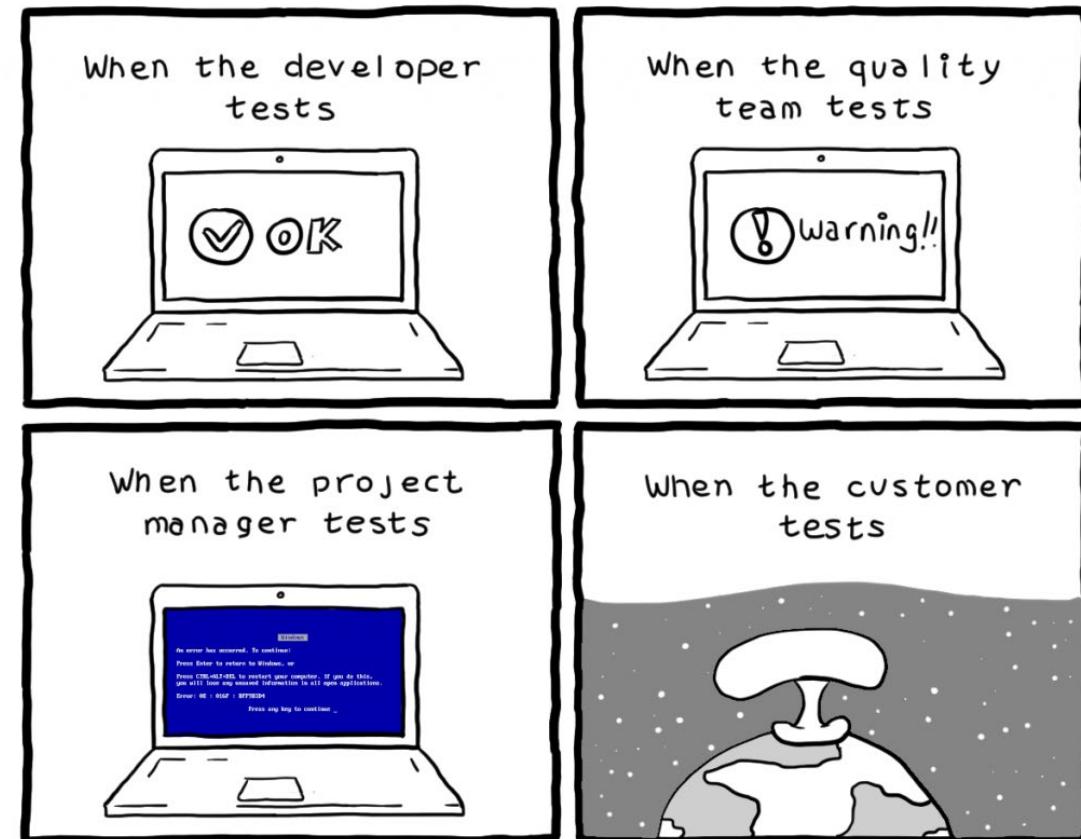
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- Efficiency
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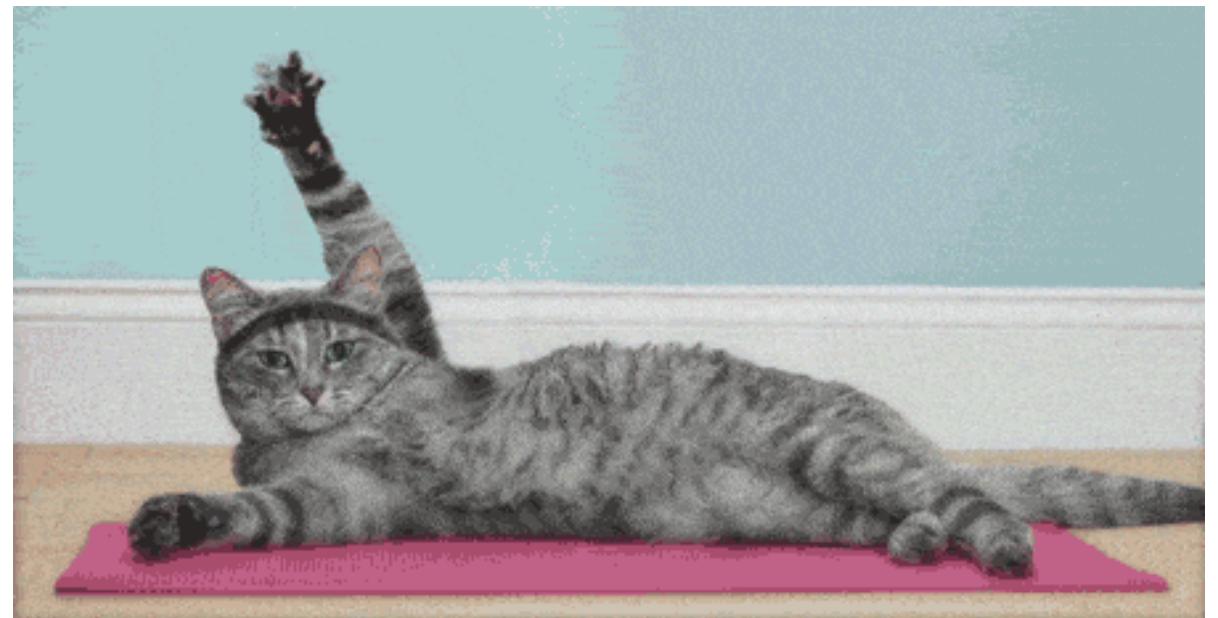
Internal software quality

- Maintainability



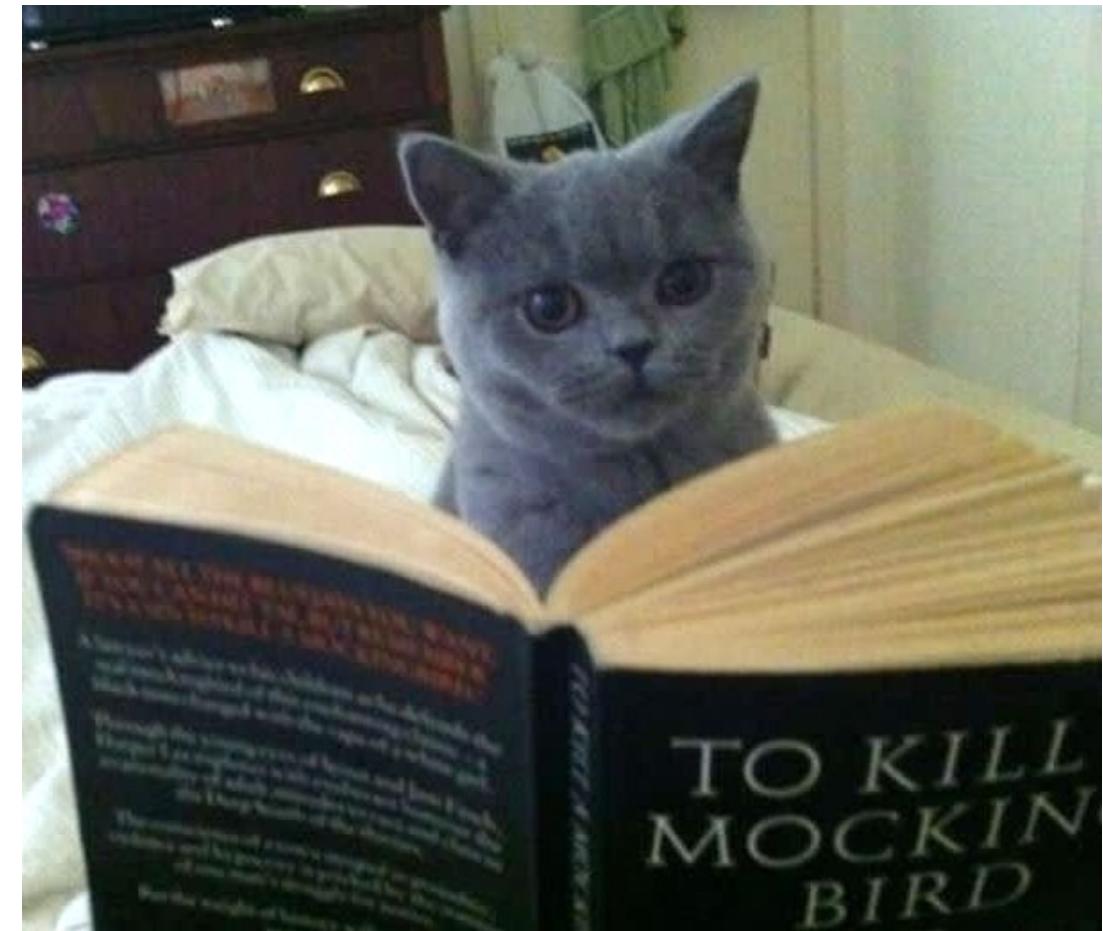
Internal software quality

- Maintainability
- Flexibility & portability



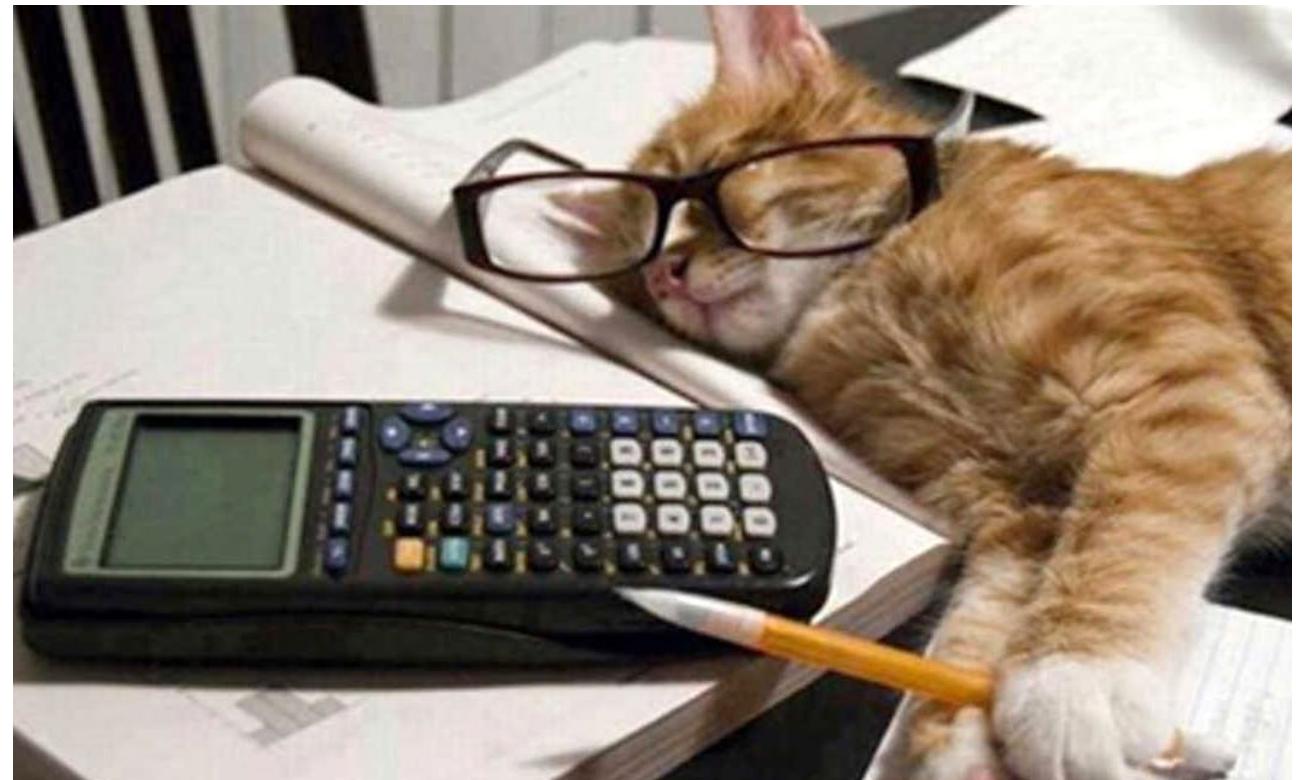
Internal software quality

- Maintainability
- Flexibility & portability
- Readability



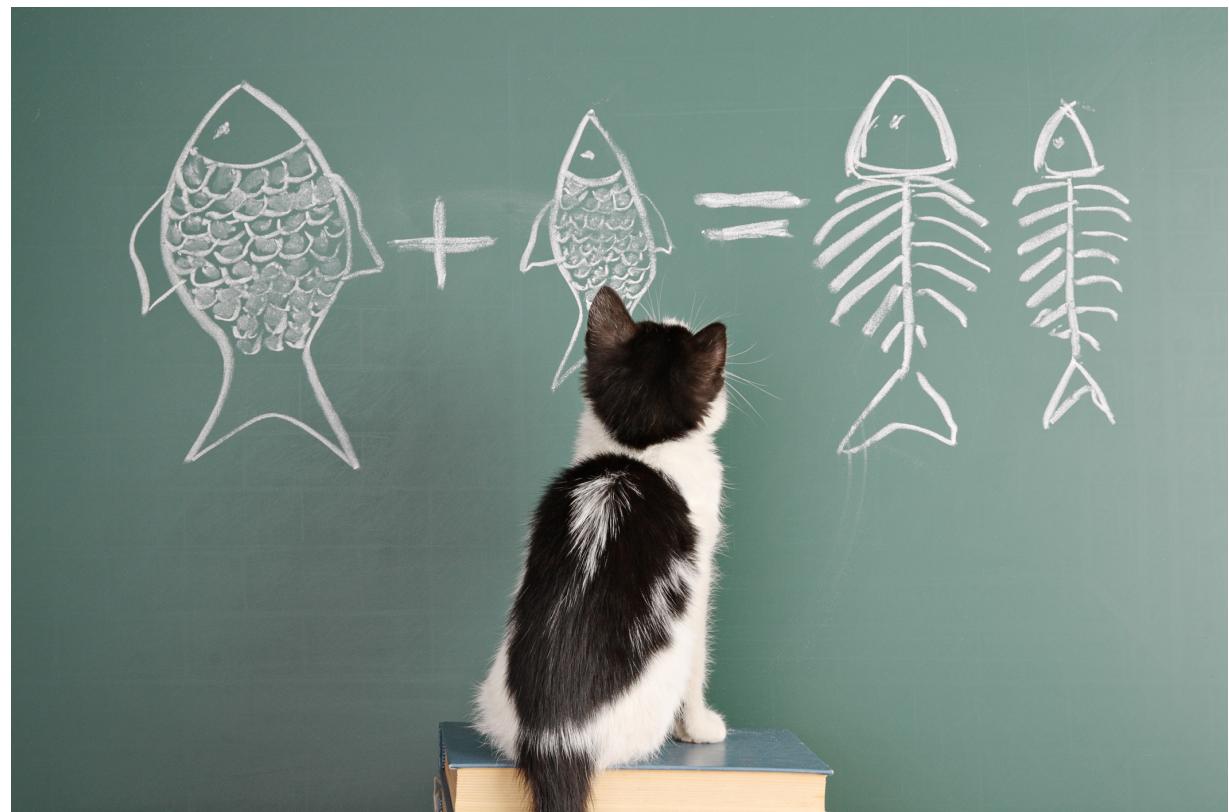
Internal software quality

- Maintainability
- Flexibility & portability
- Readability
- Testability



Internal software quality

- Maintainability
- Flexibility & portability
- Readability
- Testability
- Understandability



External software quality

- Correctness



External software quality

- Correctness
- Usability
 - What about utility?



External software quality

- Correctness
- Usability
 - What about utility?
 - What about accuracy?

When ur human says "who's a good boy" and u already know it's u



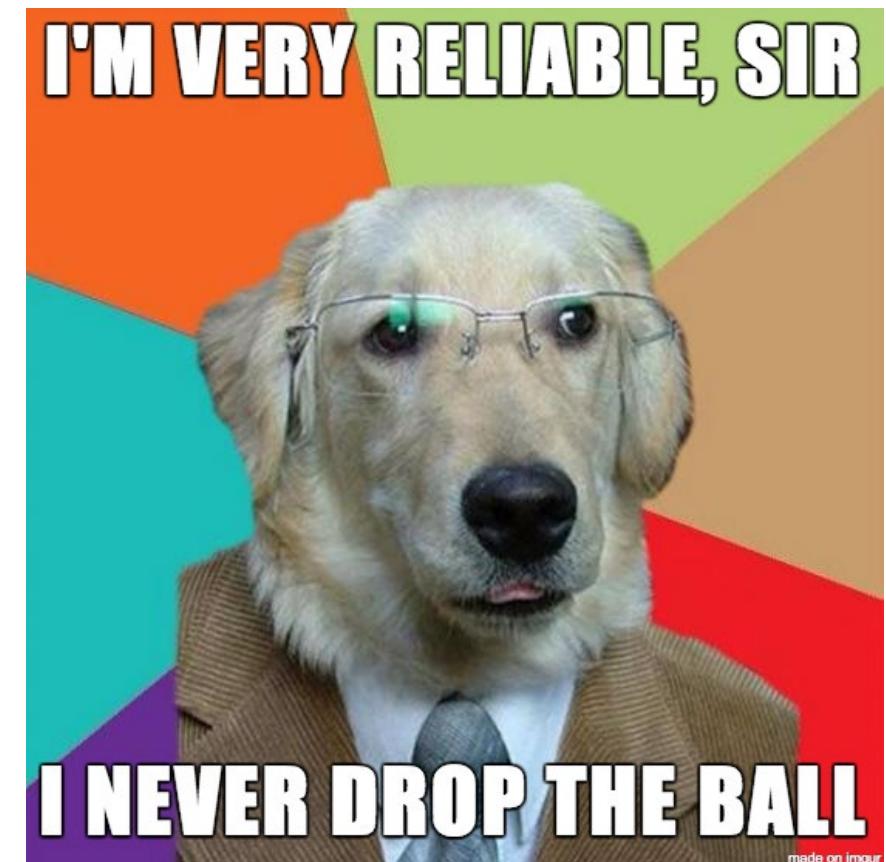
External software quality

- Correctness
- Usability
 - What about utility?
 - What about accuracy?
- Efficiency



External software quality

- Correctness
- Usability
 - What about utility?
 - What about accuracy?
- Efficiency
- Reliability



External software quality

- Correctness
- Usability
 - What about utility?
 - What about accuracy?
- Efficiency
- Reliability
- Integrity



External software quality

- Correctness
- Usability
 - What about utility?
 - What about accuracy?
- Efficiency
- Reliability
- Integrity
- Adaptability



External software quality

- Correctness
- Usability
 - What about utility?
 - What about accuracy?
- Efficiency
- Reliability
- Integrity
- Adaptability
- Robustness

When you're cleaning up your dog's mess and he appreciates it...



Why, re: Deming & software quality

- It needs to really be about the whole system



- W. Edwards Deming. *The New Economics*. The MIT Press. 1994.
- The Deming Institute. The Deming System of Profound Knowledge. Online: <https://deming.org/explore/so-pk> (Accessed Feb.28.2018)

Why, re: Deming & software quality

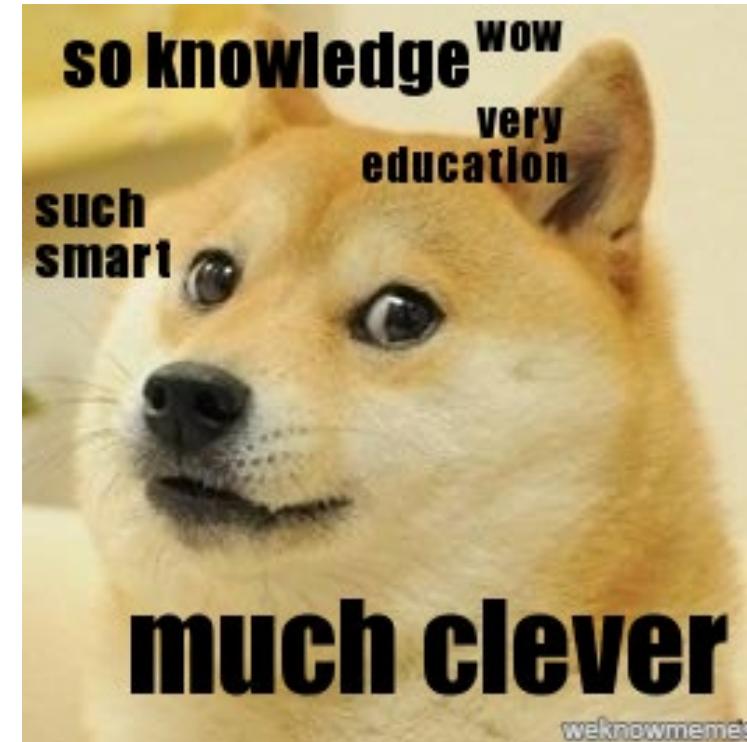
- It needs to really be about the whole system
- Leads to software maintainability and (continuous) software improvement



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Deming's System of Profound Knowledge (SoPK)

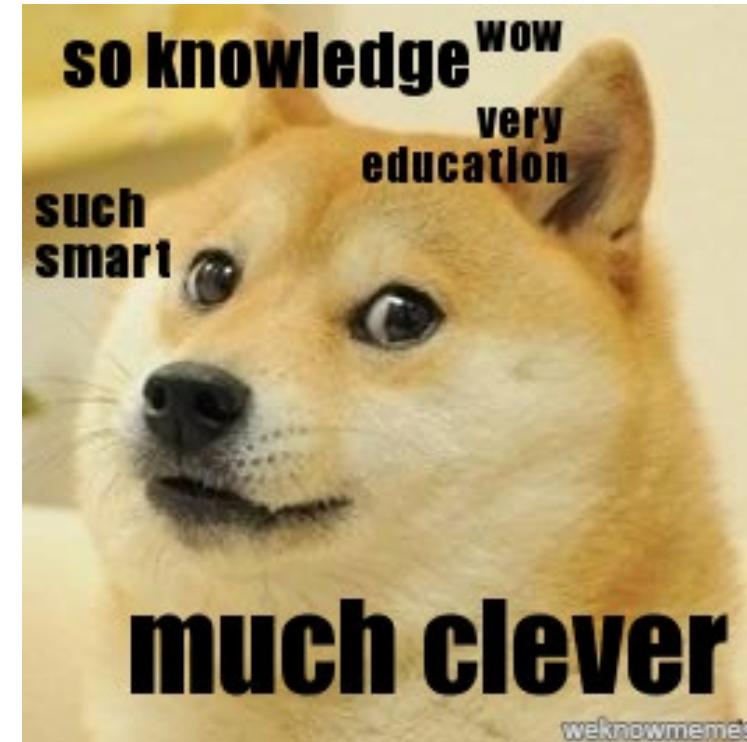
- Appreciation for a system (internal and *external*)



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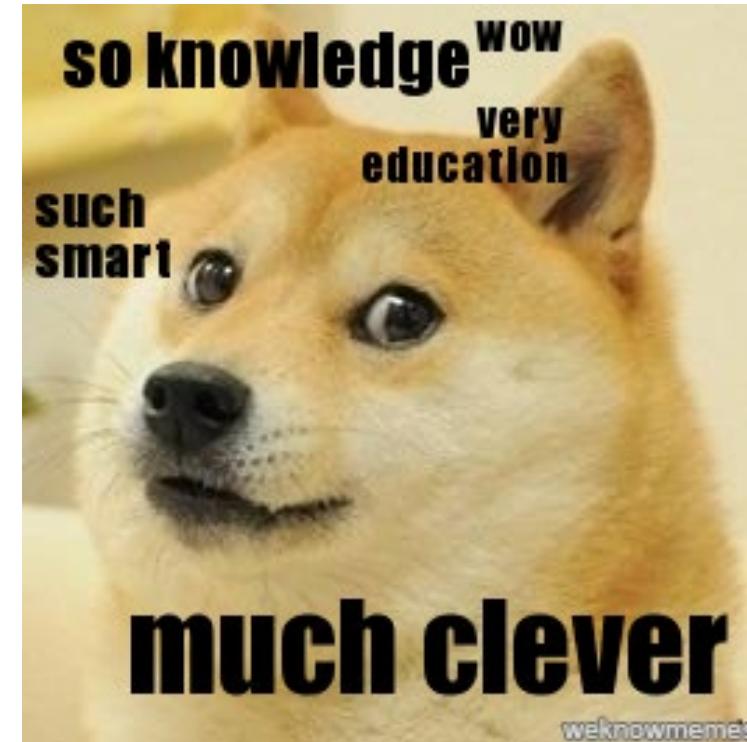
- Appreciation for a system (internal and *external*)
- Knowledge of variation



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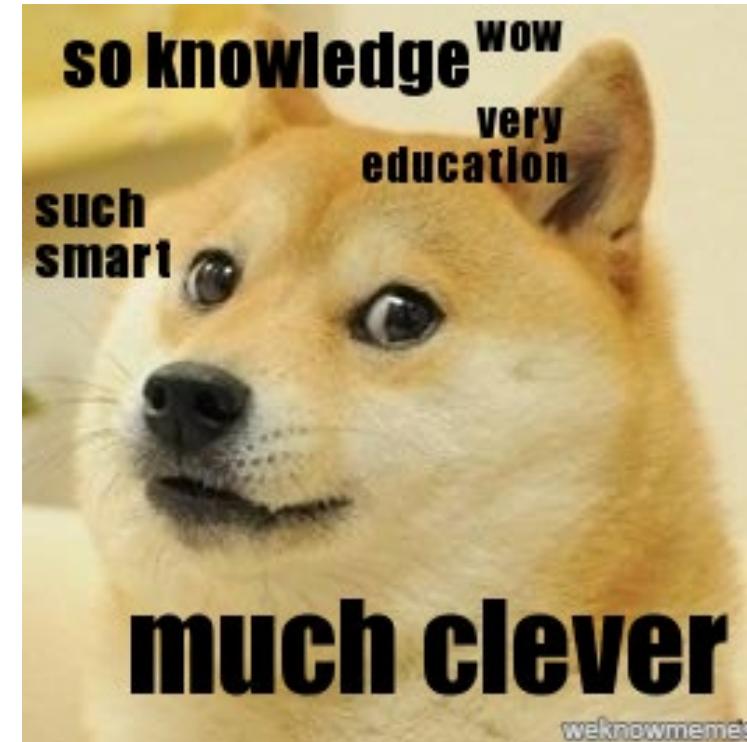
- Appreciation for a system (internal and *external*)
- Knowledge of variation
- Theory of knowledge



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Deming's System of Profound Knowledge (SoPK)

- Appreciation for a system (internal and *external*)
- Knowledge of variation
- Theory of knowledge
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Individual-level change

- How best to support individuals and their experiences with change
 - How do individuals experience change?
 - What do they individually need to be successful?



- Prosci. What is Change Management. Online: <https://www.prosci.com/change-management/what-is-change-management> (Accessed Sept.2018)
- D. Goleman and R.E. Boyatzis. Emotional Intelligence has 12 Elements. Which do you need to work on? Harvard Business Review. 2017.

Individual-level change

- How best to support individuals and their experiences with change
 - How do individuals experience change?
 - What do they individually need to be successful?
- Common tasks
 - What type of messages will they need to hear?
 - How much time will they need to prepare (or be reminded) for the change?
 - Training and documentation (pre and post)



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Individual-level change



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Individual-level change

SELF-AWARENESS	SELF-MANAGEMENT	SOCIAL AWARENESS	RELATIONSHIP MANAGEMENT
Emotional self-awareness	Emotional self-control		
	Adaptability		
	Achievement orientation		
	Positive outlook		

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Emotional self-awareness	Emotional self-control	Empathy		
	Adaptability			
	Achievement orientation	Organizational awareness		
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Individual-level change

SELF-AWARENESS	SELF-MANAGEMENT	SOCIAL AWARENESS	RELATIONSHIP MANAGEMENT
Emotional self-awareness	Emotional self-control	Empathy	Influence
	Adaptability		Coach and mentor
	Achievement orientation		Conflict management
	Positive outlook		Teamwork
		Organizational awareness	Inspirational leadership

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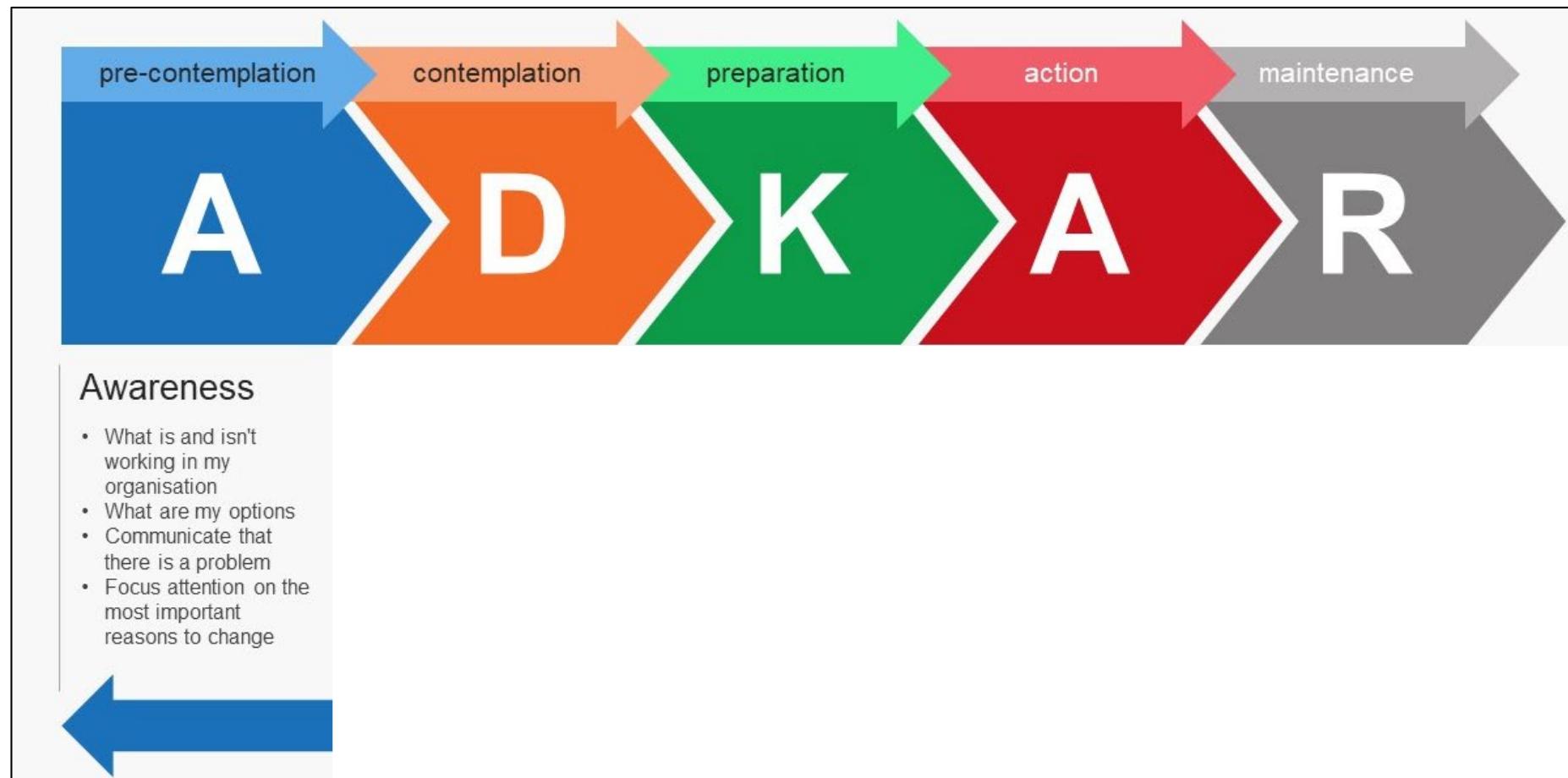
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Prosci's ADKAR model for Change Management



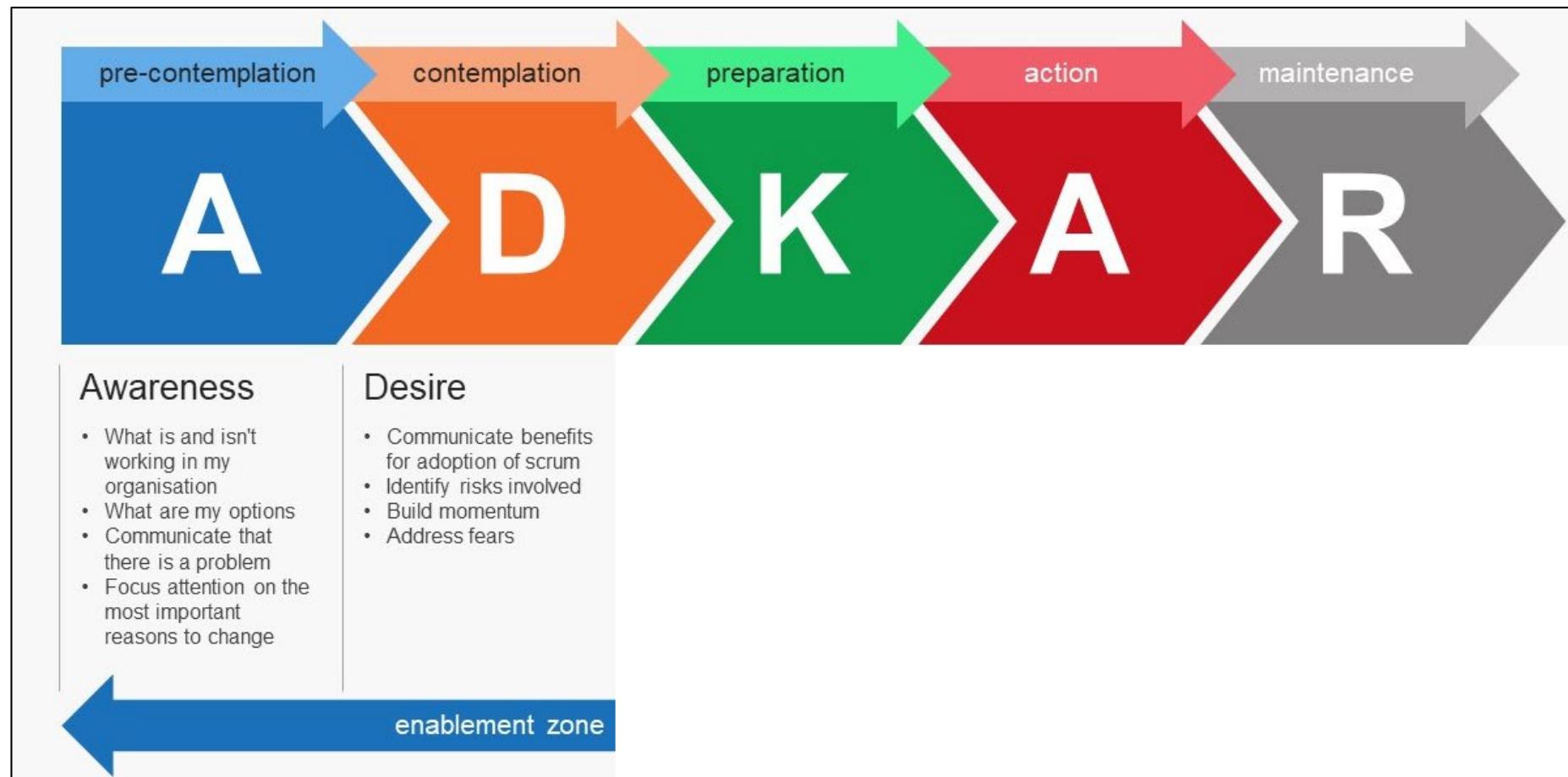
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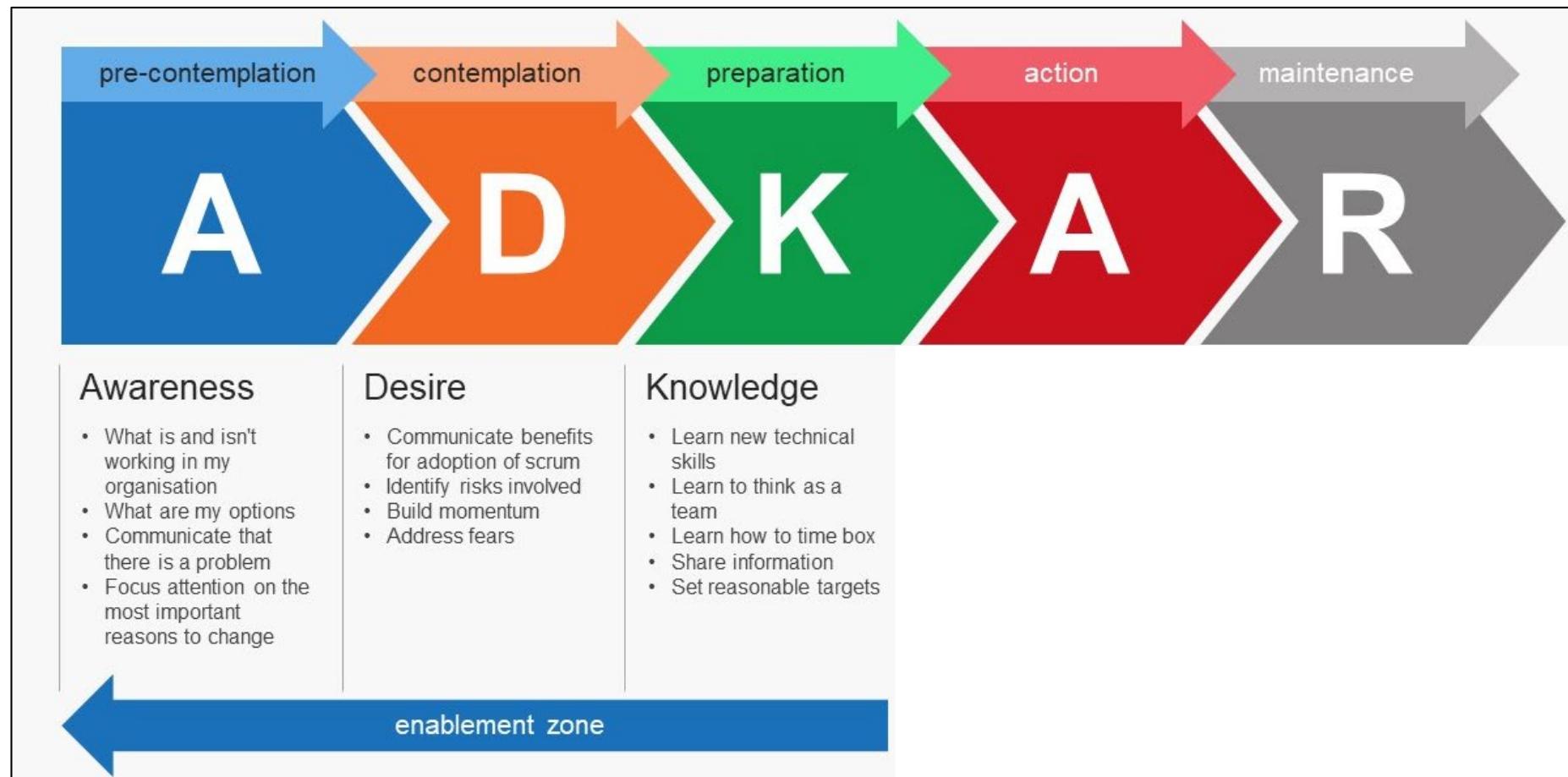
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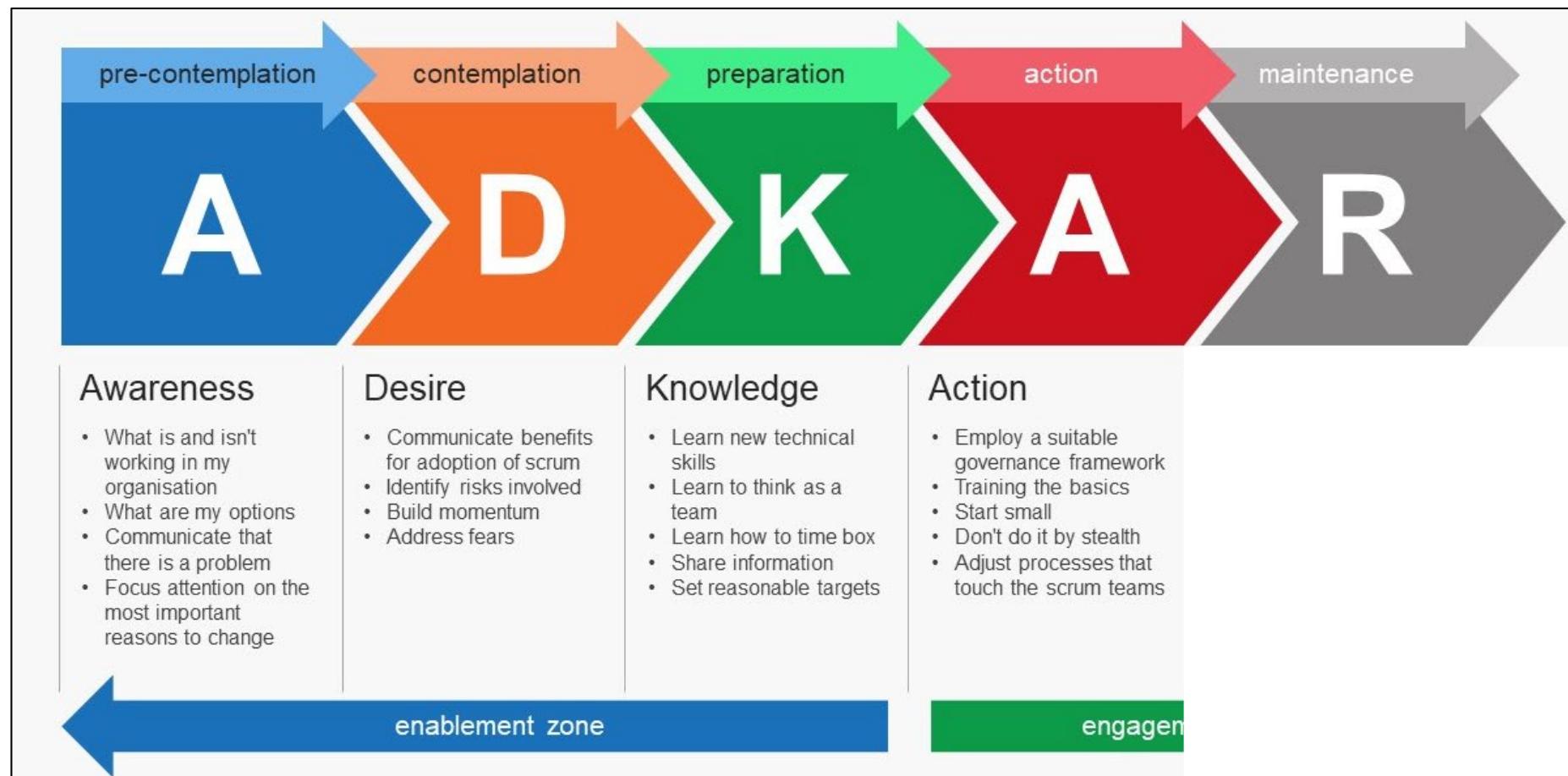
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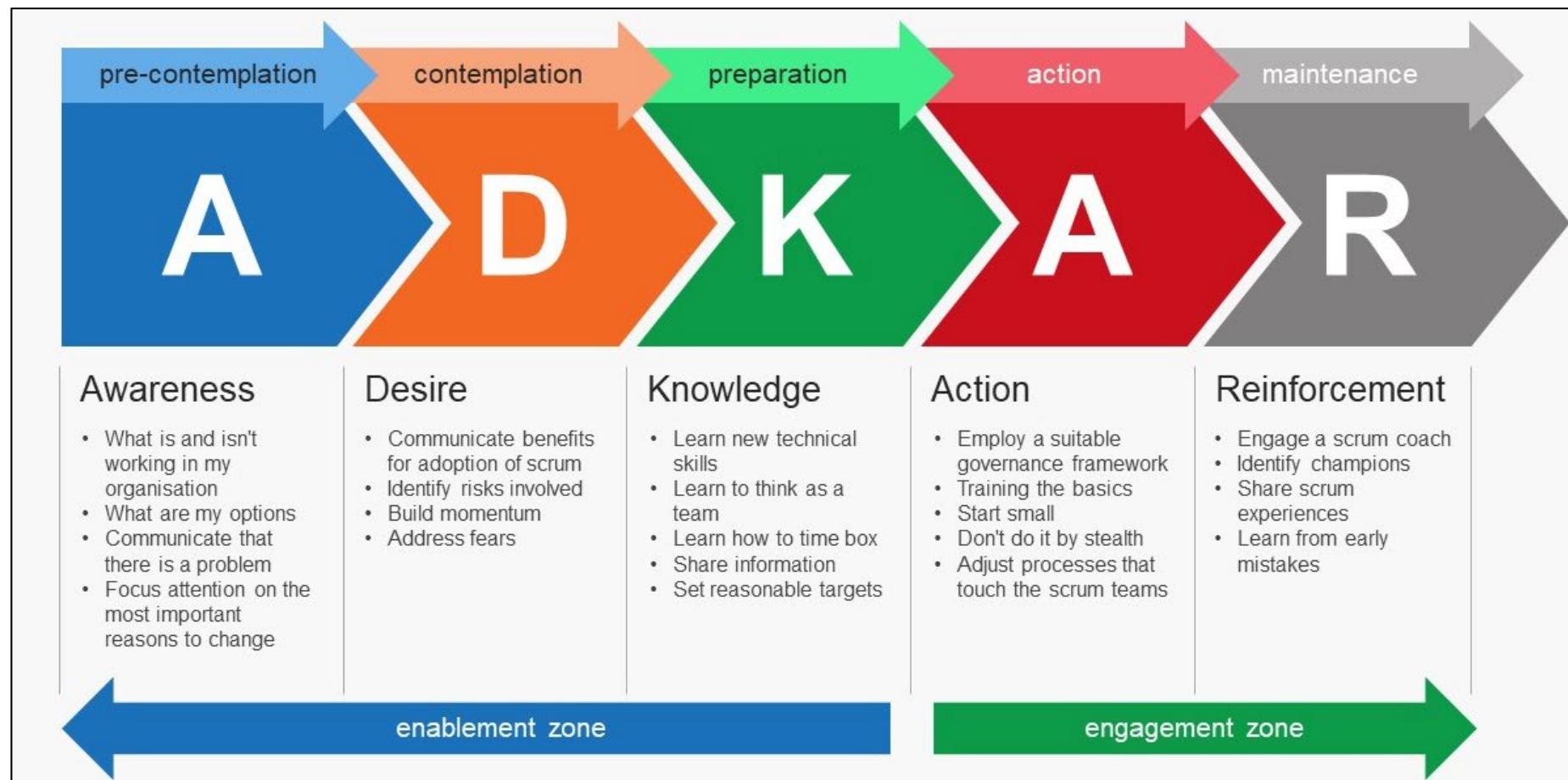
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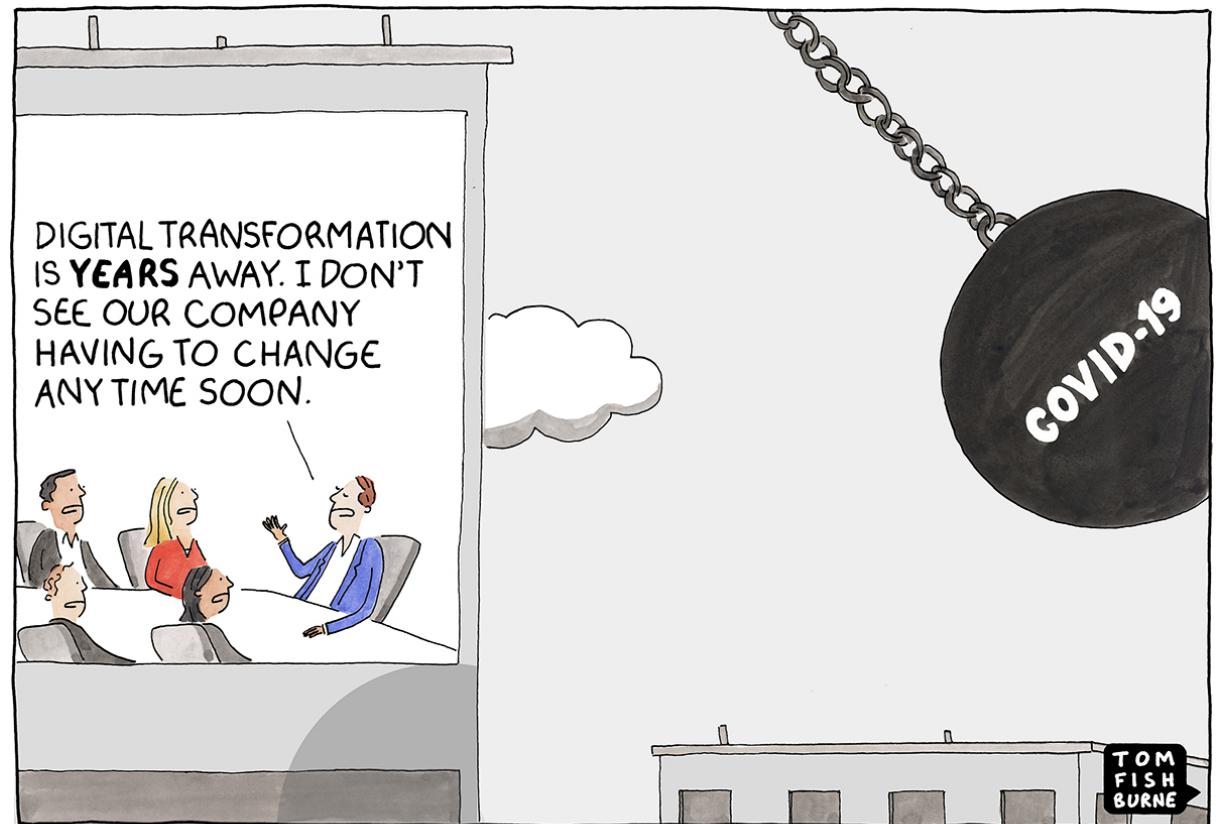
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Organizational/Initiative-level change

- Support change in groups
(like individual change)

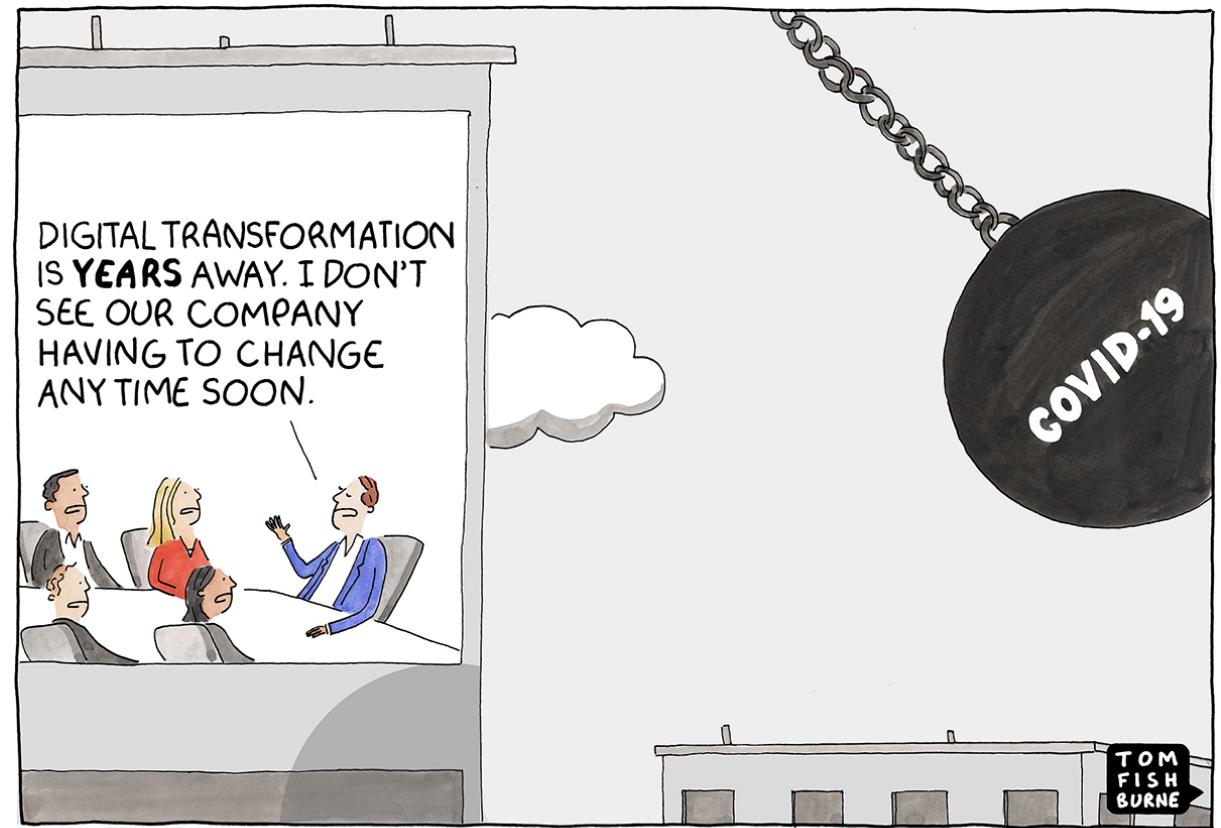


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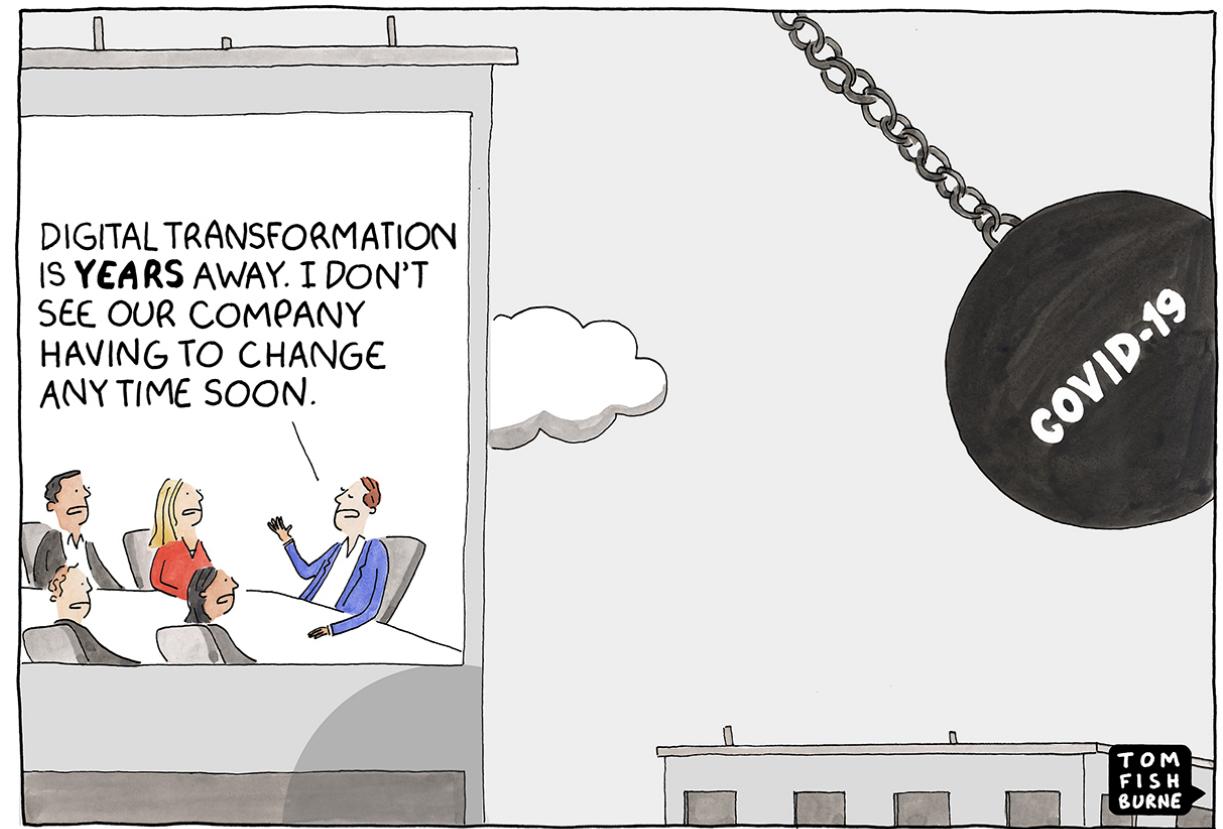


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Organizational/Initiative-level change

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- How's this different from project management?

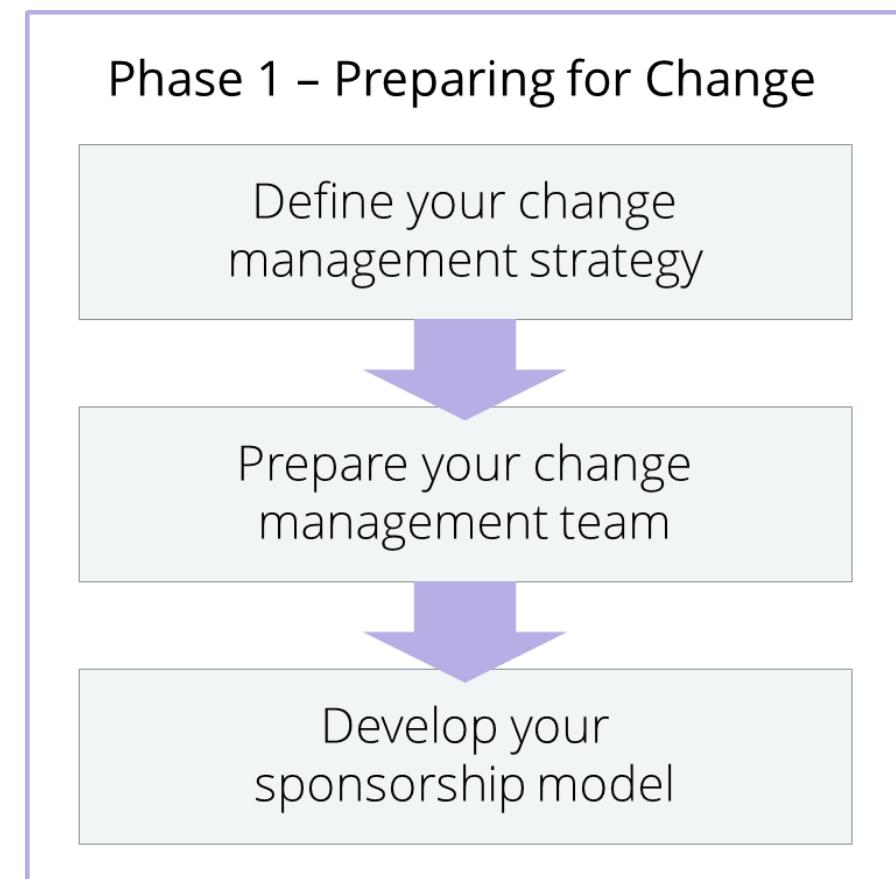


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Prosci's Change Management phases - 1

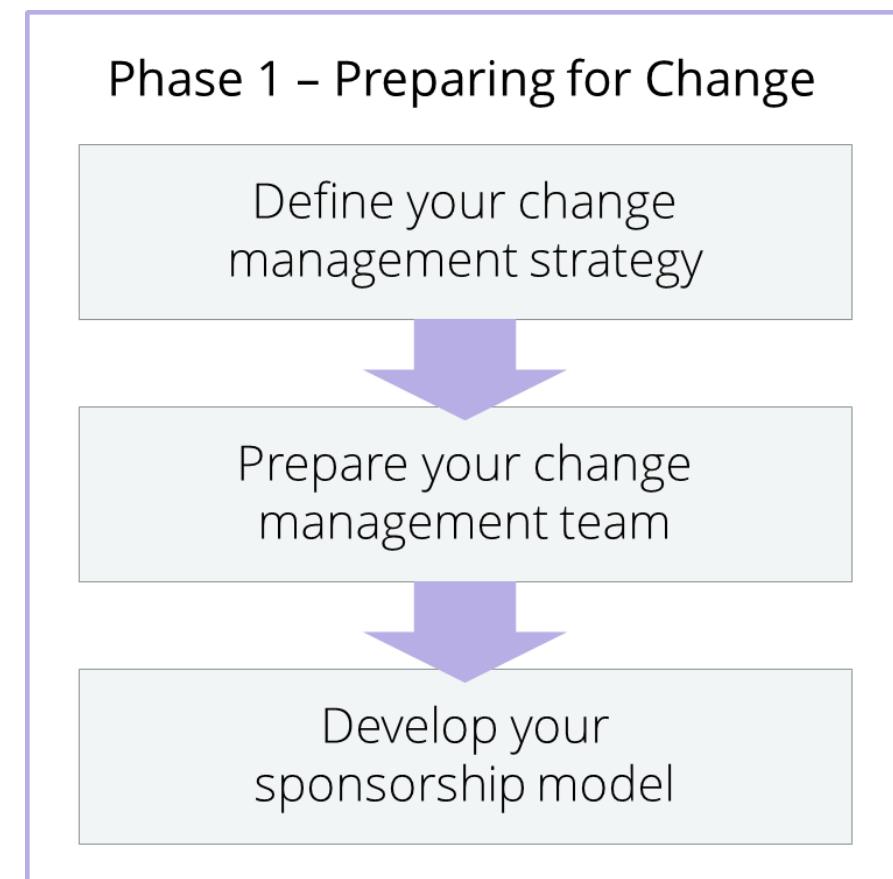
- Phase 1: Preparing for change
 - Change characteristics profile & strategy



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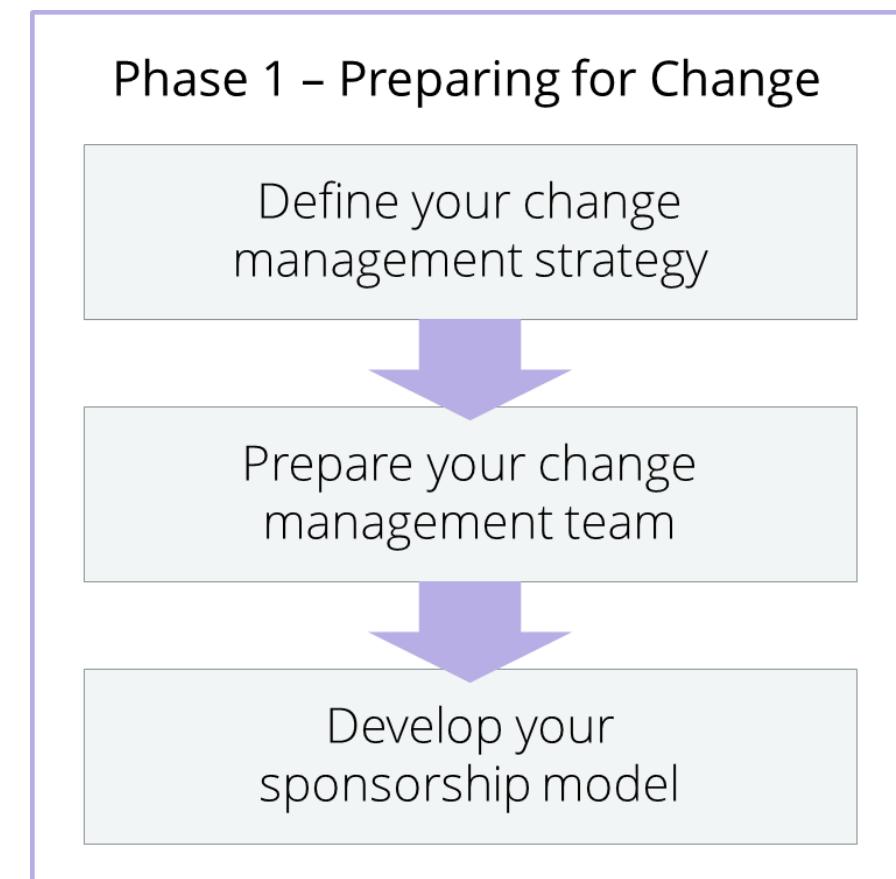
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Prosci's Change Management phases - 1

- Phase 1: Preparing for change
 - Change characteristics profile & strategy
 - Organizational attributes & impact assessment
 - Change Management & sponsorship team



...Prosci's Change Management phases - 2

- Phase 2: Managing change
 - Communication and sponsorship plan



- Prosci. What is Change Management. Online: <https://www.prosci.com/change-management/what-is-change-management> (Accessed Sept.2018)

...Prosci's Change Management phases - 2

- Phase 2: Managing change
 - Communication and sponsorship plan
 - Training plan



...Prosci's Change Management phases - 2

- Phase 2: Managing change
 - Communication and sponsorship plan
 - Training plan
 - Coaching plan



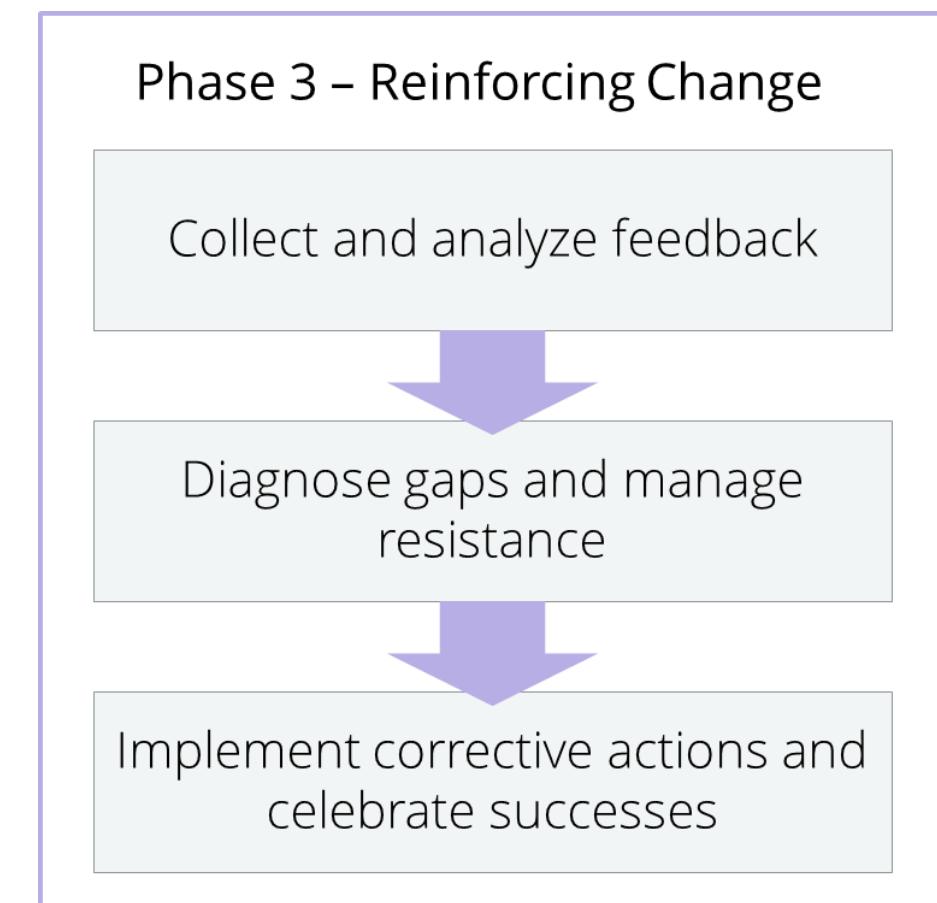
...Prosci's Change Management phases - 2

- Phase 2: Managing change
 - Communication and sponsorship plan
 - Training plan
 - Coaching plan
 - Resistance management plan



...Prosci's Change Management phases - 3

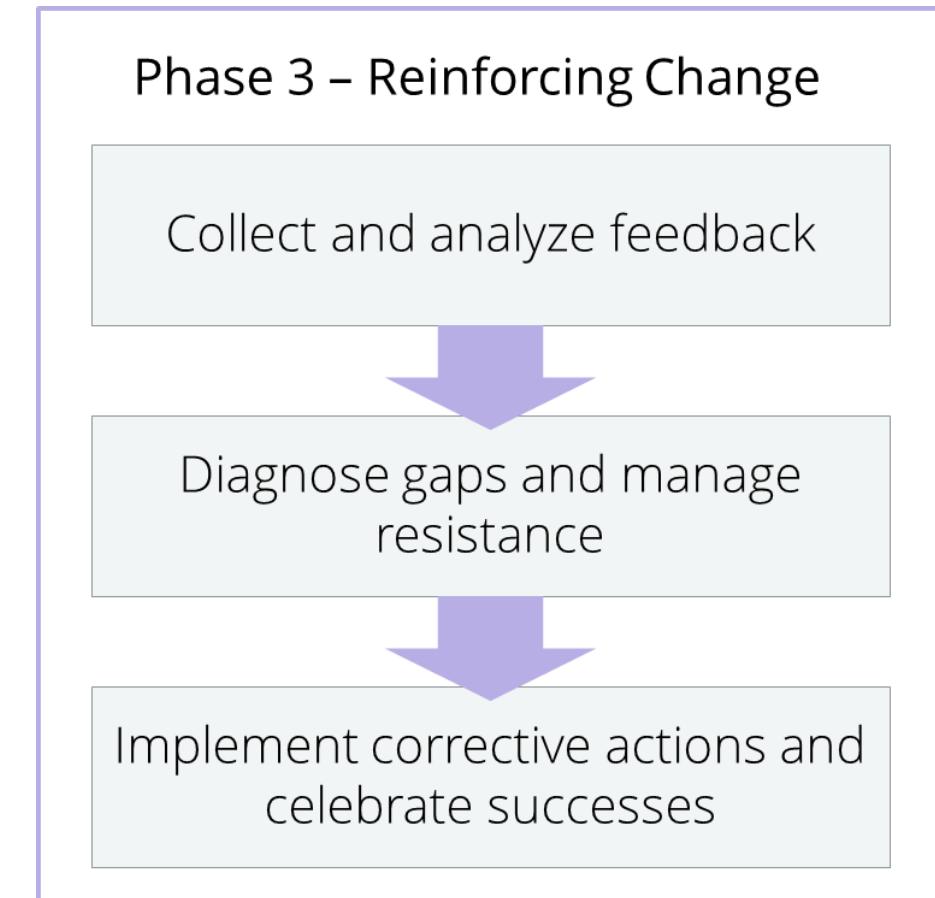
- Phase 3: Reinforcing change
 - Measurement



- Prosci. What is Change Management. Online: <https://www.prosci.com/change-management/what-is-change-management> (Accessed Sept.2018)

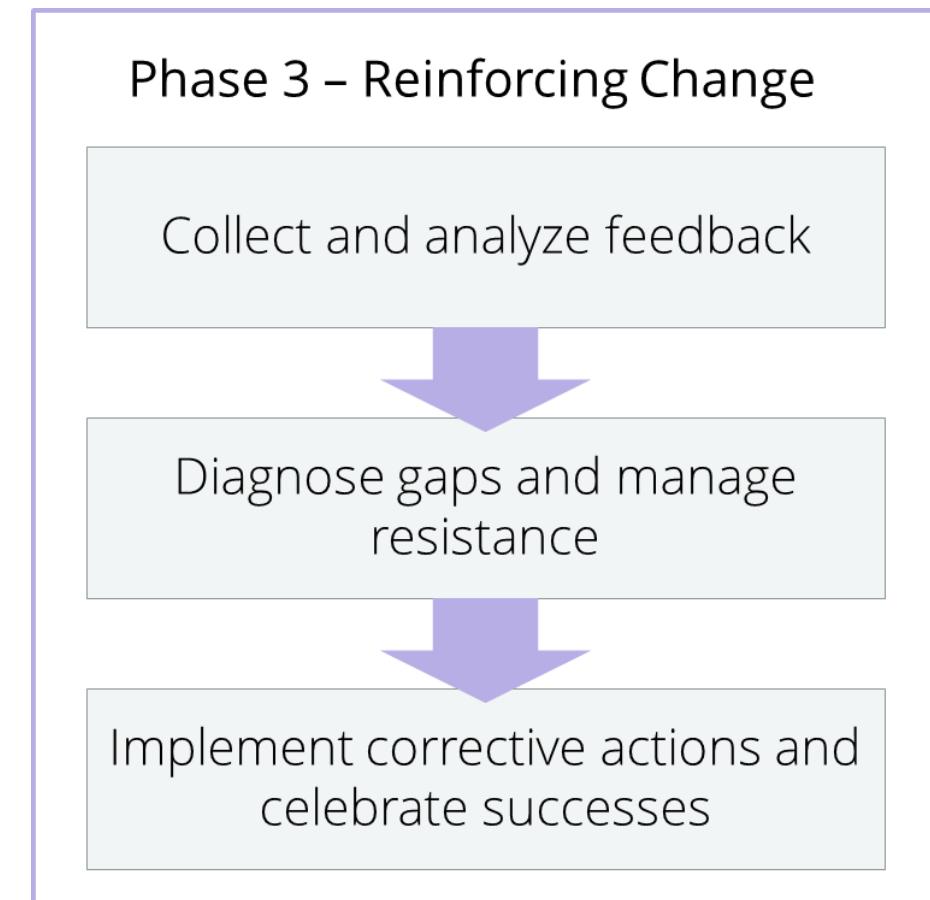
...Prosci's Change Management phases - 3

- Phase 3: Reinforcing change
 - Measurement
 - Reinforcement & corrective action planning



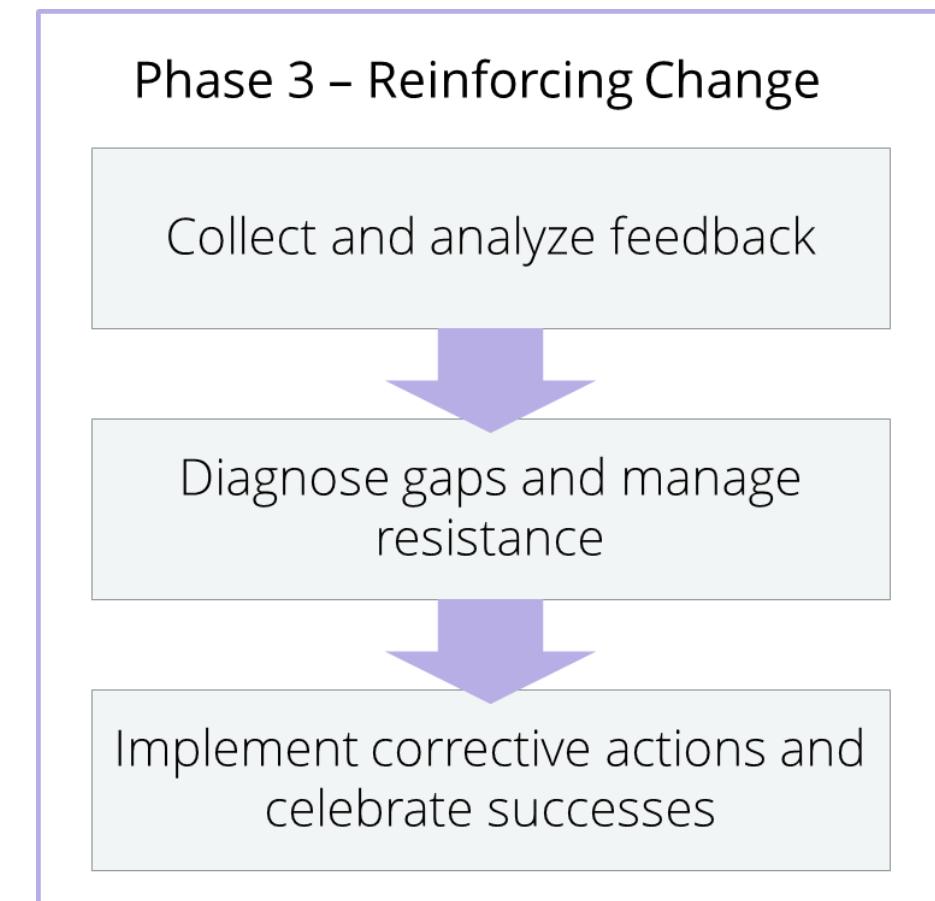
...Prosci's Change Management phases - 3

- Phase 3: Reinforcing change
 - Measurement
 - Reinforcement & corrective action planning
 - Recognition and success celebrations



...Prosci's Change Management phases - 3

- Phase 3: Reinforcing change
 - Measurement
 - Reinforcement & corrective action planning
 - Recognition and success celebrations
 - After-action review



Change Management do's & don'ts

- Do: Coordinate & collaborate across the organization



- Cherwell Software. Do's and Don'ts of ITIL Change Management (2016). Online: <https://youtu.be/xISOKnyuquc> (Accessed Sept.2018)

Change Management do's & don'ts

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- Don't: Overlook the role of people



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Change Management do's & don'ts

- Do: Coordinate & collaborate across the organization
- Don't: Overlook the role of people
- Do: Know your inventory



- Cherwell Software. Do's and Don'ts of ITIL Change Management (2016). Online: <https://youtu.be/xISOKnyuquc> (Accessed Sept.2018)

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- Don't: Introduce too much change at once



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...Change Management do's & don'ts

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- Do: Communicate
- Don't: Think about change in a silo



...Change Management do's & don'ts

- Don't: Introduce too much change at once
- Do: Communicate
- Don't: Think about change in a silo
- Do: Service(System)-orientated Change Management



Social software & change management

- Operational CM: Often tool-powered
 - Embedded in Information Technology Service Manager (ITSM) Tools
 - Supported by [ITIL](#), e.g.
 - [ServiceNow](#)
 - [Cherwell](#)
 - [CA Technology](#)
 - [Microsoft Dynamics 365](#) -- ([Cool, or magics](#)) – Etc.

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- Script (from eHS)
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 - What is the impact to users?
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- Organizational CM: Often people-powered
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 - LMSs

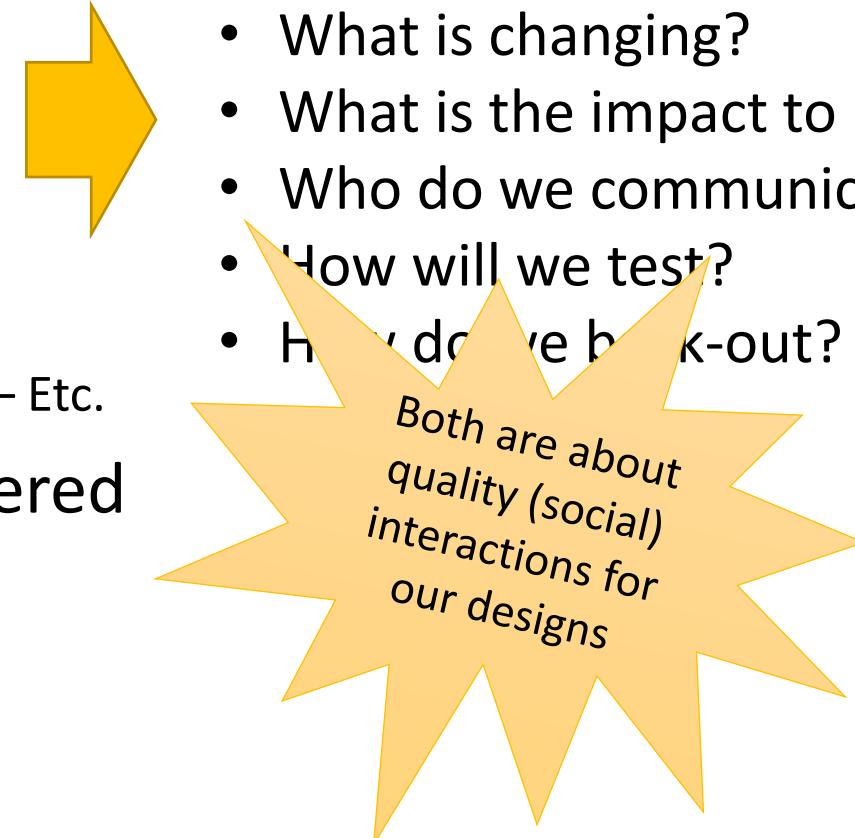


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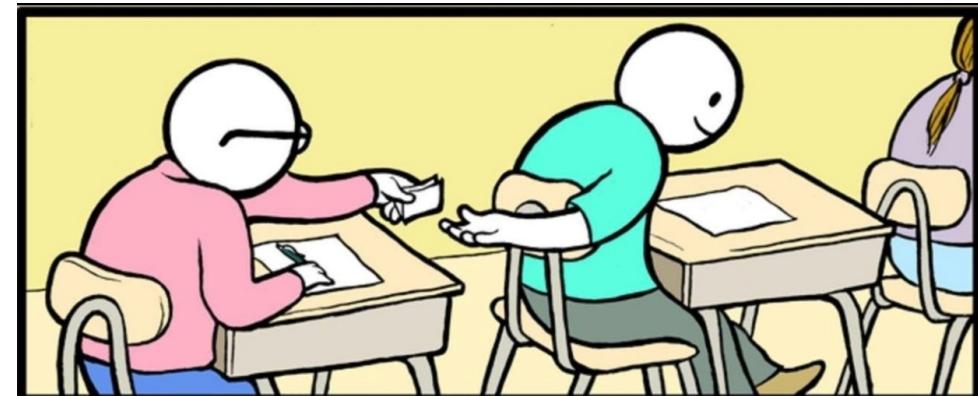
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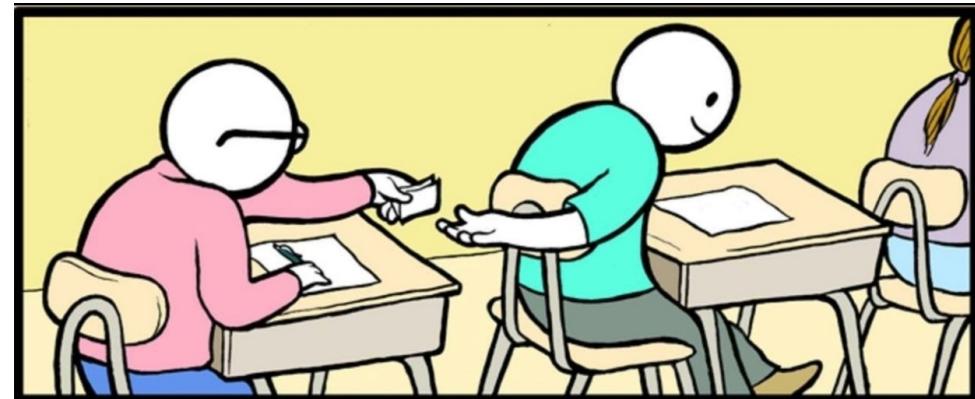
Key tips to remember in all of it

- Keep the vision of your community's success above the technical details of technology implementation
 - Constancy of purpose!



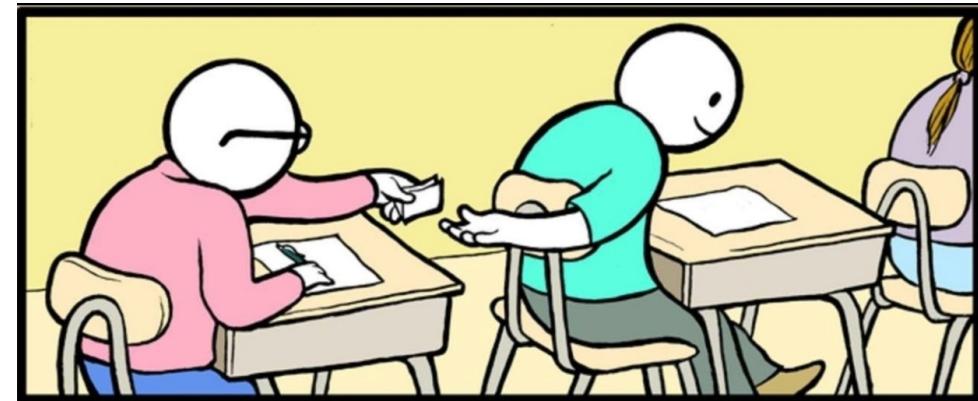
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- Keep the technology as simple as possible for the community while meeting its needs
- Let the configuration of technologies evolve as the community evolves
 - The transformation is everyone's job
- Use all the knowledge around you
 - Ditto above



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