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Quality
Peter Leeson
CQI | IRCA
LEADING QUALITY FOR 100 YEARS
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OrchestratedKnowledge@gmail.com
https://www.pleeson.co.uk
info@pleeson.co.uk
@PeterLeeson
Let's talk: calendly.com/Orchestrated-Knowledge
Orchestrated Knowledge
Why
Where
What
Who
How
How much
When
Let's have a chat.

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Why
Where
What
Who
How
How much
When
Let's have a chat

3.

Introduction
Who am I?
What is Quality?

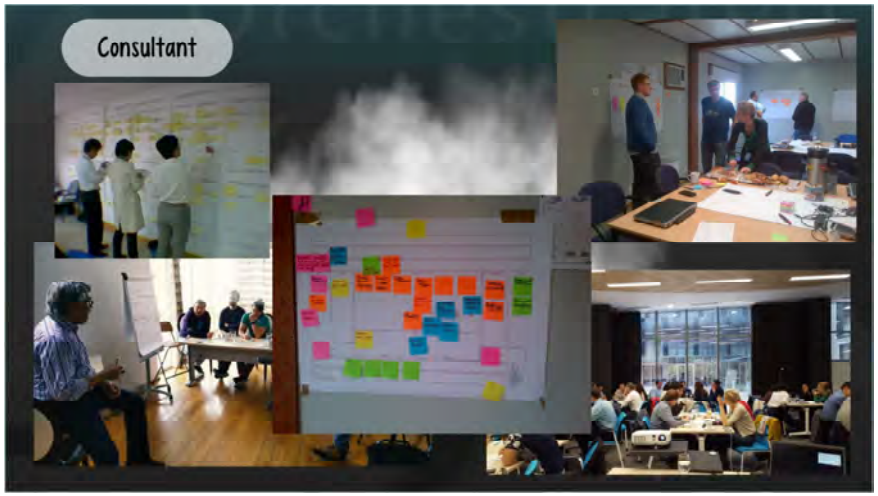
4.

Peter Leeson
Culture and Effectiveness and Continual Quality Improvement
I am me...
Orchestrated Knowledge
CQI
CHARTERED QUALITY PROFESSIONAL

5.

Public Speaker

6.


Consultant

7.

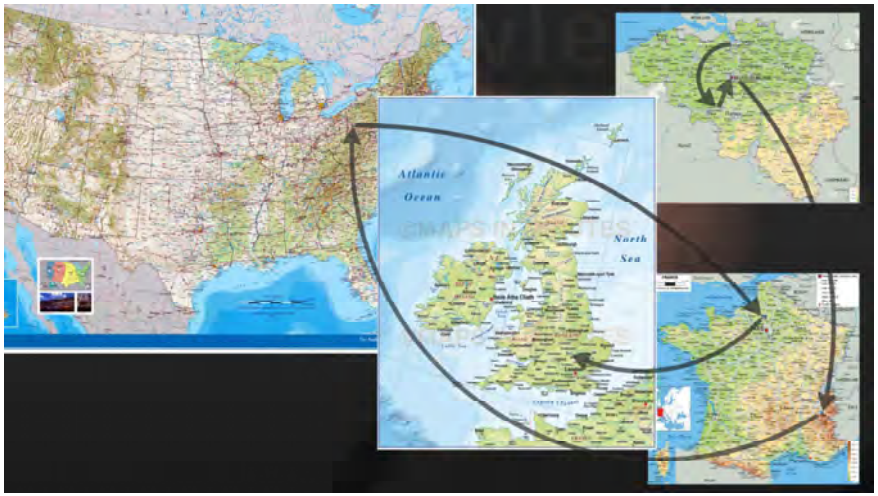
Amateur Artist

8.

Theoretician and Author
Peter Leeson
Introduction to ISO 14001
Peter Leeso
Health and Safety Without Going Mad
A pragmatic introduction to ISO 45001:2018
Peter Leeson
Orchestrated Knowledge
Rethinking the organization based on knowledge and for quality
Focused on Pragmatic Continual Improvement
Bookshop

9.

10.


Atlantic Ocean
North Sea

11.

Algeria
Australia
Austria
Belgium
Canada
China
Croatia
Czecia
Denmark
Egypt
England
Finland
France
Germany
Hungary
India
Ireland
Italy
Japan
Kenya
Luxembourg
Mexico
Monaco
Morocco
Netherlands
Northern Ireland
Norway
Poland
Romania
Scotland
Sweden
Switzerland
Turkey
Uganda
USA
Wales

12.

ALCATEL
altran
logica CMG
Avaelgo
KCSS
northgate
Omada
ALL4TEC
ARVAL
PEKTRON
BAE SYSTEMS
SimCorp
iSDC
CMG
arcelor
BOMBARDIER
perotsystems
Levi's
bwin
POSTBANK
Q-Labs
Fläkt
Borland
Qubiz
evodia
BOSCH
BRUSH
endava
BNP PARIBAS FORTIS
VDO
Wirtek
RABS
SKF
ING
GFT
COERA
CONNATIX
Honeywell
DENSO
digital
CSC
THALES
GTECH
infotel
De Vaderlandsche
ERNI
KYOCERA
Spirula

13.

CONTROL
REGULATIONS
LAW
POLICY
COST
STANDARDS
SECURITY
COMPLIANCE
RISKS
RULES
STRATEGY
SFIA
Agile
Scrum
OKR
TPS
A3
PSP
ITIL
Cynefin
Six Sigma
TickITplus
CMM for
Software
Systems
CMMI for
Development
Services
Acquisitions
ISO9001
ISO27000
ISO20700
ISO15504
ISO14001
ISO19011
ISO26262
ISO45001

14.

What is Quality?
Basically, nobody knows
There is no clear definition of quality, it is promised, but not defined, designed or measured
Banalities
You Need a Clear Definition

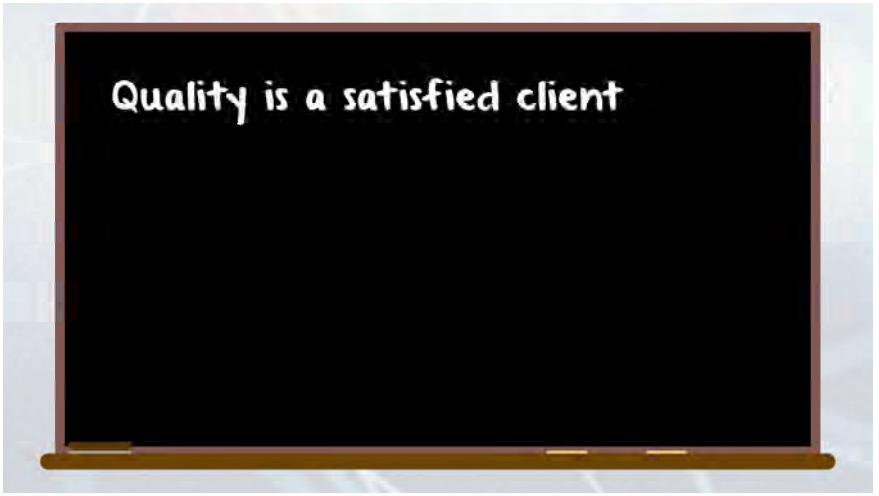
17.

Banalities as Definitions
• Quality is Everyone's Business
• We have Quality People
• As per Requirements
• Bigger, Better, Faster and Cheaper
Bullshit!
• First Time Right
• Good enough
• Etc.

19.

You Need a Clear Definition
• If you cannot define, you cannot measure it
• If you cannot measure it, you cannot achieve it
• You do not know when you are progressing
• You do not know when you have arrived
• You cannot demonstrate it
Quality is Satisfaction
Quality is Happiness

22.


Quality is a satisfied client

23.

Clients are satisfied through "good" products and services

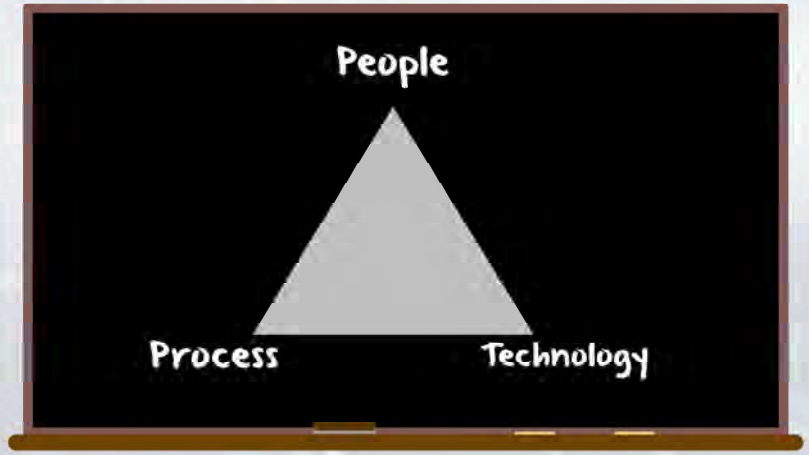
24.

Good products and services are achieved through successful projects

25.

Successful projects depend on good management helping good people using good technology to follow good value-adding practices

26.



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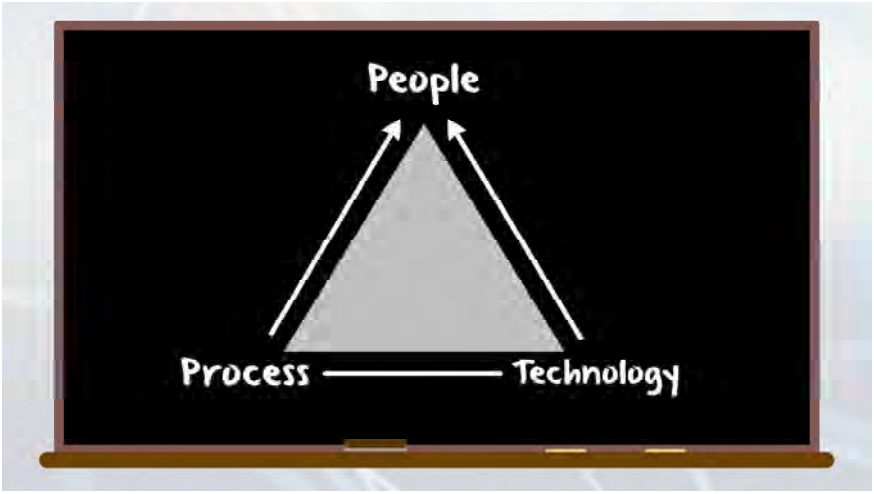
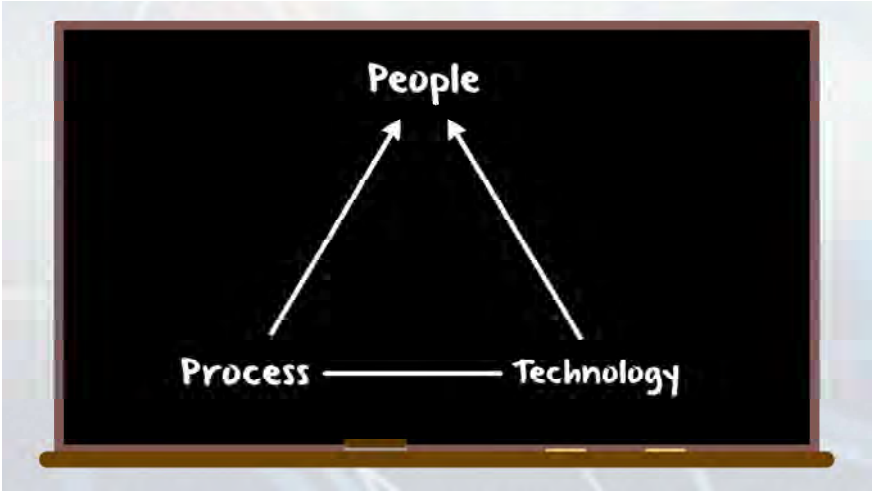
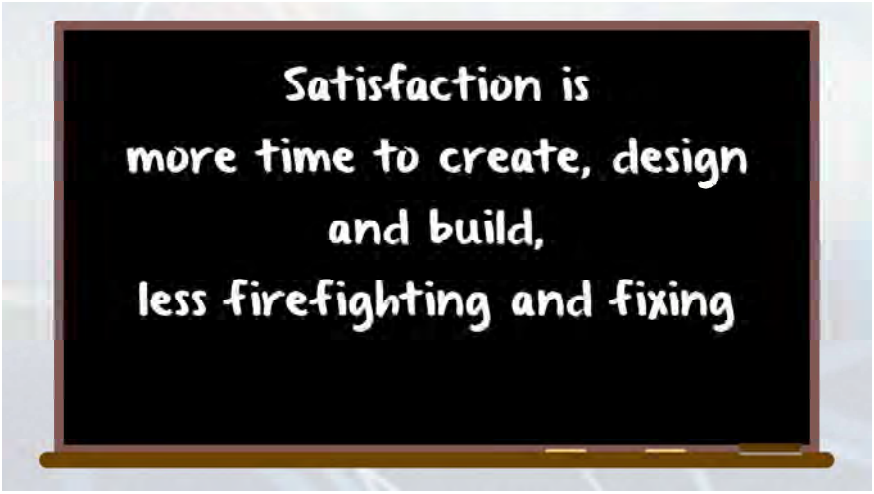
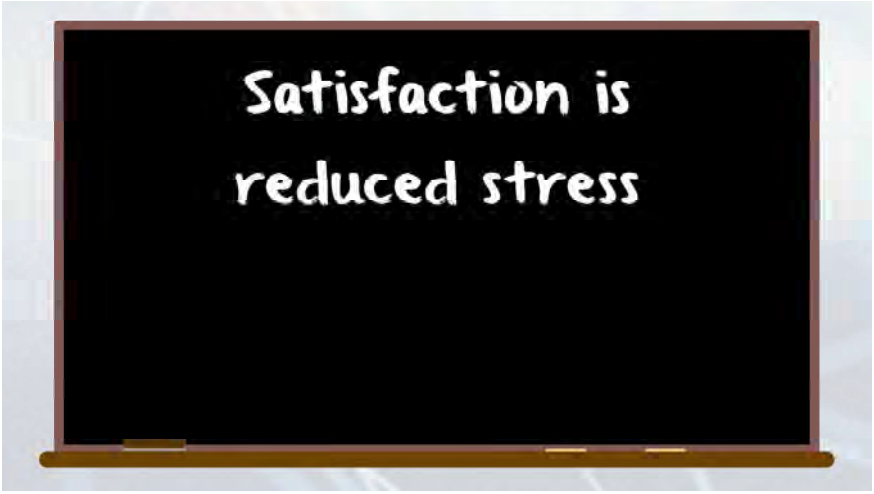

People
Process
Technology

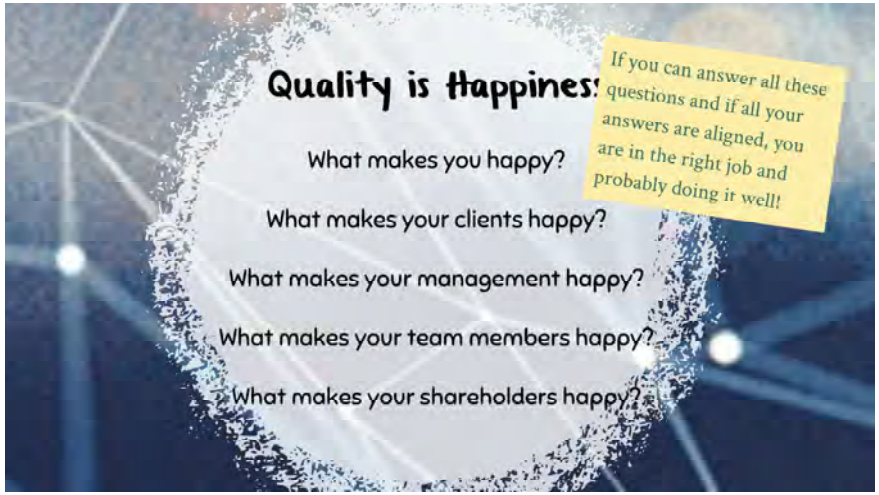

People
Process
Technology

Quality is a
satisfied employee

Satisfaction is
a job well done


Satisfaction is
more time to create, design
and build,
less firefighting and fixing


Satisfaction is
reduced stress


Quality is happines
What makes you happy?
What makes your clients happy?
What makes your management happy?
What makes your team members happy?
What makes your shareholders happy?
If you can answer all these questions and if all your answers are aligned, you are in the right job and probably doing it well!

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How much
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Let's have a chat

Why focus on Quality?
Does it really matter?
Market
Finance
Productivity

The Global Market
The Authograph map available from http://www.authagraph.com/products/products-ag-globe/?lang=en

Finance
• Reduce cost of maintenance
• Less effort and time on testing
• Reduced need for support desk
• Increased productivity
• Better client and staff retention
Defect Creation
Requirements
Design
Development
Documentation
Testing
Maintenance
Zone of Chaos
Defect Discovery

Productivity
Job satisfaction is critical to the willingness to put in the extra effort required
Job satisfaction equates with happiness
Job satisfaction includes a healthy work-life balance

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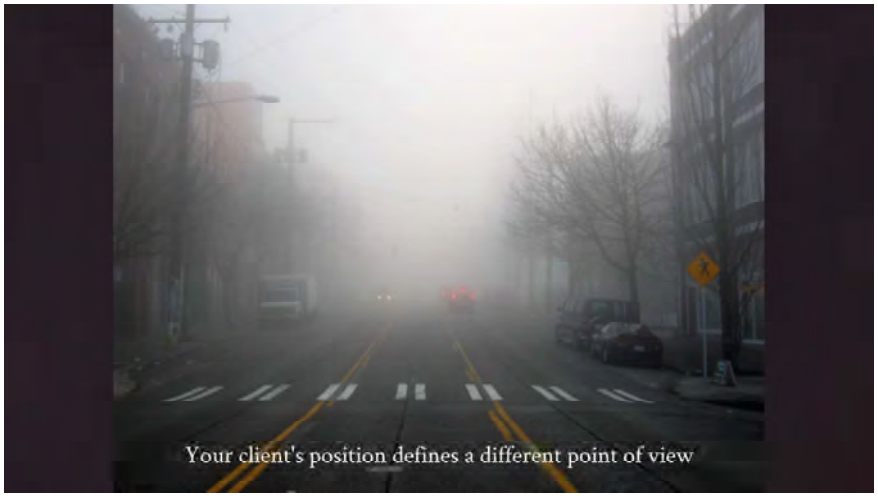
What is it?
Defining Quality for You
Defining Quality

Quality is not yours
It is not something that is intrinsic to your product or service
It is the relationship that your client has with your product or service
Quality is whatever your client says it is today
Your client's Point of View
Q=P/X
Perceived Quality

Your position defines your view


Your client's position defines a different point of view

51.

Q = P / X
Quality is your perceived added value
It demands a good understanding of your clients' needs
Skills
Data
Going Beyond

60.

Key Skills for Client Management
Facts and Figures
• Understand the data to deduce or predict the future
• Examine information and assess risk
Negotiating
• Involved in all the various affected departments
• Identifies conflicts
Listening
• Determine the needs
• Ask questions to leaders and users

64.

Quality needs to be defined and measured if it is to be achieved

65.

66.

Project's Total Cost

Based on: Crosby, P.B. (1979), Quality is Free, New York: McGraw-Hill

Cost of Performance

- Generating plans
- Documentation
- Development
- Requirements
- Design
- Product
- Integration

Cost of Quality

Cost of Conformance

Cost of Appraisal

- System review
- Requirements review
- Design review
- Test plans review
- Test scripts review
- Walkthroughs
- Testing (first time)
- Independent V&V (first time)
- Audits

Cost of Prevention

- Training
- Policies, procedures, methods
- Tools
- Planning
- Quality improvement projects
- Data gathering and analysis
- Root cause analysis
- Quality reporting

Cost of Failure

External Failure and Internal Failure

- Fixing defects
- Reworking
- Documents
- Design
- Updating software
- Re-reviews
- Re-test
- Lab costs
- Patches & Fixes (internal and External)
- Reputation and Lost Sales
- Engineering changes
- Change control boards
- External failures and fines
- Customer support
- Help desks

70.

Quality Factors and Quality Criteria

Correctness	Accuracy	Modularity
Efficiency	Anomaly Management	Operability
Expandability	Augmentability	Safety Management
Flexibility	Autonomy	Self-Descriptiveness
Integrity	Commonality	Simplicity
Interoperability	Completeness	Support
Maintainability	Consistency	System Accessibility
Manageability	Distributivism	System Compatibility
Portability	Document Quality	Traceability
Reliability	Efficiency	Training
Reusability	Functional Scope	Virtuality
Safety	Generality	Visibility
Survivability	Independence	and more
Usability		
Verifiability		

These are all characteristics of quality (or qualities) but they are not Quality

69.

Understanding User Needs

Operational Needs

Functional Needs

How secure is it?
How often will it fail?
Can it survive during failure
How easy is it to use?

Operational Needs

How much is needed in the way of resources?
Does it comply with requirements?
Does it prevent hazards?
Does it interface easily?

Maintenance Needs

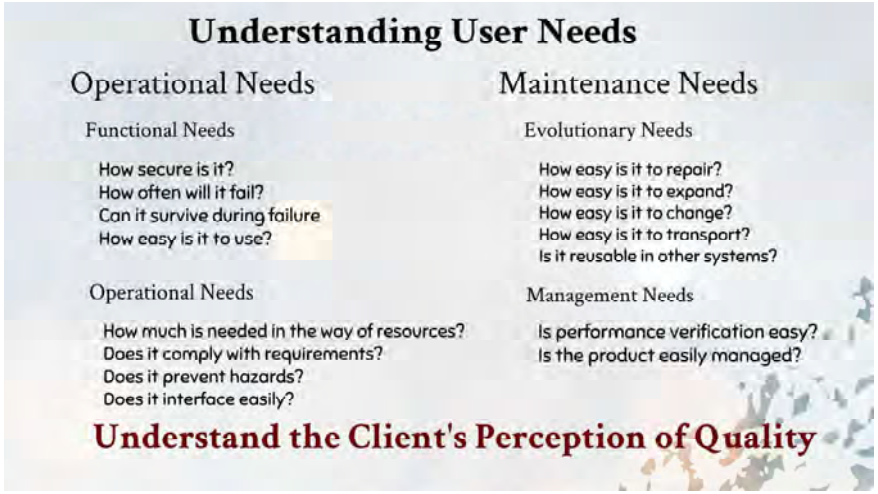
Evolutionary Needs

How easy is it to repair?
How easy is it to expand?
How easy is it to change?
How easy is it to transport?
Is it reusable in other systems?

Management Needs

Is performance verification easy?
Is the product easily managed?

74.


Understanding User Needs
Operational Needs
Maintenance Needs
Functional Needs
How secure is it?
How often will it fail?
Can it survive during failure
How easy is it to use?
Evolutionary Needs
How easy is it to repair?
How easy is it to expand?
How easy is it to change?
How easy is it to transport?
Is it reusable in other systems?
Operational Needs
How much is needed in the way of resources?
Does it comply with requirements?
Does it prevent hazards?
Does it interface easily?
Management Needs
Is performance verification easy?
Is the product easily managed?
Understand the Client's Perception of Quality

Add Value to your Client's World!
Gain Loyalty
Innovate and Implement
Anticipate Client Needs

Gain Loyalty
Innovate and Implement
Anticipate Client Needs
Meet Client Requirements
Determine Requirements and Expectations
Identify Clients and Stakeholders
Meet your Contractual Obligations!

Adding Value to your Clients' Business
Initial Perceived Value
"This was, in practice, more valuable than we thought it would be because..."
¿?
"I think that would be useful"
Realized Value

Your initial perceived quality may *attract* clients, your realized quality will *retain* your clients and grow your market

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Who
How
How much
When
Let's have a chat

Compliance is not Quality!
Necessary
Forget the Process, Focus on People
The change needs to happen in your team, in your project, in your reality - and not in some consultant's theory!

More on standards and compliance:
https://bit.ly/OK-Compliance
Standards are Necessary
The basic ideas behind standards
Needs

Standards serve a Purpose
More on standards and compliance:
https://bit.ly/OK-Compliance
Reliability
Predictability
Guarantee
Consistency
Warranty
To Requirements
Safety
Structure
Security
until they don't

Standards Outlive their Purpose

More on standards and compliance:
https://bit.ly/OK-Compliance

We've always done it that way!

Focus on Continuity, not on Improvement

Compliance Vs Innovation

Bureaucracy

Hierarchy and Control

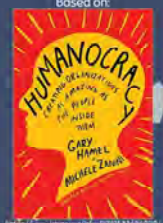
Management by Numbers

"It is only through enforced standardization of methods, enforced adoption of the best implements and working conditions and enforced cooperation that this faster work can be assured"
(Frederick Taylor, 1856-1915)

The Foundation of Bureaucracy

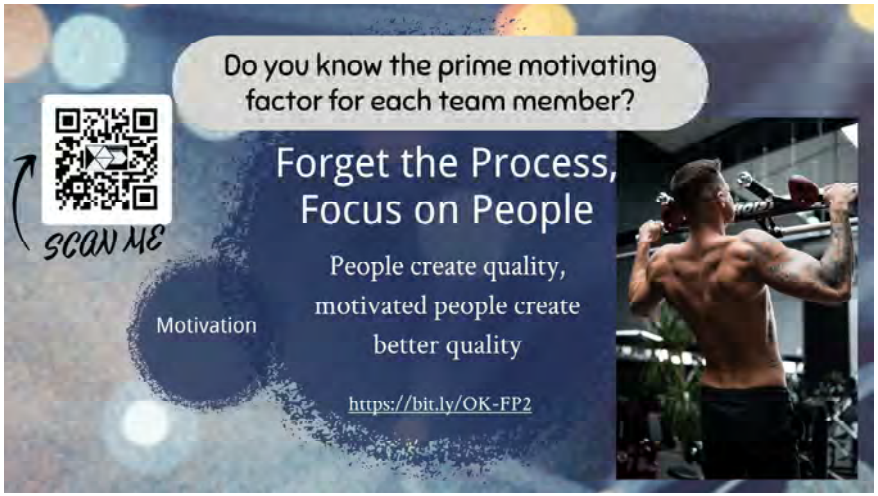
Paradigm	People are factors of production
Problem	Maximize production by reducing variance
Principles	Stratification, specialization, formalization, standardization
Processes	Goal setting, resource allocation, performance assessment, compensation
Practices	Targets, KPI, tracking progress, measuring compliance
Performance	Alignment + control = profitability

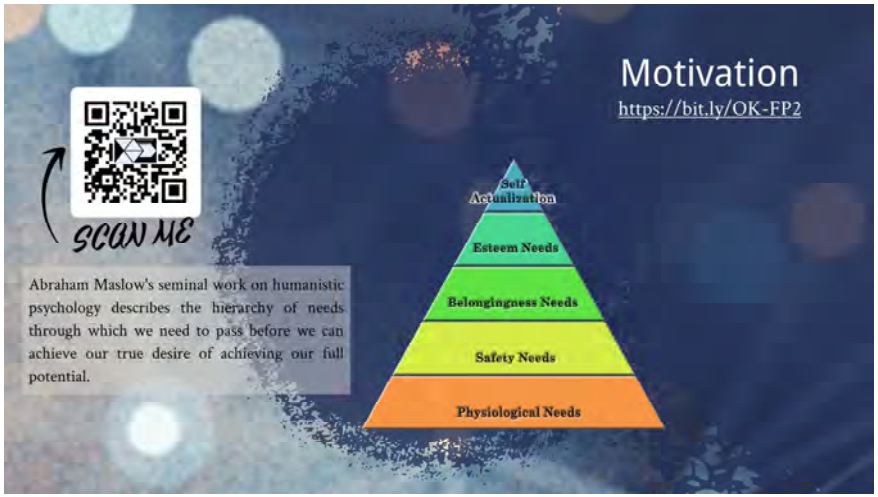
Based on:

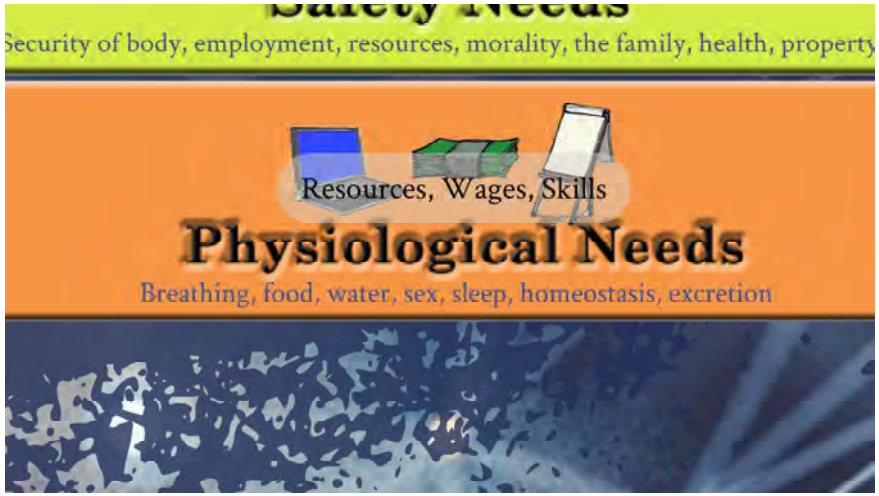


People are unique combinations of competencies

Engineers are experienced intelligent people who know their job


Do you know the prime motivating factor for each team member?
SCAN ME
Forget the Process, Focus on People
People create quality, motivated people create better quality
Motivation
https://bit.ly/OK-FP2


SCAN ME
Motivation
https://bit.ly/OK-FP2
Abraham Maslow's seminal work on humanistic psychology describes the hierarchy of needs through which we need to pass before we can achieve our true desire of achieving our full potential.
Self Actualization
Esteem Needs
Belongingness Needs
Safety Needs
Physiological Needs


Security of body, employment, resources, morality, the family, health, property
Resources, Wages, Skills
Physiological Needs
Breathing, food, water, sex, sleep, homeostasis, excretion

Friendship, family, sexual intimacy
Continuity, Planning, Methodology, Stability
Safety Needs
Security of body, employment, resources, morality, the family, health, property
Resources, Wages, Skills
Physiological Needs

Esteem Needs
Self-esteem, confidence, achievement, respect
of/by others
Environment, Product, Support, Team, Vision, Leadership
Belongingness Needs
Friendship, family, sexual intimacy
Continuity, Planning, Methodology, Stability

Actualization
Voice, Control, Recognition, Respect
Esteem Needs
Self-esteem, confidence, achievement, respect
of/by others
Environment, Product, Support, Team, Vision, Leadership

Morality, creativity, spontaneity, problem solving, lack of prejudice, acceptance of facts
Self
Actualization
Framework Stress, Trust, Feedback
Voice, Control, Recognition, Respect

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Let's talk: calendly.com/Orchestrated-Knowledge
Orchestrated Knowledge
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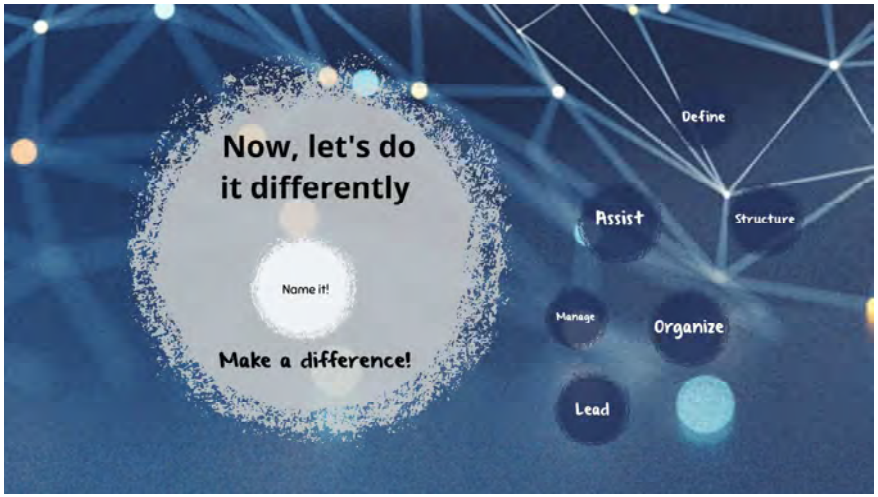
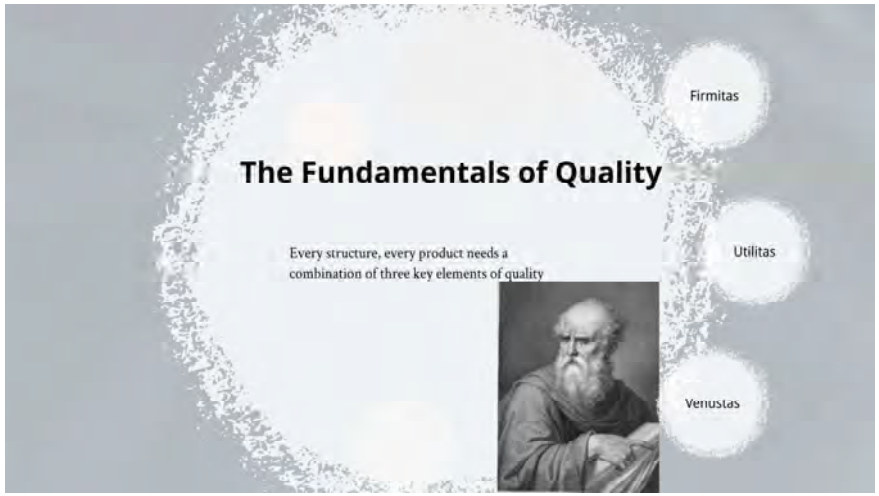

Now, let's do it differently
Name it!
Make a difference!
Define
Assist
Structure
Manage
Organize
Lead


The Fundamentals of Quality
Every structure, every product needs a combination of three key elements of quality
Firmitas
Utilitas
Venustas

Reliability
Most of the traditional quality characteristics focus on the stability and reliability of the product when under stress

Utility

Business analysis and requirements management focus primarily on the utility of the product and whether it will objectively and demonstrably satisfy the client's needs as well as requirements and expectations

Desirability

One aspect that is frequently forgotten in the many industries is the desirability of the finished product

- What is the "WOW" factor that you are adding to your client's level of quality
- How much are you willing to invest on going beyond the functional and utilitarian in order to seduce your clients?

It's OK to want to be the Best

It's OK to want to be the First

It's OK to want to be the Cheapest

It's OK to want to be whatever you want to be

But it's not OK not to know

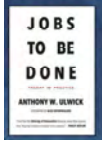
If nobody knows or agrees on your primary quality objectives, you will fail

Define the Job to be Done

Scientific and Thought Progress

What do your clients really want?

How can you best respond to that need or desire?

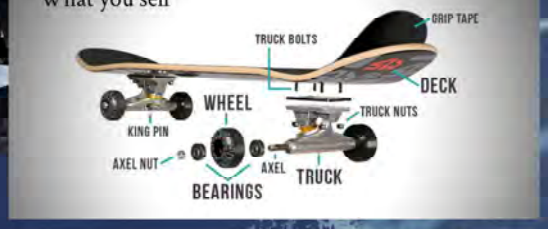


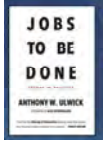
Define the Job to be Done

Scientific and Thought Progress

What they want:
the job to be done

What you sell





Define the Job to be Done

Scientific and Thought Progress

What do your clients really want?

How can you best respond to that need or desire?

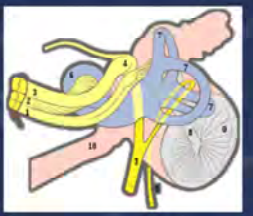
Apply the principle of parsimony: entities should not be multiplied without necessity

Most organizations remain firmly rooted in the 17th Century!

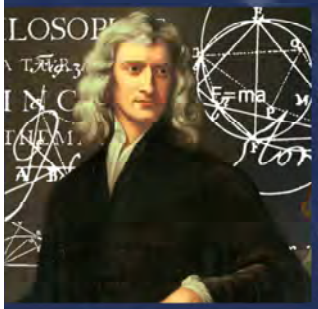
Traditional Western Analytical Deconstructionism

Break things down into their components

If you understand how every component works, you must therefore understand how the system works



Newtonian Physics



The world functions according to set mathematical principles and laws

The laws are immutable

This includes the laws of physics as well as the laws of the Christian understanding of divine creation and design

Darwinian Evolution

The world is based on processes that evolve from:

- Random changes
- Eliminating mistakes
- Keeping what gives an advantage

Multiplication of successful combinations

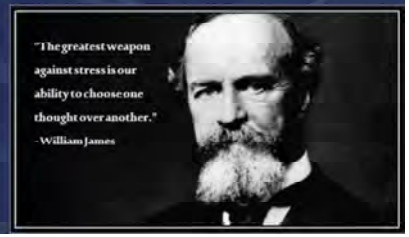
Most developments are wasted, a few succeed

Interoception

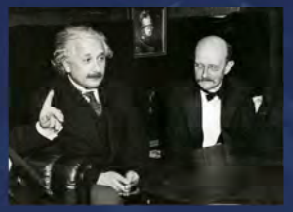
1884 – William James and Carl Lange on interoception and interoceptive signalling:

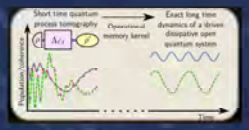
Emotions are the result of the brain reacting to physical changes and a Bayesian analysis of context (you're sad because you are crying)

(the brain's process of integrating signals relayed from the body into specific subregions—like the brainstem, thalamus, insula, somatosensory, etc.)



Quantum Mechanics

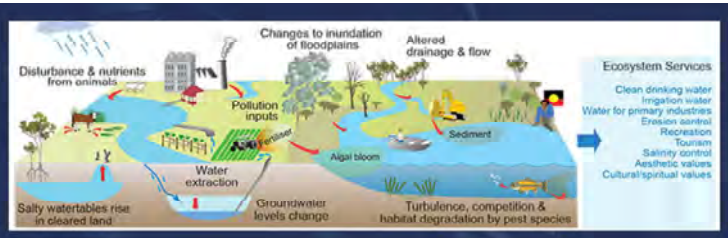




Tiny changes have immense effects – most of them unforeseeable at the start

Something can be in two contradictory beliefs at the same time - until observed and measured

Microscopic chaos creates macroscopic probabilistic order

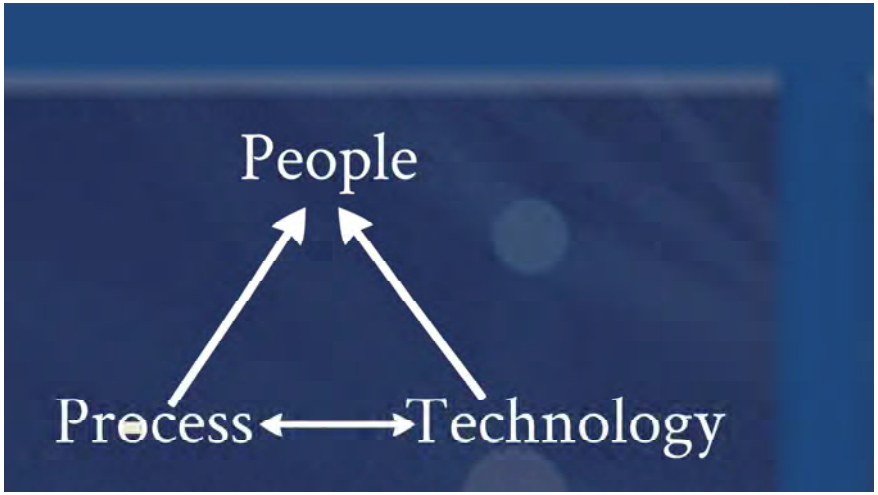


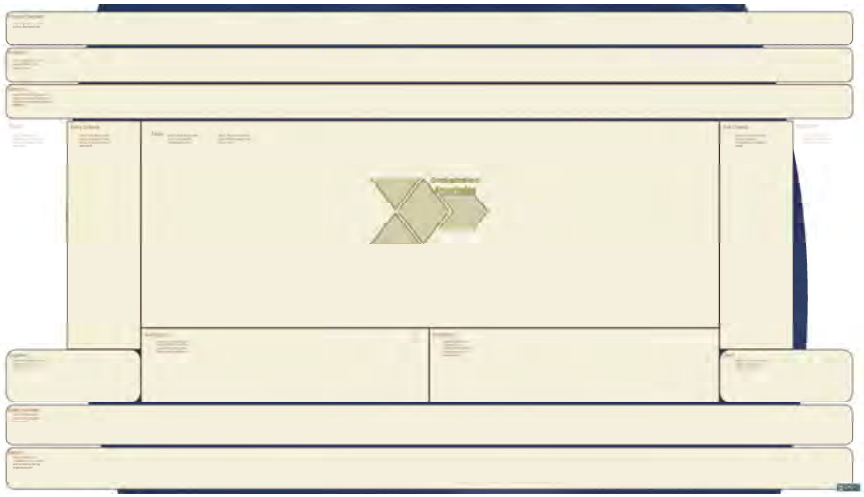
Ecosystems

Bringing everything together because everything impacts everything else

Society is an ecosystem, an office is an ecosystem, a product is an ecosystem, a service is an ecosystem

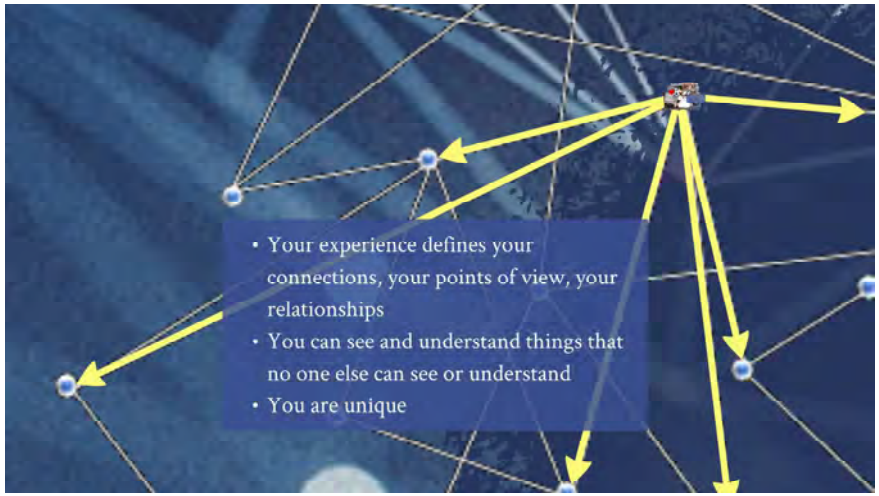
Every component depends on the whole

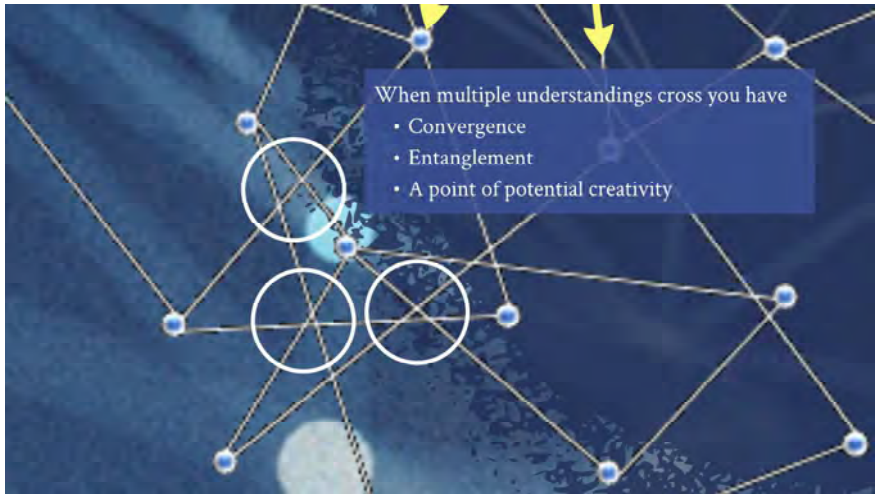


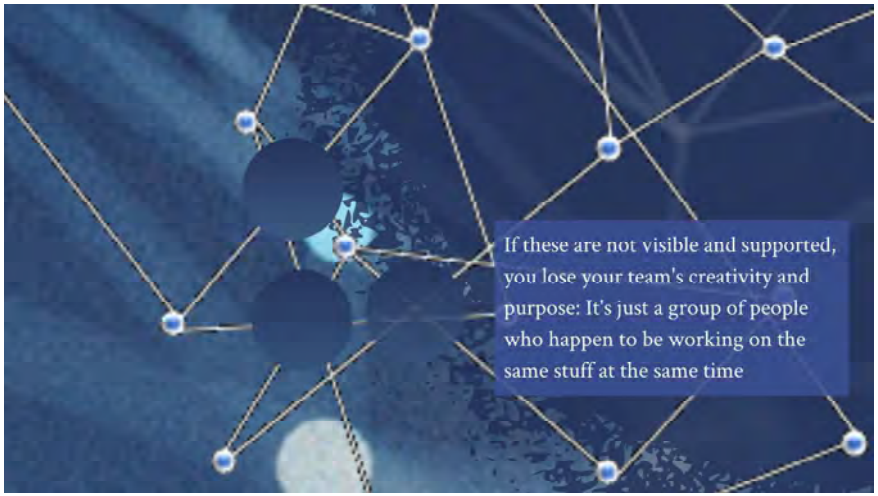


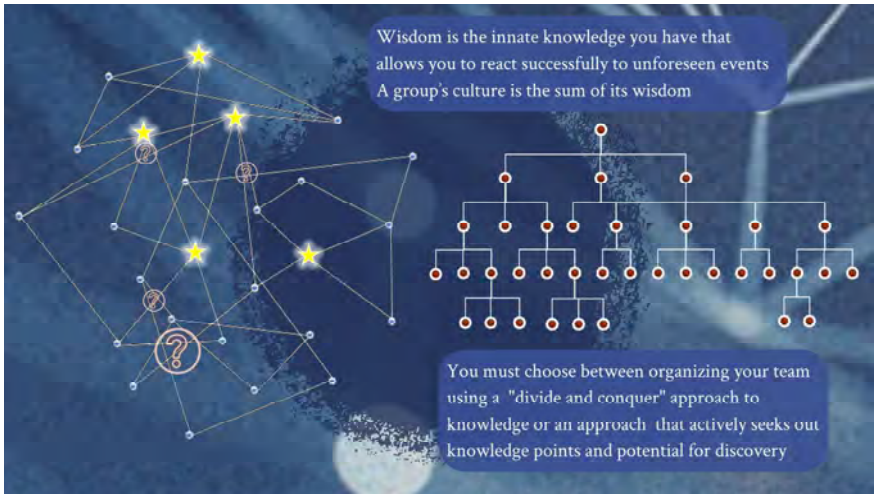
Structure
Culture is not individual
• Think of society not as a collection of individuals, but as a system
• We are defined by our relationships to others
• We are defined by our communication channels
• We are defined by our contacts
• We are defined by what we take away from our past

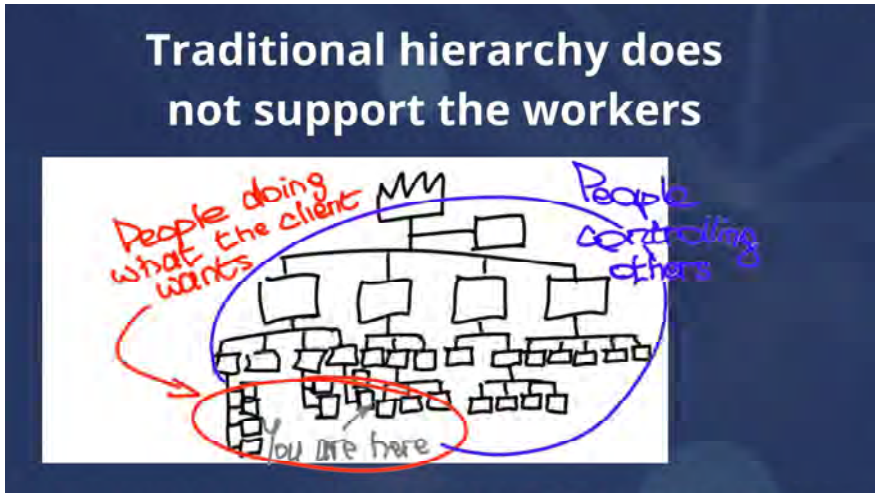
You are the unique combination of every experience you have had in life, your DNA and ancestry, your education, every book you have read, every trip you have taken, every tune you have heard

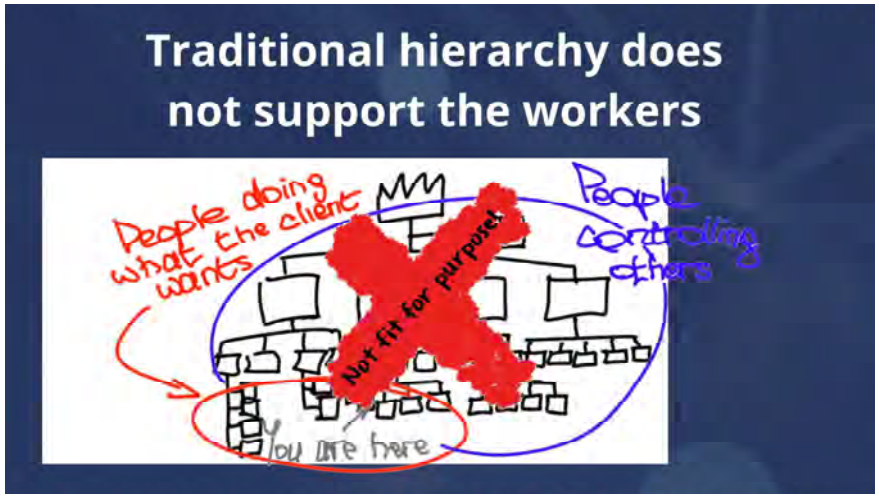

• Your experience defines your connections, your points of view, your relationships
• You can see and understand things that no one else can see or understand
• You are unique


When multiple understandings cross you have
• Convergence
• Entanglement
• A point of potential creativity


If these are not visible and supported, you lose your team's creativity and purpose: It's just a group of people who happen to be working on the same stuff at the same time


Wisdom is the innate knowledge you have that allows you to react successfully to unforeseen events
A group's culture is the sum of its wisdom
You must choose between organizing your team using a "divide and conquer" approach to knowledge or an approach that actively seeks out knowledge points and potential for discovery


Traditional hierarchy does not support the workers
People doing what the client wants
People controlling others
You are here


Traditional hierarchy does not support the workers
People doing what the client wants
People controlling others
Not fit for purpose!
You are here

Manage the Design You Want

Design your Business

Design the Culture

Design the Process

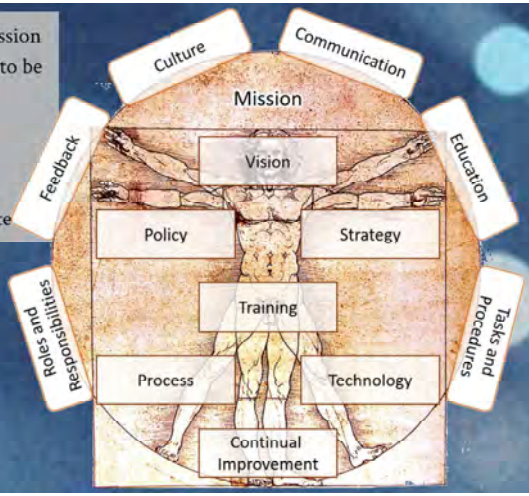
Design the Organization

The VQ Pattern for Management

The Key to Good Management

Because your mission statement needs to be

- Clear
- Coherent
- Consistent
- Continuous
- Communicate



The Key to Good Management

Your role is not to manage
Your role is not to measure
Your role is not to control
Your role is certainly not to bully
Your role is probably not to dictate
Your role is not even to motivate

Your role is to satisfy the innate desire people have to take pride in the value of their work

Lead

Inspire
Motivate
Educate
Guide
Support

Act at all times as if you were one of your team members and the customer is watching!

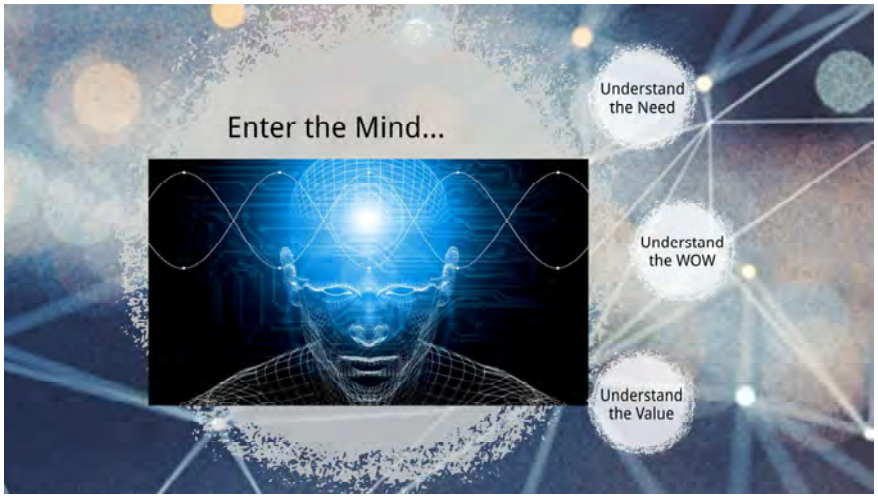
206.

Lead

Inspire
Motivate
Educate
Guide
Support

207.

208.



209.

210.

212.

Understand the Value

Estimate the value with (at least) the same rigour you use to estimate the cost

If the cost is greater than the value, it doesn't matter how cheap it is

If the value is greater than the cost, it doesn't matter how expensive it is

Manage the Value

- Communicate the long-term vision
- Integrate knowledge gain in the value stream
- Define stakeholders' needs and expectations
- Establish systems that allow to do it right
- Reduce the time to market
- Level scheduling and work-in-progress
- Reduce waste
- Sustain transformation

Plan for Value

Value is established, planned and designed in a top-down approach

Cost is measured and controlled in a bottom-up approach

bcs
The Chartered Institute for IT
Define, Design, Develop
Quality
Delivered
Peter Leeson
CQI
IRCA
https://www.Orchestrated-Knowledge.com
OrchestratedKnowledge@gmail.com
https://www.pleeson.co.uk
info@pleeson.co.uk
@PeterLeeson
Let's talk: calendly.com/Orchestrated-Knowledge
Orchestrated Knowledge
Why
What
Where
Who
How
How much
When
Let's have a chat

Financial Value is what someone is willing to pay for something
How much should we invest before we have a client?
Cost Vs Value

Cost and Value
There is a great difference between cost and value – most businesses focus too much on the cost and forget the value
What's the Difference?
Estimating the Cost
Estimating the Value

Cost
lotto
Your numbers
04 05 14 22 26 42
Value

Estimating the Cost

The cost is estimated by various techniques based on an educated guess

The result is dependent on experience and negotiation

0 ½ 1 2 3 5 8

13 20 40 100 ? ∞

Estimating the Value

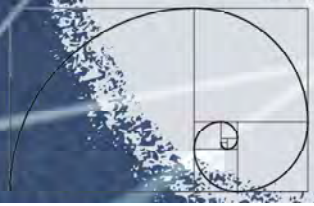
The Quality is the Value you add to your products and services

Quality needs to be determined and guided by the Cost of doing the work and the Price you can ask

Developing quality increases the cost

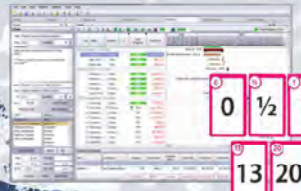
Quality increases the value

Value increases the price



Why Not?

The potential value (Quality to be developed) can be estimated using the same basic techniques as estimating the cost and effort required



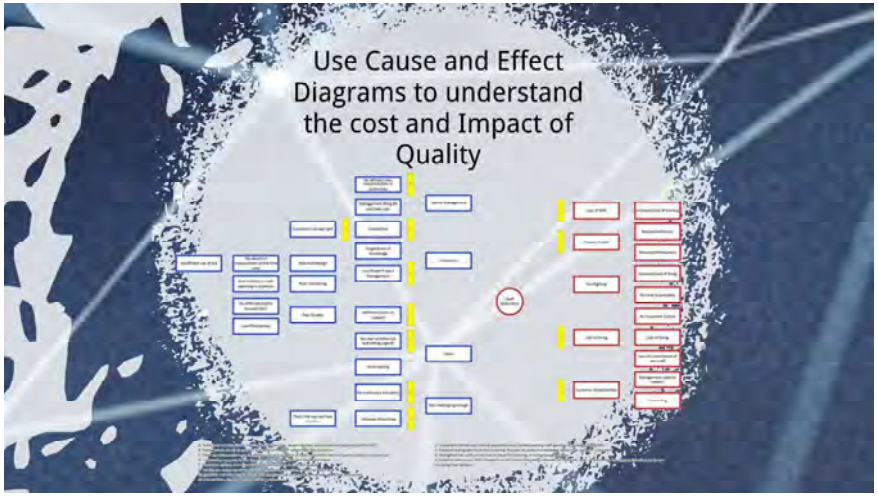
0 ½ 1 2 3 5 8

13 20 40 100 ? ∞

Business Value

Assign value points to:
- Portfolio
- Features
- Capabilities
- Business

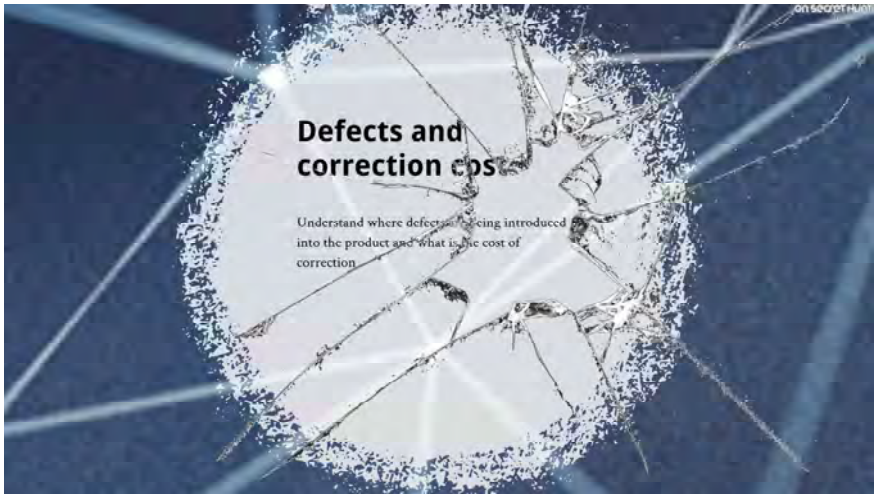
Different Businesses, different needs
Define the Quality needed by your clients using a business status matrix
- Start-up business
- Scalable business
- Mature business
- Declining business
Sales
Introduction
Growth
Maturity
Decline

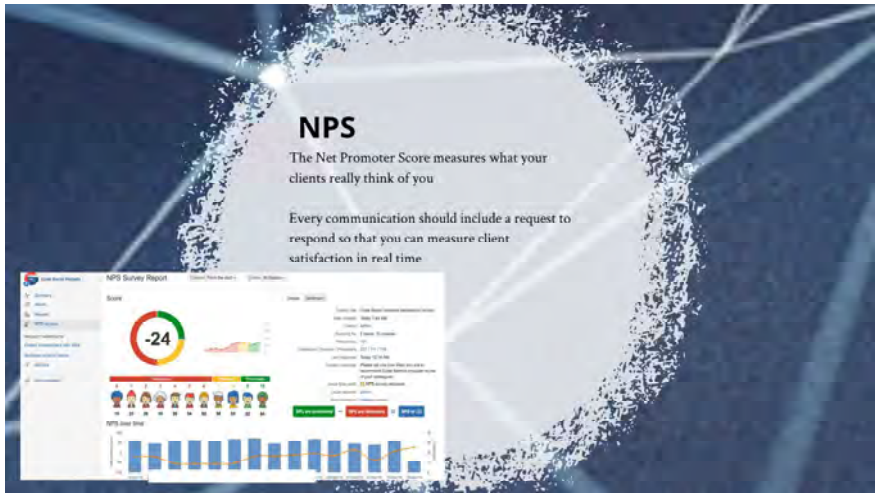

Use Cause and Effect Diagrams to understand the cost and Impact of Quality

Key Performance Indicators
What if you decide to measure quality instead of revenue?
What if you decide to measure value instead of cost?
What if you decide to measure performance instead of productivity?
Cost of Quality
Interruptions
Defects and correction cost
NPS
Employee Engagement

Cost of Quality
Project Cost
Cost of Quality
Cost of Performance
Cost of Conformance
Cost of Non-Conformance
Cost of Appraisal
Cost of Prevention
Reviews
System
Requirements
Design
Test plans
Test scripts
Walkthroughs
Testing (first time)
Independent V&V (first time)
Audits
Training
Policies, procedures, methods
Tools
Planning
Quality improvement projects
Data gathering and analysis
Root cause analysis
Quality reporting
Standards
Fixing defects
Reworking
Documents
Design
Updating code
Re-reviews
Re-test
Lab costs
Patches & Fixes
Internal
External
Engineering changes
Change control boards
External failures and fines
Customer support
Help desks
Generating plans
Documentation
Development
Requirements
Design
Code
Integration

Interruptions
Doing full-time work according to a schedule is the most productive way of doing an intellectual or creative job (like software development)
Each interruption, while giving the feeling of good team work, reduces the actual effectiveness of the team


Defects and correction cost
Understand where defects are being introduced into the product and what is the cost of correction


NPS
The Net Promoter Score measures what your clients really think of you
Every communication should include a request to respond so that you can measure client satisfaction in real time
NPS Survey Report
-24

Employee Engagement
Monitor employee engagement in real time and continuously
Get rid of annual reviews
Please place your impression in the triangle

In Conclusion...
Estimating and measuring Quality is not more difficult than estimating and measuring delays and cost
...if you define what you mean by Quality!
Quality?