Vitruvian Quality
Establishing a Culture of Quality
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Evolving Work Practices
The Basics of Engineering

The Mature Approach

1. Envision
2. Plan
3. Work
4. Measure
5. Improve
6. Discover
7. Opportunity
8. Unexpected
A United Approach

The Four Quadrants of the Human Brain

- Limbic
- Cerebral

Left Brain
- Logic
- Known
- Memory
- Past

Right Brain
- Emotions
- Unknown
- Imagination
- Future
Between stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom.

Viktor E Frankl “Man’s Search for Meaning”
The Manager’s Role

- Your role is not to manage
- Your role is certainly not to bully
- Your role is not to dictate how to do things
- 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!**
**Business Management**

*A fishy story about success*

- The Anchovy is small, fast and agile
- It can swim fast, do its own thing, change directions extremely rapidly
- It can decide to be independent or join a school
- They must group into schools for protection against predators if they want to survive
Sharks are large and powerful.
- Feared ruler of their kingdom
- They are slow and inflexible
- They must continue moving forward 24/7 to survive
- Usually solitary, only one type of shark hunts as a group.
Anchovy, Shark and Octopus

The Octopus

Management Principles
Principles, Styles, Failures
Most Organizations End Up As...

People doing what the client wants

People controlling others

You are here

It's Time to Change That!

X

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Why?

- Promotion replaces performance as the measure of personal success
- Valuable engineers are promoted to inefficient managers
- People learn to obey the rules instead of implementing the needs of the business
- The effort to reduce the cost of development is countered by the cost of the overhead
- Compliance to average is important; trying something new to improve is discouraged

Whole Brain Engineering and Management

1. Envision
2. Plan
3. Work
4. Measure
5. Improve
6. Discover
The Managed Approach

1. Envision
2. Plan
3. Work
4. Measure

What to Measure, how to measure?
- Taylor’s “Scientific Management” stresses the need to measure
- Management focus on easy to measure:
  - Time
  - Cost
- Ignores the things that are difficult to measure:
  - Quality
  - Innovation
  - Improvement
The Bell-Curve Tyranny

- Don't think
- Don't change anything
- Follow every step to the letter
- Stay in the bell-curve

If you do every step as told, you will deliver what was requested.

You were hired because you were intelligent, you are not paid to be intelligent.
- No inner life
- No empathy
- No understanding of life

Zombingineers

http://ilovegamereviews.blogspot.com/2013/05/resident-evil-revelations-tips-and.html

Vitruvian Quality

- Flat structures
- Shifting boundaries: the organization is a living system
- People are considered as assets rather than resources
- Deal with complexity, uncertainty and ambiguity
- Does not rely on formalized structures
  - Organizational structures coalesce for specific projects
  - Symbiotic relationships
That Means Empowering Teams

So, give them the power to be empowered!

Cell-Based Organization
What is a Cell?
- A team of people working together
- Meeting on an ongoing basis
- Solving their own problems
- Making their own decisions
- Membership based on interest
- Rotating membership
- Focus on solving issues and organizing work

What is a Cell? A Self-Governing, Focused Team!

People and Teams
- Roles
- Responsibilities
- Authority
- Career Plan
- Training
- Objectives

Strategy and Finance
Introducing Marcus Vitruvius Pollio (maybe)

- Born about 70 or 80 BCE; died after 15 CE?
- Maybe not called Pollio
  - Perhaps actually called Lucius Vitruvius Cordo
  - Or just Mamurra
- Possibly looked something like this picture (probably not)
- Considered the father of architecture, but only one known building: the basilica at Fano (destroyed without a trace)
**The Ideal Proportions**

- "Architecture is an imitation of nature. As birds and bees built their nests, so humans constructed housing from natural materials, that gave them shelter against the elements."

- Vitruvius described the human figure as being the principal source of proportion:
  - "Just so the parts of temples should correspond with each other and with the whole. The navel is naturally placed in the centre of the human body, and, if in a man lying with his face upward, and his hands and feet extended, from his navel as the centre, a circle be described, it will touch his fingers and toes. It is not alone by a circle, that the human body is thus circumscribed, as may be seen by placing it within a square. For measuring from the feet to the crown of the head, and then across the arms fully extended, we find the latter measure equal to the former; so that lines at right angles to each other, enclosing the figure, will form a square."

**3 Key Principles**

- Every structure needs to respect 3 key principles
  - **Firmitatis**
    - Stability
    - Your product, your structure needs to be stable, resist winds and rain and not fall over when bad times come
  - **Utilitatis**
    - Usefulness
    - Your product, your structure needs to be useful, provide value to the people who will be using it
  - **Venustatis**
    - Beauty
    - Your product, your structure needs to be attractive, desirable, admirable

- Too frequently, we forget that the Quality of your product, your structure must always be a combination of these three principles.
Text influenced deeply from the Early Renaissance onwards artists, thinkers, and architects, including:

- Leon Battista Alberti (1404–1472)
- Leonardo da Vinci (1452–1519)
- Michelangelo (1475–1564)

Patterns originated as an architectural concept by Christopher Alexander (1977/78)

“A Pattern Language” is said to have inspired “Design Patterns: Elements of Reusable Object-Oriented Software” published in 1994 by the so-called “Gang of Four”
Purpose

- Make it easier to make complex products
  - Repeatedly
  - Predictability
  - Reliably

Concepts

- Reusable
- Simple
- Building blocks
- Decomposition of complex products

Sample Patterns

- IT Patterns
  - Layered
  - Client-Server
  - Master-Slave
  - Pipe-filter
  - Broker
  - Peer-to-Peer
  - Event-Bus
  - Model-View-Controller
  - Blackboard
  - Interpreter
A Management Pattern

- Business Quality and Structure are a complex series of communications
- These need to be kept aligned
- These need to manage the business from long-term vision to daily tasks
- The high-level concept of quality needs to be structured at a human level:
  - You need to understand how your task adds quality to your client’s life
**Vitruvian Quality**

- Squaring the circle of Quality
- The square represents basic management concepts
- The circle represents the cultural concepts

**Focus**

- Because your mission statement needs to be
  - Clear
  - Coherent
  - Consistent
  - Continuous
  - Communicated

Get your docs in a row!
Dimensions regulate the general scale of the work, so that the parts may all tell and be effective.

Make your vision something that people understand in practical terms of cost and results.

Start by making sure you understand the purpose of your organisation.

It’s not just to please clients.

It’s not just to make money.

You are trying to make a difference in the world: define that difference.

What is your reason for existing?
Typically an organisation needs two vision statements

- The commercial vision statement establishes the reason for the business and sets out why you would want to visit us rather than our competitors.
- The internal vision statement is probably more important and establishes why staff would want to work here and stay here in the future.

Why would someone want to work with you in 5, 10, 20 years?

The policy defines why something needs to be done.

- The policy is applicable to everyone in the organisation including senior management; it comes from the top and is respected at every level.
- Policies are in place for many years.
- The policy does not define how things are done but establish basic cultural expectations:
  - Work ethics
  - Dress codes
  - Absences and holiday
  - Environmental rules
  - Etc.
- The company policy is not attached to projects, products or people.
- Policies may be implemented in teams, they complete and respect the top policy.
The strategy translates the vision and policy into tangible results: if the vision was to become reality, what would be noticed by the people impacted, what benefit would come from achieving the vision.

The strategy determines the priorities for implementing the vision and overcoming the risks and issues.

Technology is the combination of tools, including hardware and templates used.

Technology works with the process to support the people.

Technologies are only purchased or implemented after:
- Analysis and study
- A detailed understanding of:
  - how they fit into the organisation
  - the role they are supposed to fulfil
- Needed professional assistance in setting them up efficiently.
Processes implement the policies
Processes are there to support the people doing the work
The processes establish
- Clear measurable objectives and outcomes
- High-level flows of data and information
A process is defined in such a way that a change in technology or training does not impact it
The process defines what needs to be done

Training is at the centre of gravity of the business
Training is needed to stay fresh, learn new techniques, understand new possibilities
Without training, you may be applying techniques and solutions that are out of date and inefficient
The purpose is to instruct people on
- how to use technology
- apply procedures
- use a tool efficiently
It involves showing the usage and the results so that they can rapidly get into standard working practices
Continual Improvement

- Continual Improvement is the basis that allows future efficiency.
- Ensuring that the previous elements are in place allows employees to identify more effective approaches to using the technology and processes to achieve the vision.

Roles and Responsibilities

- Roles and responsibilities are frequently forgotten.
- Identify, define and communicate each individual’s role, responsibility, authority.
- Career path, skills progression.
- It is critical for people to understand how they fit into the organisation.

The right person for the right job.
Feedback is critical for quality improvement.

Feedback needs to be:
- Justified
- Quick
- Frequent
- Positive
- Constructive

Yearly performance reviews are confrontational, demotivating and counter-productive.

The culture is the attitude staff display when no one is around; it covers what staff believe to be “natural”, “normal” and “obvious”.

A culture review is when an independent (objective) person to conduct a confidential review.

Culture and culture change can be tested through an “astonishment report” by recent joiners.

Organisation values are critically linked to the culture.
Free-flow of communication needs to be facilitated and structured.

Bottom-up: employees can contact top management when necessary, but will prefer to respect the "chain of commandment."

Top-down: employees are informed and understand management's objectives, trust in the state of the business.

Sideways: no one is overwhelmed with pointless communications, but knows what, when and where to find the data they need.

Training is learning to follow steps, education is learning why steps are necessary and where they are leading.

Education means that everyone understands what is really critical and focuses on that:
- Client satisfaction
- Keeping costs down
- Developing new products
- ...
Tasks and Procedures

- Everyone understands how the tasks they are doing, the procedures they must follow fit into the overall picture.
- Tasks and procedures are understood in their relative importance to the overall business.

Every activity forwards the mission.

Vitruvian Quality

- Dimensions regulate the general scale of the work, so that the parts may all tell and be effective.

(Vitruvius)
Fractal Management
Every component is dependent on the whole

Strange Loops
- Combining a Vitruvian Quality Structure with Fractal Processes creates a solid environment in which people will deliver quality most efficiently
- Every activity should be the reflection of a complete project:
  - Analyse what you are required to do
  - Determine the best approach
  - Plan what resources you need
  - Estimate how long it will take
  - Do the work
  - Monitor progress
  - Record the time it took
Conclusions

Be a Full-Brain Organisation

1. Envision
2. Plan
3. Work
4. Measure
5. Improve
6. Discover
7. Influence
8. Unpredict
9. Prepare
10. Execute
Satisfy the innate desire people have to take pride in the value of their work.

Be A Proud Organisation

Data
Numbers and Words representing objects, events and properties

Information
Containing in answers to questions of who, what, where, when and how many: it is processed data

Knowledge
Containing in instructions, know-how. You might think of it as organized information

Understanding
Containing in answers to why questions

Wisdom
Being able to recognise and judge long-term possible consequences

According to Ackoff, Russell L. (1999)
Oxford: Oxford University Press

Anchovy, Shark and Octopus
Be A Coherent Organisation

- Every worker needs to believe in your organizational mission
- Every worker needs to believe that their daily activities forward the organizational mission
- Every worker needs to take pride in their work and the results of your organization

Get your docs in a row!

Any Questions?

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Additional Reading

- Matthew Syed: *Rebel Ideas*
- W. Edwards Deming: *Out of the Crisis*
- Reed Hastings & Erin Meyer: *No Rules Rules*
- Jerry Z. Muller: *The Tyranny of Metrics*

More Additional Reading

- Peter Leeson: *Introduction to ISO 45001*
- Peter Leeson: *Health and Safety Without Going Mad*
- Peter Leeson: *Orchestrated Knowledge*

For more information, visit [www.isbn.net](https://www.isbn.net).