

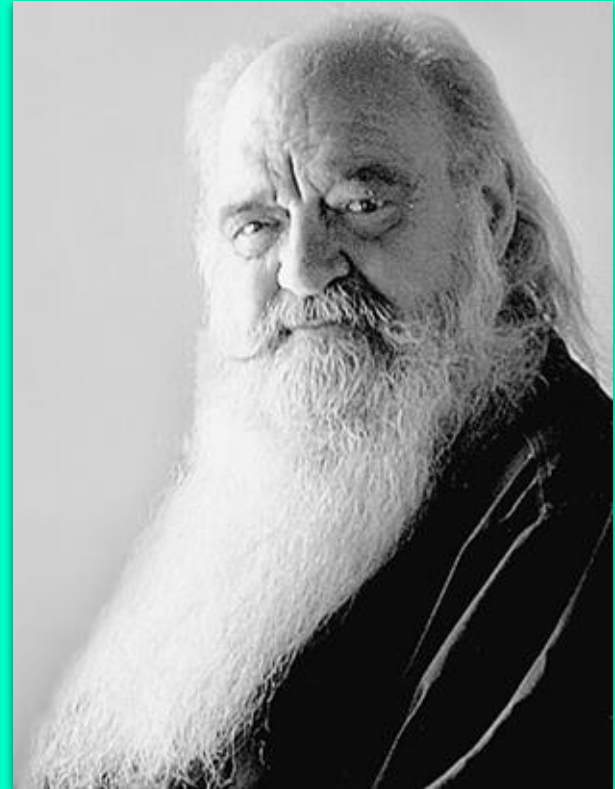
Viabile System Model

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Background

- Operational Researcher and Cybernetician
- Head of the Department of Operational Research and Cybernetics for United Steel
- Founder of Management Cybernetics
 - “The science of effective organization”
- Author of *Brain of the Firm* and *The Heart of the Enterprise*

Stafford Beer



<https://squiretothegiants.files.wordpress.com/2015/12/stafford-beer.jpeg>

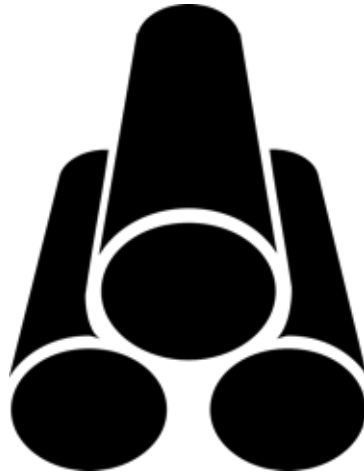
History

- Developed in 1950s
 - ❖ Tool for dealing with organizational structure issues
- Idea of viable systems originated from the human body
 - ❖ Neuro-physiological terminology
 - ❖ Organisation is a neural network that co-evolves with the environment
- Model presented in graphic representations

The 4 M's



http://cdn.onlinewebfonts.com/svg/img_453915.png



http://cdn.onlinewebfonts.com/svg/img_89575.png



<https://www.shareicon.net/tag/machinery?p=3>



https://cdn4.iconfinder.com/data/icons/aiga-symbol-signs/441/aiga_cashier-512.png

Purpose of the Viable System Model

- Develop viability based on universal invariances
- Meta-language facilitating autonomy in social groups
- Encourage self-transformation in organizations
- Sustainability in businesses and communities
 - Ability to learn, adapt and evolve

Variety



A way to measure complexity.

“The number of *possible states* of a system.”

What is a Viable system / viable system

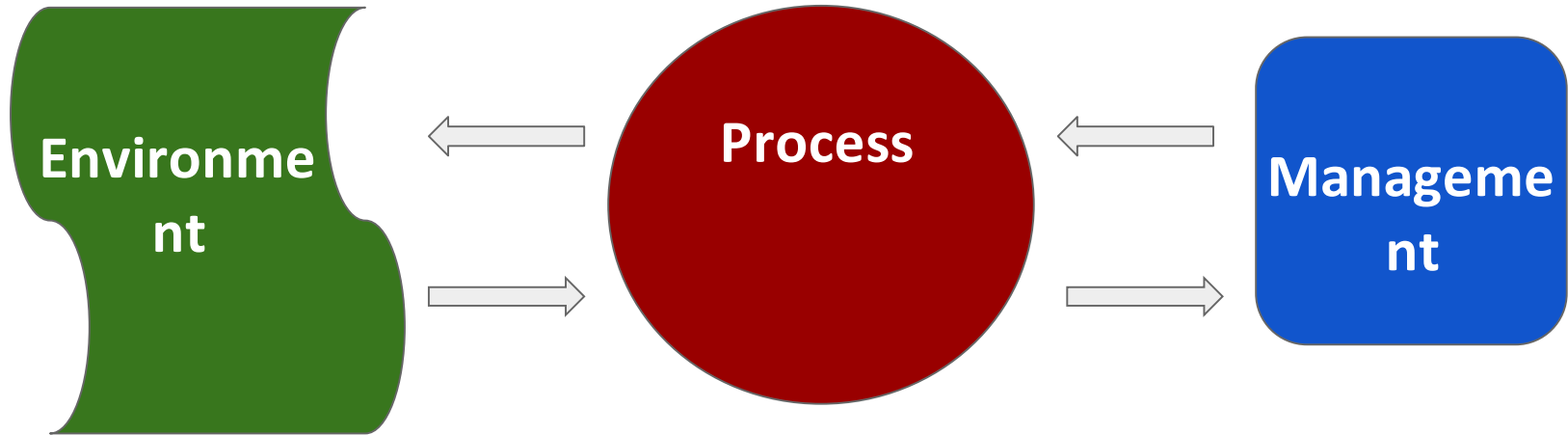


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Main elements of an organisational system

- 3 main elements
 - Operations - development of production and services
 - Environment
 - Meta-systemic management

Environment, Process and Management



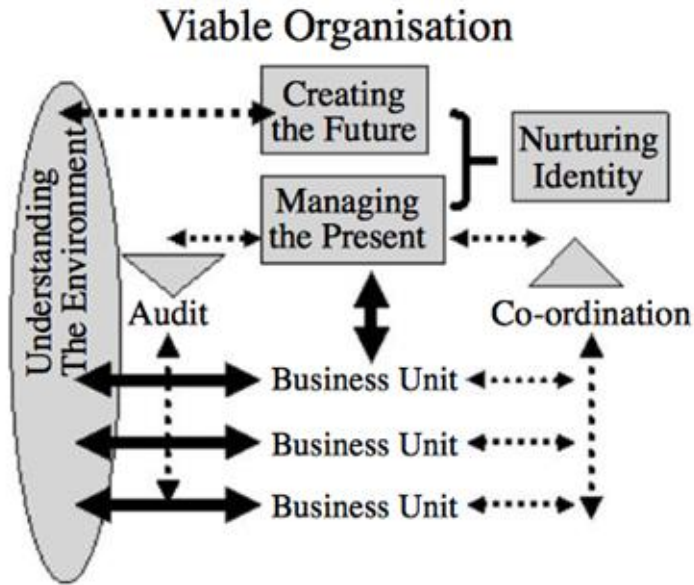
Major Components of VSM

5
management
functions

7 vertical
communication
channels

Horizontal
communication
channels
connecting to
the
environment

VSM stripped to the bare bones



Adams, Denis, and Doug Haynes. 2007.

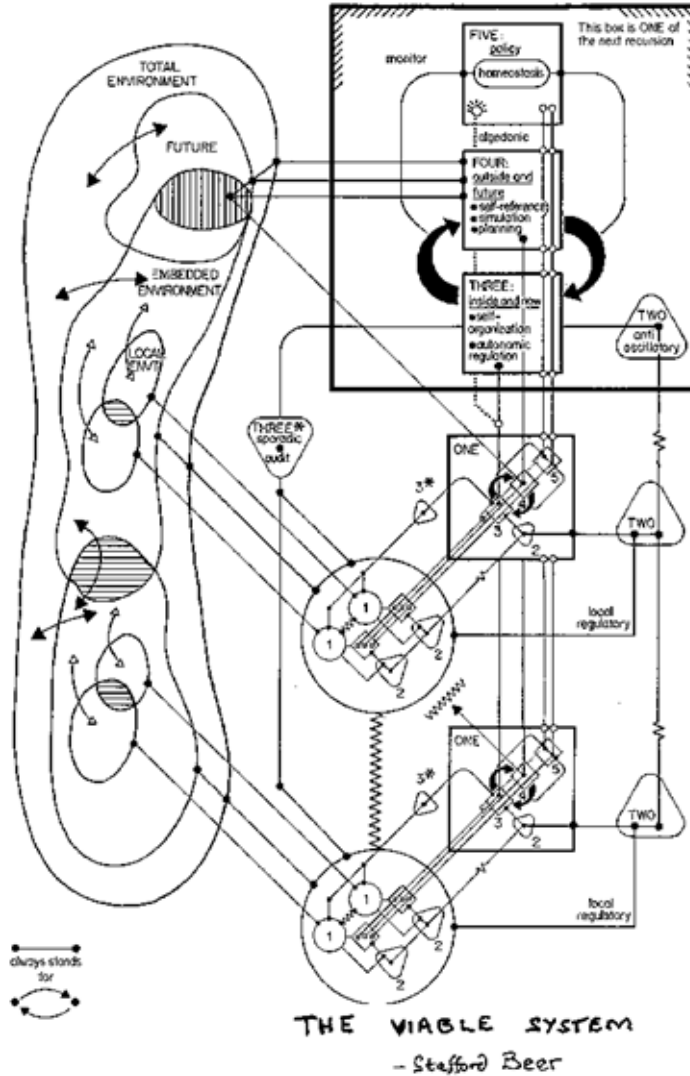
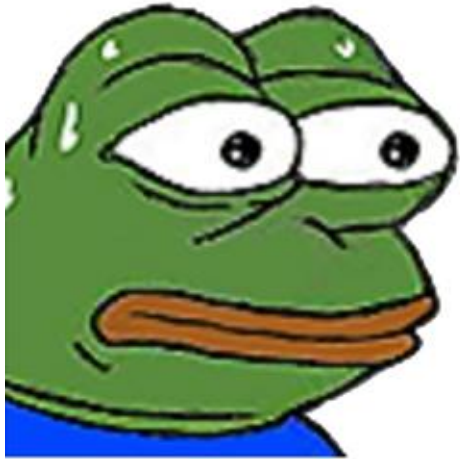
- 5 subsystems
 - System 1 - management of production of goods or services
 - System 2 - coordinates multiple system 1s
 - anti-oscillation
 - System 3 - management of operations
 - System 3* - audit and monitoring
 - System 4 - long term management
 - System 5 - normative management

VSM can seem quite overwhelming...

Don't Worry...

We'll dissect it together...

Full VSM model



<https://ih1.redbubble.net/image.409411034.4197/flat,900x900,070,f.u1.jpg>

<http://www.ecotopia.com/images/vsmbig.gif>

Activity

**Match the example with its
appropriate subsystem**

Recap

- 5 subsystems
 - System 1 - management of production of goods or services
 - System 2 - coordinates multiple system 1s
 - anti-oscillation
 - System 3- management of operations
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Activity

Why is it used?

- Used as a mapping tool to understand/diagnose weaknesses in systems and design organizations
- Encourage the management of change
- Helps design adaptable systems:
 - External and internal perspectives
 - Long term and short term thinking
- Follows universal concepts and can be used across the world

Where is it used?

- ❖ **Businesses**
- ❖ **Communities**
- ❖ **Ecological management**
- ❖ **Sustainability**
- ❖ **Government**
- ❖ **Local planning and regional development**
- ❖ **Creation of viable economic and social systems**
- ❖ **Care of resources**
- ❖ **Design for healthcare and education**
- ❖ **Issues of conflict and peace**
- ❖ **Architecture**
- ❖ **Social planning**
- ❖ **Biological systems**
- ❖ **Conflict resolution**
- ❖ **Consciousness research**
- ❖ **Music**

Criticisms & Possible Limitations

- ❖ Need a facilitator or someone with VSM knowledge
- ❖ Lack of testable results
- ❖ Ideas are not easy to grasp
- ❖ People are the basic element
 - People have free will
- ❖ Inheritance of acquired characteristics
- ❖ Hierarchy

Benefits of the Model

- Enormous diagnostic power
- Demonstrates complexity of interactions
- Accounts for variety
- Used across many countries
- Scalable

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Questions?