An Introduction to Managerial Cybernetics
What is Cybernetics?

“Control and Communication in the Animal and the Machine”  
(Norbert Wiener, 1947)

What is Managerial Cybernetics?

“The science of effective organization”  (Stafford Beer, 1959)

What is Managerial Cybernetics for integra?

“The branch of management science that studies the structural, informational and human aspects of any organization as an integrated whole”

Beckford & Dudley, 1998
Managerial Cybernetics

- Studies organizations as whole systems
- Actively seeks to release human potential
- Enables real-time performance management
- Drives sustainable organizational effectiveness
Addresses this fundamental question:

• How can any organization become more successful by making better use of all resources through?
  – structural innovation
  – redesigning processes
  – utilising knowledge and skills
  – reducing bureaucracy
  – improving use of information
  – improving decision making
  – managing performance
The Basic Cybernetic Model

Inputs → Comparator → Process or Operation → Detector → Outputs

Comparator

Effector

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Complexity in the organizational environment
in the organization itself
in behaviour of customers and employees

Adaptation the ability to change
the need for control
the need for organizational learning

Structure the processes
the people
the information
the interactions which lead to decisions
A Cybernetic organization has:

- a bit for doing things

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A Cybernetic organization has:

- a local environment to do them in
- a bit for doing things
A Cybernetic organization has:

- a local environment to do them in
- a bit for doing things
- wider environment
A Cybernetic organization has:

- a bit for doing things
- a bit for studying the wider environment
- a local environment to do them in
- wider environment
A Cybernetic organization has:

- A bit for doing things
- A bit for studying the wider environment
- A value set
- A local environment to do them in
- A wider environment
A Cybernetic organization has:

- A local environment to do them in
- A bit for doing things
- An information system to enable decision making
- A value set
- A bit for studying the wider environment
- A wider environment
In order that:
In order that:

Environmental complexity is kept to a minimum
In order that:

Environmental complexity is kept to a minimum

Complexity is kept where it is created

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In order that:

Environmental complexity is kept to a minimum

The information system handles performance and resource data

Complexity is kept where it is created
In order that:

Environmental complexity is kept to a minimum

The information system handles performance and resource data

Which means that this function can manage “whole organization” outputs “day-to-day”

Complexity is kept where it is created

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In order that:

Environmental complexity is kept to a minimum

This function analyzes the effect of the wider environment on the organization as a whole

Which means that this function can manage “whole organization” outputs “day-to-day”

The information system handles performance and resource data

Complexity is kept where it is created

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In order that:

Environmental complexity is kept to a minimum

This function analyzes the effect of the wider environment on the organization as a whole

Which means that this function can manage “whole organization” outputs “day-to-day”

And this function holds the value set

The information system handles performance and resource data

Complexity is kept where it is created

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So that:
So that:

This *trialogue* forms the basis for organizational decision making.
Because:
Because:

Low-level operational complexity is filtered out here ...
Irrelevant *environmental complexity* is filtered out here ...

Because:

Low-level *operational complexity* is filtered out here ...
Because:

Irrelevant *environmental complexity* is filtered out here ...

Low-level *operational complexity* is filtered out here ...

By the application of the "value set" held here