

Systems Thinking:

What Is It, and How Can I Do It?

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Systems Thinking: A (fairly) new concept?

“The whole is more
than the sum of its parts.”

What is a system?

A set of elements standing in interrelation among themselves and with the environment.

What are examples of systems?

Cell

Organ

Organism

Group (Team/Process/Department)

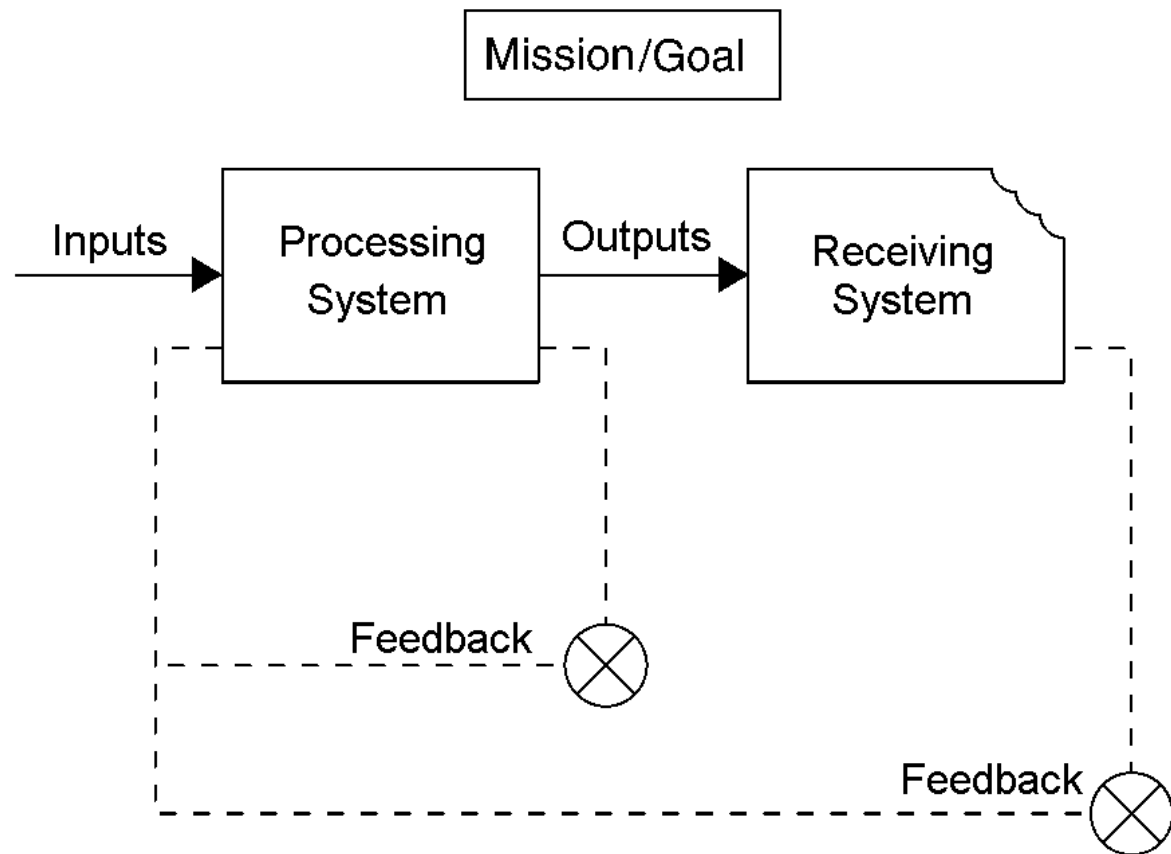
Organization

Nation

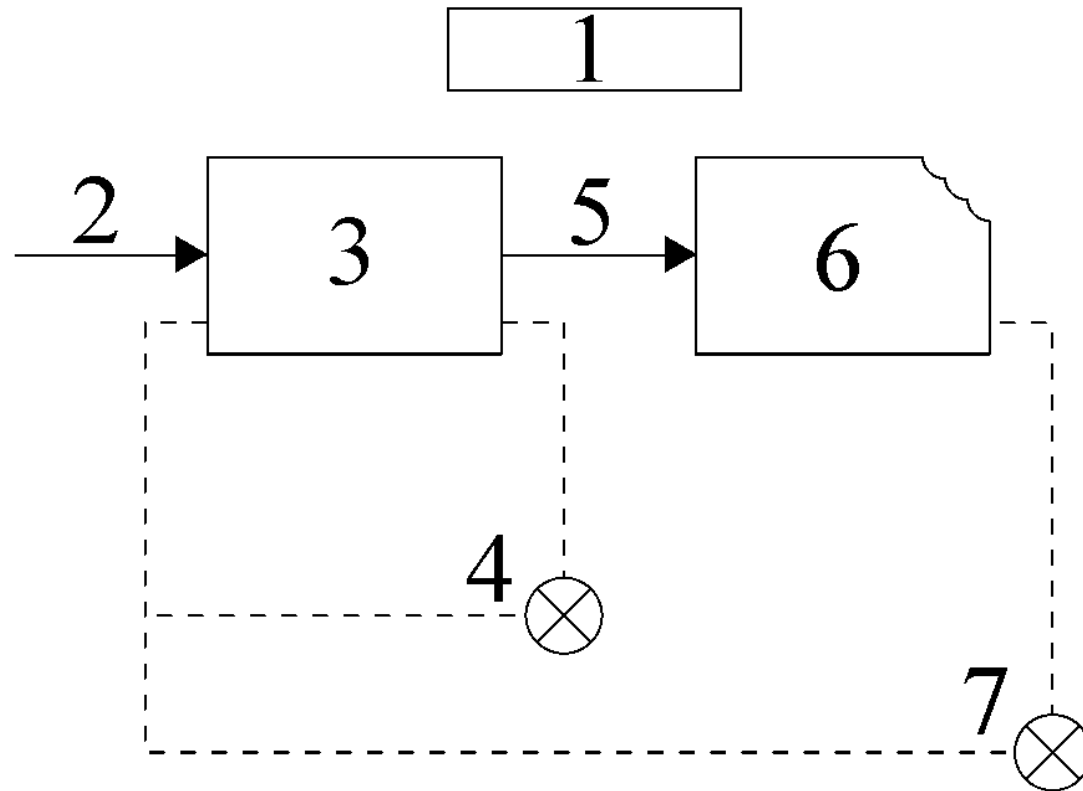
Supranational Systems

How can we conceptualize a performance system?

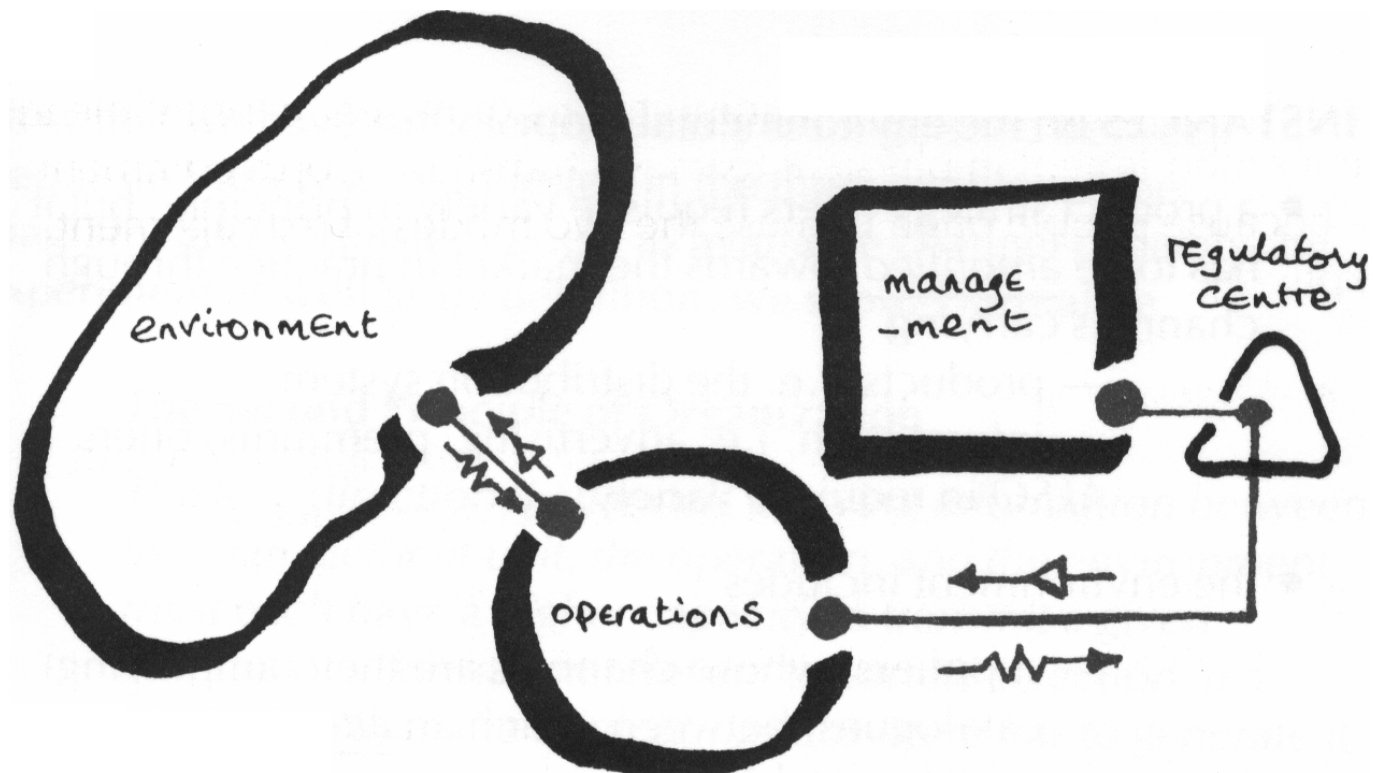
Total
Performance
System (TPS)
(Brethower, 1972)



Why does the TPS have only seven elements?



Stafford Beer *The Viable System*

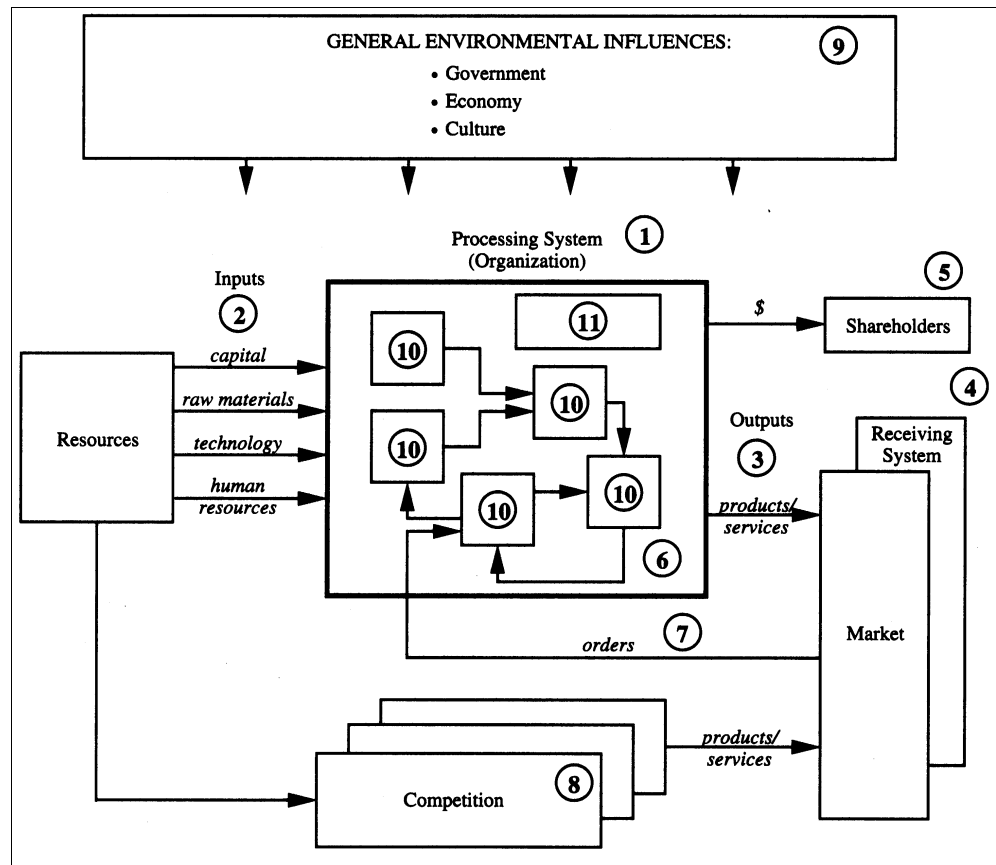


Tom Gilbert

The Performance Matrix



Geary Rummler *The Super System*



Don Tosti

The Organizational Scan

	Inputs	Conditions	Process	Outcomes	Receivers
Organization	Strategy	Structure	Systems	Organizational Results	Company Needs
People	Culture	Climate/ Practices	Performance Requirements	Feedback/ Motivation	Customer Needs
Work	Demand/ Objectives	Environment/ Resources	Methods	Product/ Services	Employee Needs

What is the most important element in a system?

For the systems thinker all systems elements are equally important.

If any one of the system elements is not linked to all other elements, then the entire system cannot perform optimally.

Why is Systems Thinking important for OBM?

System thinking is about making connections:

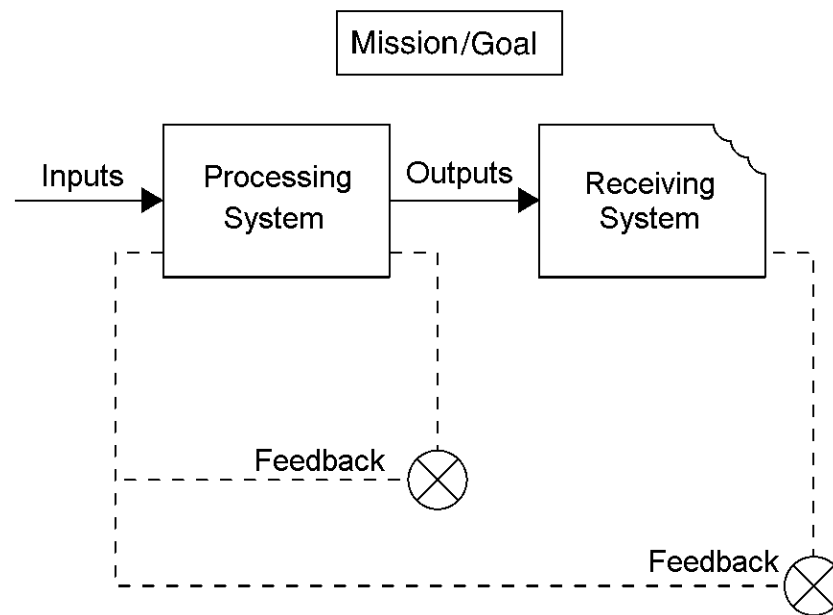
Between system elements

Between systems and their subsystems

We use systems thinking to work
effectively and efficiently

Systems Thinking: A big gun for the big stuff?

Organization Key Processes Performer



Behavioral Systems Thinking

“What distinguishes behavioral systems analysis from any other systems analysis is not just that it deals with systems of human behavior, but also that a good practitioner is uniquely sensitive to the crucial role . . . human performance plays in . . . organizations to accomplish their goals.”

Malott, Vunovich, Boettcher, & Groeger (1995)

What are some Systems Thinking tools?

- Systems Thinking Models (e.g., TPS)
- Behavior Engineering Model (Gilbert, 1996)
- Human Performance System (Rummler, 1995)
- Performance Matrix (Gilbert, 1996)
- Relationship Map (Rummler, 1995)

BUT:
Thinking systems is not enough!

We must also act systemically in
improving and managing performance

Dale and I call this action
”Systems Doing”

What are some Systems Doing tools?

Goal/Mission

- ACORN Test (Gilbert, 1996)
 - Goal setting (Kaufman, 1998)
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Input

- Front-End Analysis (Harless, 1997)
 - Needs Assessment Audit (Kaufman, 1998)
 - Performance Audit (Gilbert, 1996)
-

Processing System

- "Is" and "Should" Process Maps (Runmler & Brache, 1995)
 - Job Responsibility Matrix, Job Model
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Feedback Loops

- Dimensions of Performance (Gilbert, 1996)
 - Performance Matrix (Daniels, 1989)
 - Performance Scorecard (Abernathy, 1996)
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Receiving System

- Market Research
 - Stakeholder Analysis
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What is some empirical evidence?

	Systems Tools	Results
Esque and McCausland ('97)	<ul style="list-style-type: none"> Processing System revised based on newly installed Receiving System Feedback 	<ul style="list-style-type: none"> Increased productivity for several depts. One process saved \$20 million in 1 year
Esque (1998)	<ul style="list-style-type: none"> Determined crucial Processing System Feedback 	<ul style="list-style-type: none"> Inventory turns increased Plant was not shut down
Gilbert (1998)	<ul style="list-style-type: none"> Performance-based instruction 	<ul style="list-style-type: none"> Training time shortened from 4 to 1 week Direct savings of over \$3 million
Godbey and White (1992)	<ul style="list-style-type: none"> Processing System Feedback Receiving System Feedback 	<ul style="list-style-type: none"> Success set stage for further performance interventions in judicial environment
Johann and Patterson (1998)	<ul style="list-style-type: none"> Process maps Accomplishment-based training for 17,000 	<ul style="list-style-type: none"> Document approval time reduced from 21 to 2 days
Komaki (1998)	<ul style="list-style-type: none"> Processing System Feedback Receiving System Feedback 	<ul style="list-style-type: none"> Detection of defective equipment increased Deficiencies decreased
LaFleur and Brethower (1998)	<ul style="list-style-type: none"> Relationship Map Total Performance System diagram 	<ul style="list-style-type: none"> Business profits increased Employee satisfaction improved
Panza (1998)	<ul style="list-style-type: none"> Relationship/process maps, job roles matrix Three-level performance analysis 	<ul style="list-style-type: none"> Customer complaints reduced by 50% Revenue increased

Does Systems Thinking mean that . . . ?

- . . . you have to become an expert in all elements of a total performance system?
- . . . you must use different systems thinking models?
- . . . you will be a better practitioner?

Systems Thinking (and Systems Doing)

THINK SYSTEMICALLY,
WORK SYSTEMATICALLY.

(Stolovitch, Keeps, & Rodrigue, 1997)