

A close-up photograph of a sunflower with bright yellow petals and a dark brown center, set against a blurred background of other sunflowers. The image is used as a background for the presentation slide.

Building a Flywheel with an IT Leadership Team

Using Vester's Sensitivity Model to Improve IT Application
Cost Dynamics and Build Organisational Momentum

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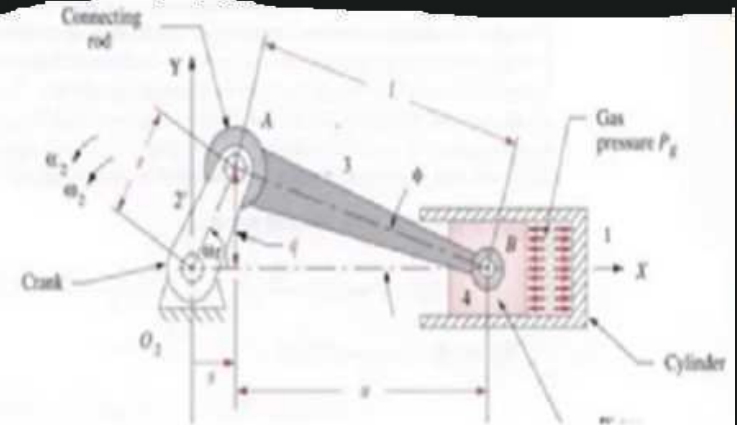
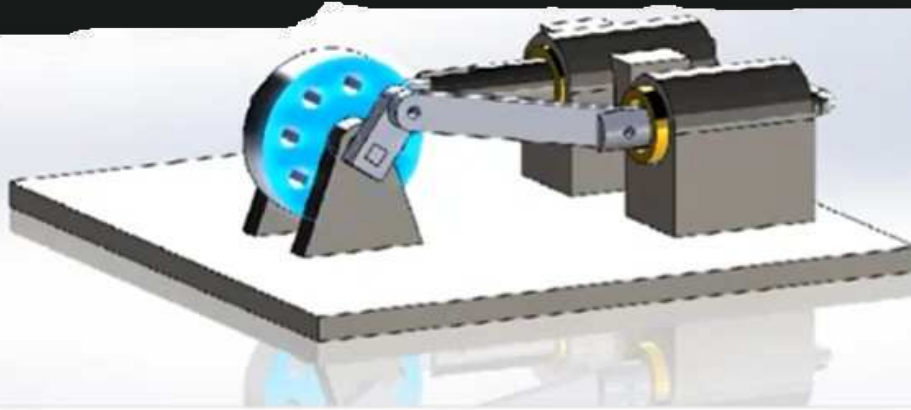
Milton Keynes, England
SysPrac25
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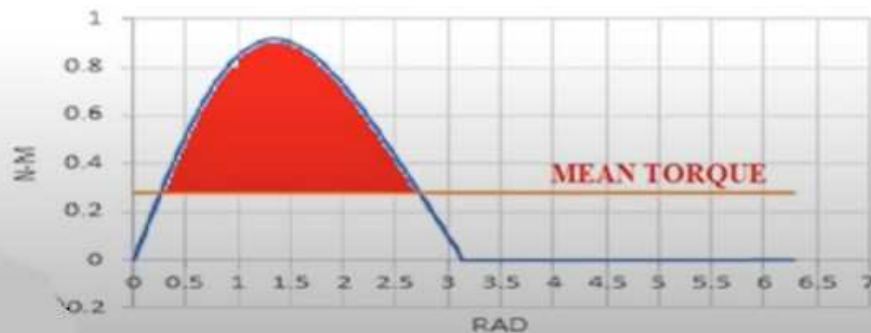
Why IT Needs Momentum

- Complexity, cost pressure, and service expectations make IT leadership difficult.
- Self-reinforcing systems help teams stay focused and efficient.

The Flywheel Concept



TURNING MOMENT DIAGRAM



$$T = F_g r \sin(\omega t) \left(1 + \frac{r}{l} \cos(\omega t)\right)$$

$$\Delta E = I \omega^2 C_s = m k^2 \omega^2 C_s$$

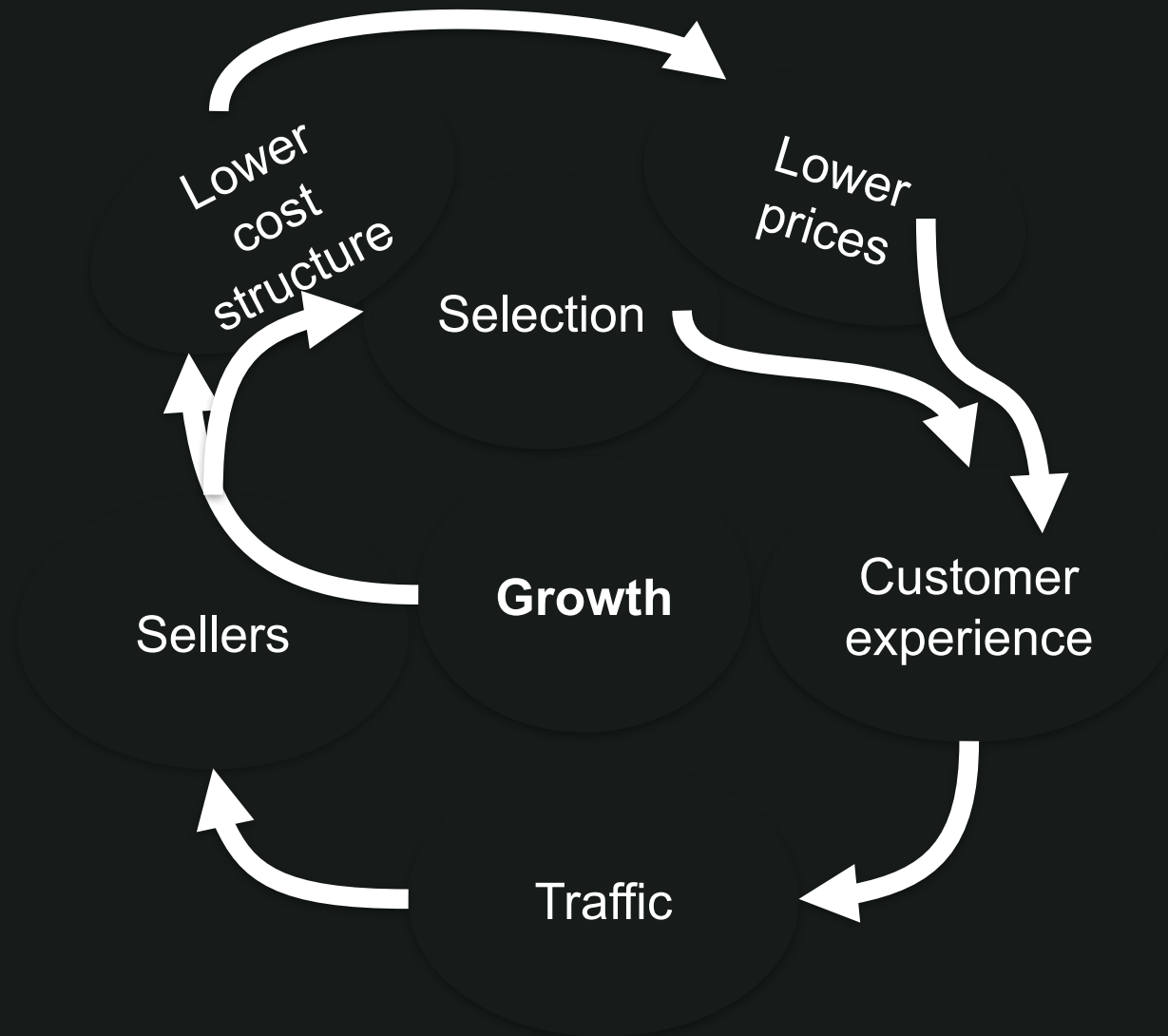
Source: YouTube [SMALL STEAM ENGINE FLYWHEEL CALCULATION: PLAN vs. PISTON-CRANK MECHANISM](#)



Flywheel concept reapplied to organisational viability

- Jim Collins' 2001: Small consistent efforts build momentum.
- Positive feedback loops drive growth and performance.

Execution success: the Amazon Flywheel (2001)





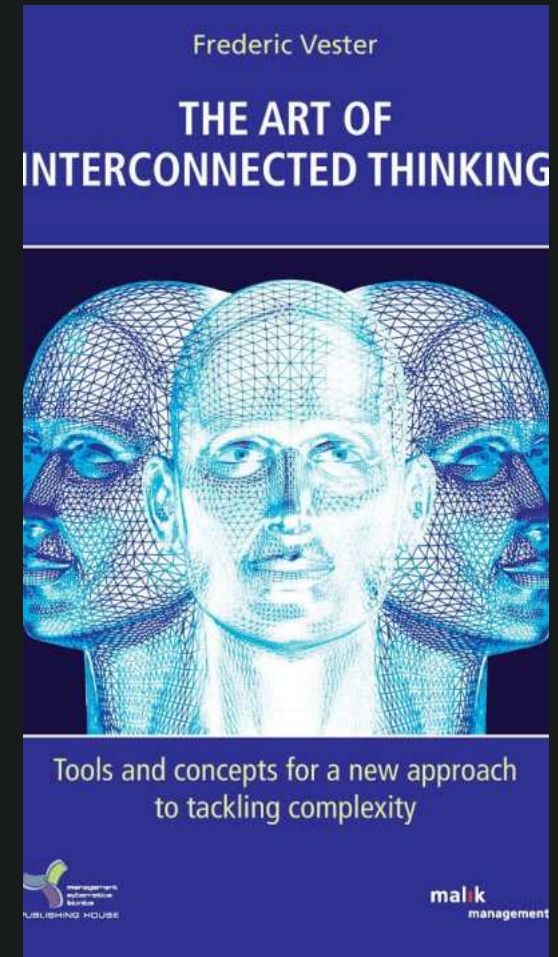
The Challenge in curious Organisations


Curious teams lack a method to build their own flywheel:

- How to identify the right and the right number of reinforcing variables?
- How to design the connections between the variables?

Frederic Vester's Sensitivity Model (2001/2007)

- Structured systems method for complex environments
- Allows teams to build models with feedback loops
- Allows to learn together and cultivate a shared mental model of what is important and will drive a desired outcome for a leadership team





IT leadership team key question:

What influences
the cost of
our IT applications?

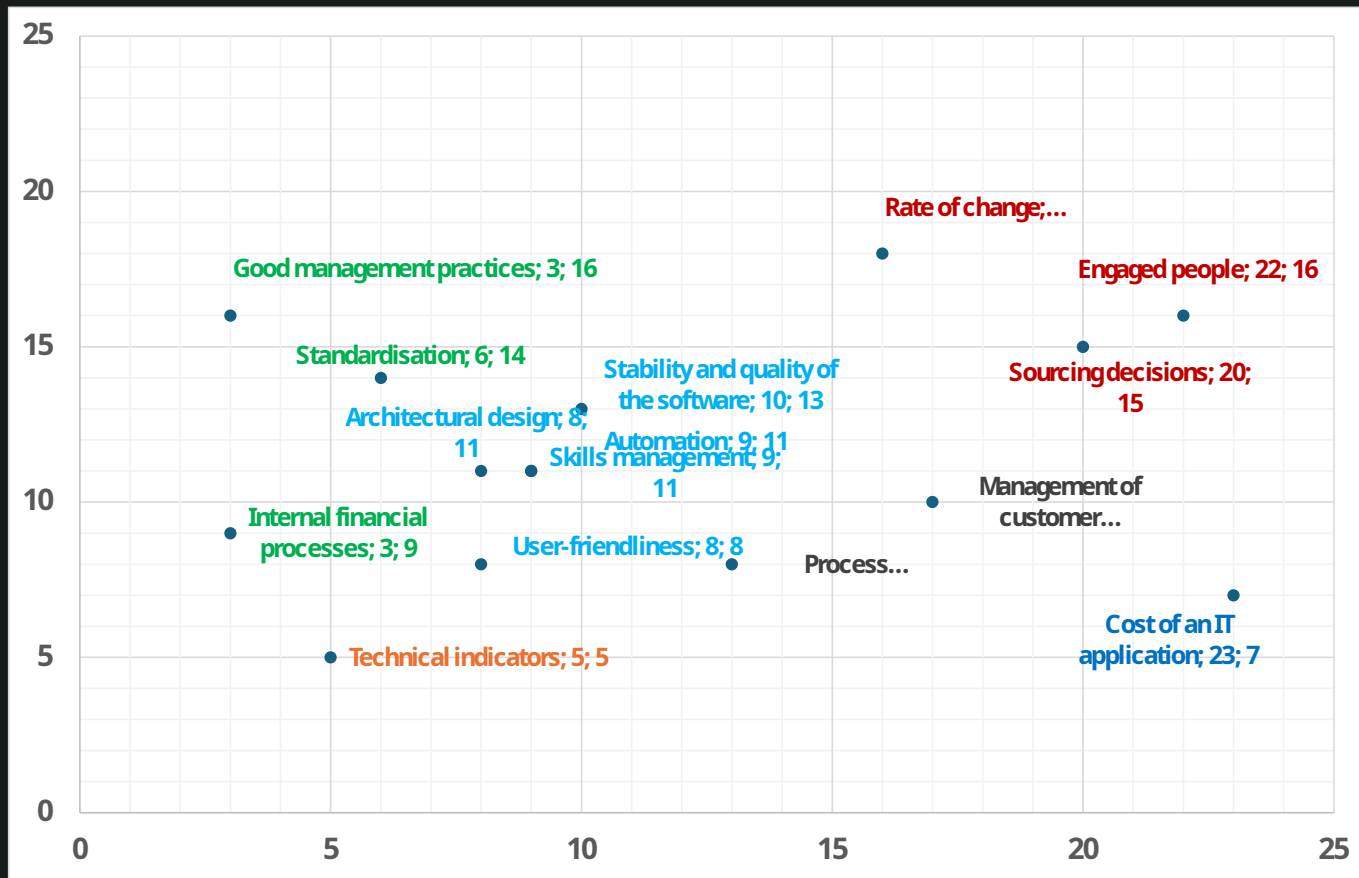
A holistic, complete set of variables sufficient to drive meaningful action together

1. Cost of an IT application
2. Automation
3. Standardisation
4. Architectural design
5. Skills management
6. Management of customer demand
7. Good management practices
8. Sourcing decisions
9. Stability and quality of the software
10. Internal financial processes
11. Process efficiency
12. Technical indicators
13. User-friendliness
14. Engaged people
15. Rate of change

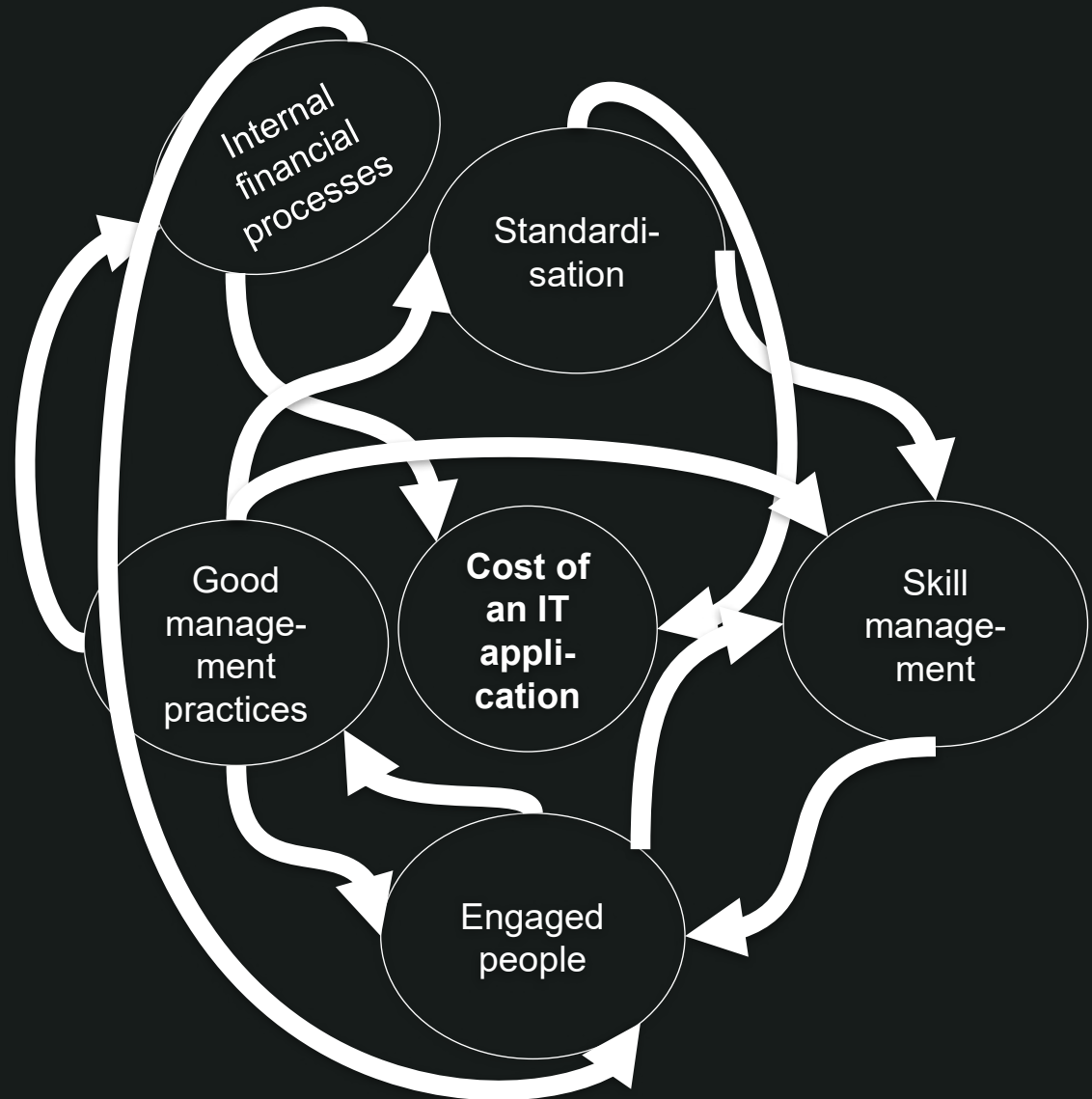
What is the connection direction and strength between those variables?
Structured discussion.

#	Influence effect of variable in row X on variable in column Y	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Activsum
1	Cost of an IT application	x	0	0	0	0	2	0	3	0	0	0	0	0	0	2	7
2	Automation	2	x	0	0	0	0	0	1	2	0	2	1	2	1	0	11
3	Standardisation	2	2	x	1	1	2	0	2	2	0	0	1	1	0	0	14
4	Architectural design	2	2	2	x	0	0	0	1	2	0	0	0	1	0	1	11
5	Skills management	1	1	0	1	x	1	0	2	1	0	0	0	0	2	2	11
6	Management of customer demand	2	0	1	1	0	x	0	2	0	0	0	0	0	2	2	10
7	Good management practices	0	0	0	1	2	2	x	2	0	2	2	0	0	3	2	16
8	Sourcing decisions	3	0	0	0	2	1	0	x	2	1	2	0	0	3	1	15
9	Stability and quality of the software	2	0	0	0	0	2	0	2	x	0	0	1	2	2	2	13
10	Internal financial processes	2	0	0	0	0	1	1	0	0	x	2	1	0	2	0	9
11	Process efficiency	2	0	0	0	0	1	0	1	0	0	x	1	0	2	1	8
12	Technical indicators	0	0	0	0	0	2	0	1	0	0	1	x	0	1	0	5
13	User-friendliness	2	0	0	0	0	2	0	0	0	0	1	0	x	2	1	8
14	Engaged people	1	2	1	2	2	1	1	1	1	0	1	0	1	x	2	16
15	Rate of change	2	2	2	2	2	0	1	2	0	0	2	0	1	2	x	18
	Passivsum	23	9	6	8	9	17	3	20	10	3	13	5	8	22	16	

How are variables positioned? What is a lever in the system?



A specific flywheel
for a specific team



A shared learning journey

A shared mental model

Success in execution

A photograph of a sunflower field. In the foreground, the back of a person wearing a light-colored shirt is visible, looking towards the sunflowers. The sunflowers are in various stages of bloom, with bright yellow petals and dark brown centers. The background is a soft-focus field of more sunflowers.

Thank you

For expertise in
applying the Vester method:

Gabriele Harrer-Puchner



Why sunflowers?

1. The Sunflower as a Natural System

- Self-organizing pattern: The sunflower's seed arrangement follows the Fibonacci sequence, a naturally occurring system that maximizes space and energy — a powerful metaphor for efficiency and harmony in complex systems.
- Adaptive orientation: Young sunflowers exhibit heliotropism—they track the sun from east to west. This is a metaphor for systems adapting to their environment.
- Feedback loop: The flower's orientation changes over time based on growth, showing feedback mechanisms—a core concept in systemic thinking.

2.. Visual Metaphor for Flywheel Momentum

- The circular head of the sunflower resembles a flywheel.
- The repeating spiral seeds visually mirror circular causality and self-reinforcing loops found in systems models.

3. Symbol of Interconnectedness

- A sunflower relies on soil, water, pollinators, sunlight — all interdependent.
- It is a metaphor for the interconnectedness of variables in complex systems (as in Vester's model).

4. Growth and Emergence

- Just as system properties emerge from interactions (not individual parts), the beauty and function of a sunflower emerges from the arrangement and health of its system elements.
- It can symbolize emergent outcomes in organizations: culture, resilience, momentum.