

Self Organizing Systems

Building An Operation Of Systems

Josh Schultz / IVMF Veteran Edge 2023

Why I Love Systems



**Systems Enable
Powerful Outcomes
From UnPowerful Inputs**



HOW WOLVES

CHANGE RIVERS



**Systems Enable
Emergent Outcomes
From Small Changes**

What if?

**Your Business Already Has
Systems**

Business Owners Want

- Make an impact on our community
- Change our industry
- Freedom to act as desired
- Sell the business
- Lower the stress of running their business
- Reduce the level of problems that occur

Cash Flow Solves This

But what kind?

Systematic Cash Flow

Systematic Cash Flow Businesses Inherits the Properties of Systems

Repeatable

Consistent

Reliable

Improvable

Measurable

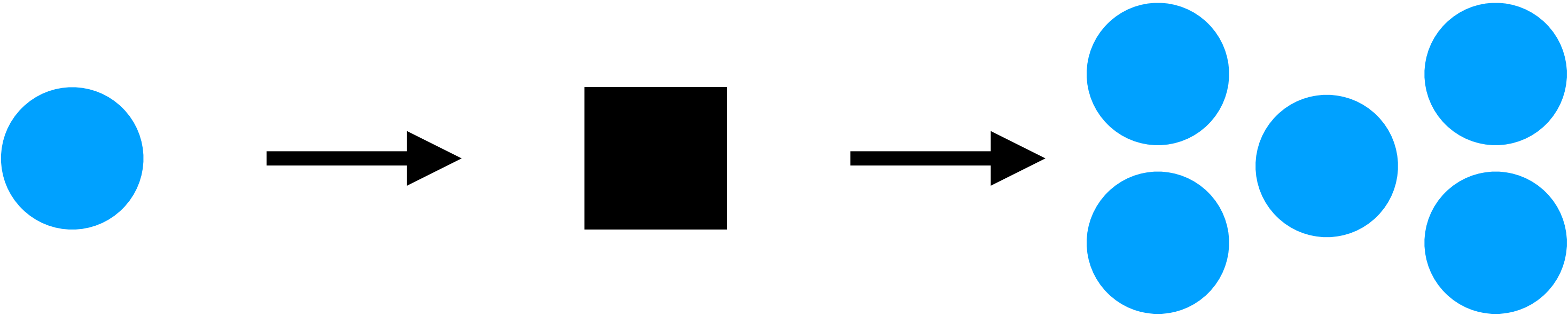
Analyzable

Scalable

Trainable

Systematic Cash Flow ***Using Leverage***

Leverage



Leverage Is Built Through Systems and Meta Systems

1

Create a system that runs your most critical activities

2

Make sure they include Complete Tasks done in a Consistent manner

3

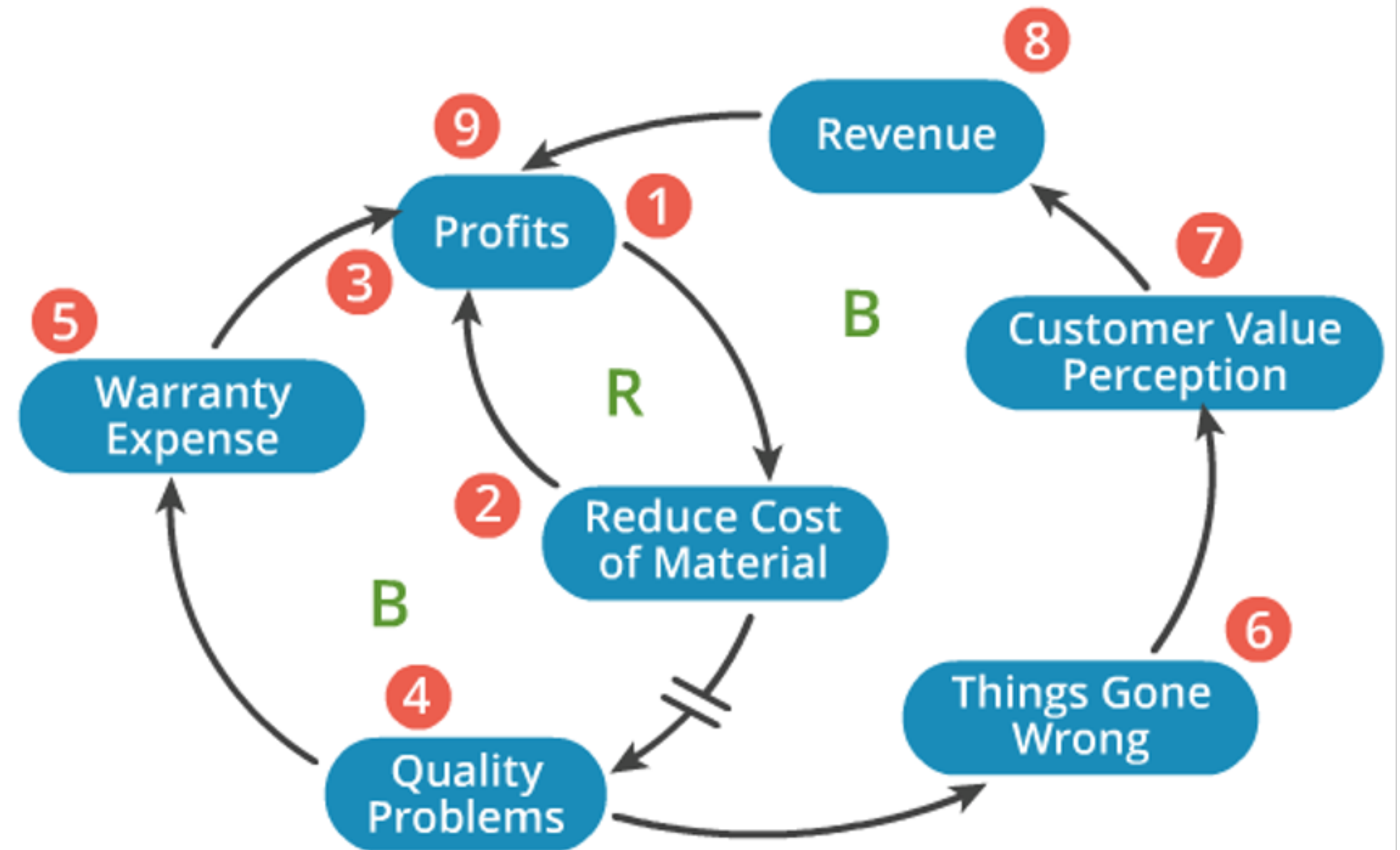
Add mechanisms to enforce the outcomes you want

Business Systems

What is a System?

System Components

- Subcomponents
- Interconnected
- Interrelated
- Specific Goal
- Feedback Loops
- Balancing
- Reinforcement



“A system is a set of related components that work together in a particular environment to perform whatever functions are required to achieve the system’s objective”

Donella Meadows

Closest to writing code in the
physical world

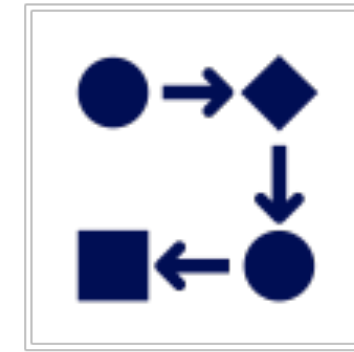
System Components



Inputs



Outputs



Process



Feedback
loops



Balancing
mechanisms

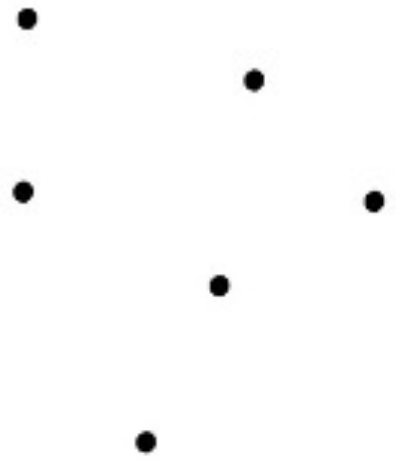


Reinforcing
mechanism

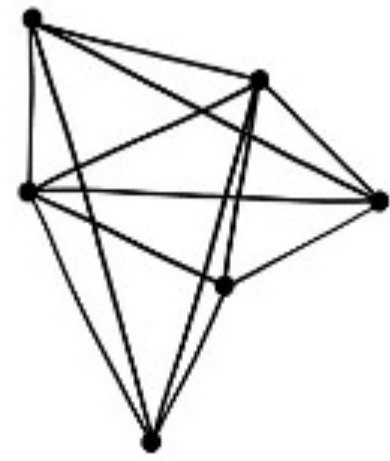


Reference
documentation

Implications



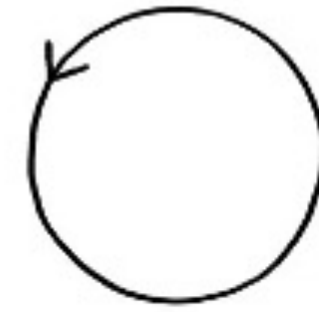
DISCONNECTION



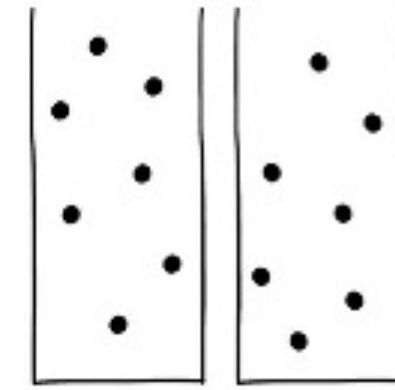
INTERCONNECTEDNESS



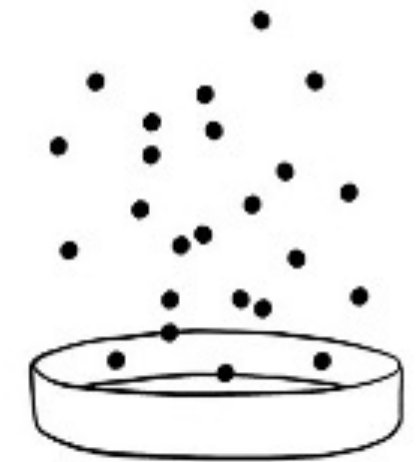
LINEAR



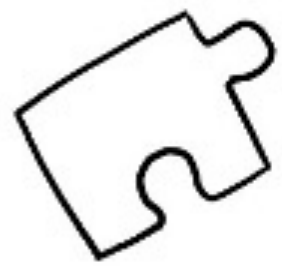
CIRCULAR



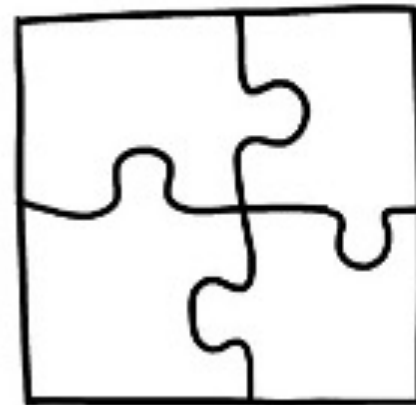
SILOS



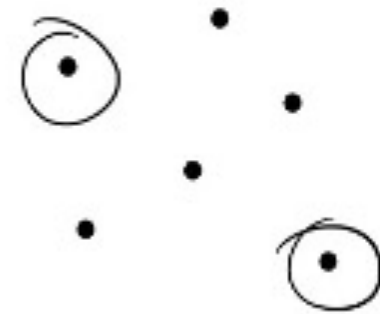
EMERGENCE



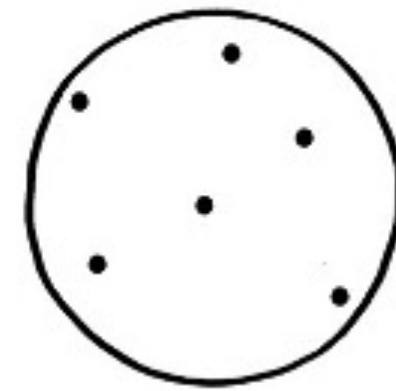
PARTS



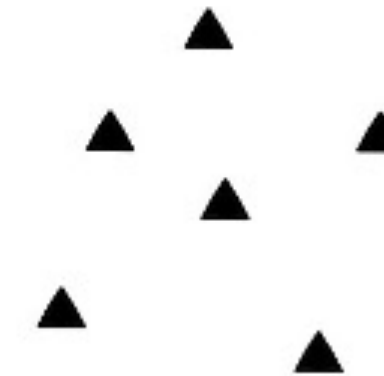
WHOLES



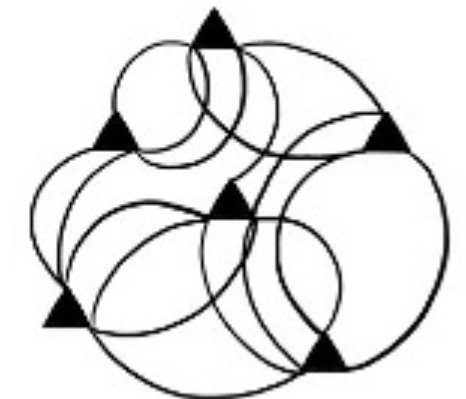
ANALYSIS



SYNTHESIS



ISOLATION

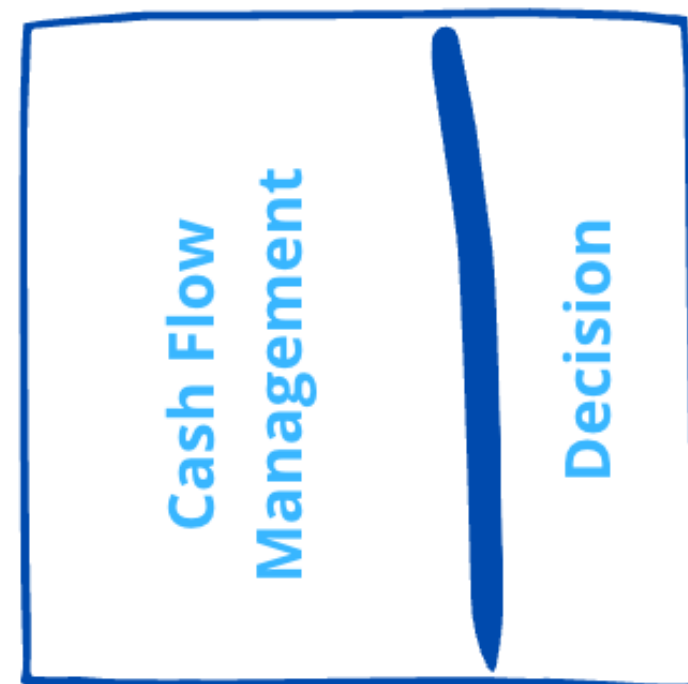


RELATIONSHIPS

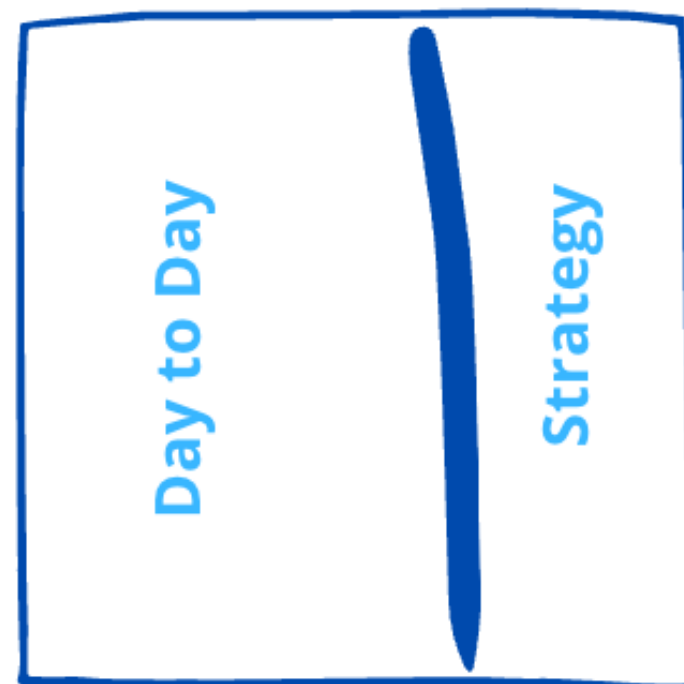
Building Your Business

SMB MACHINES

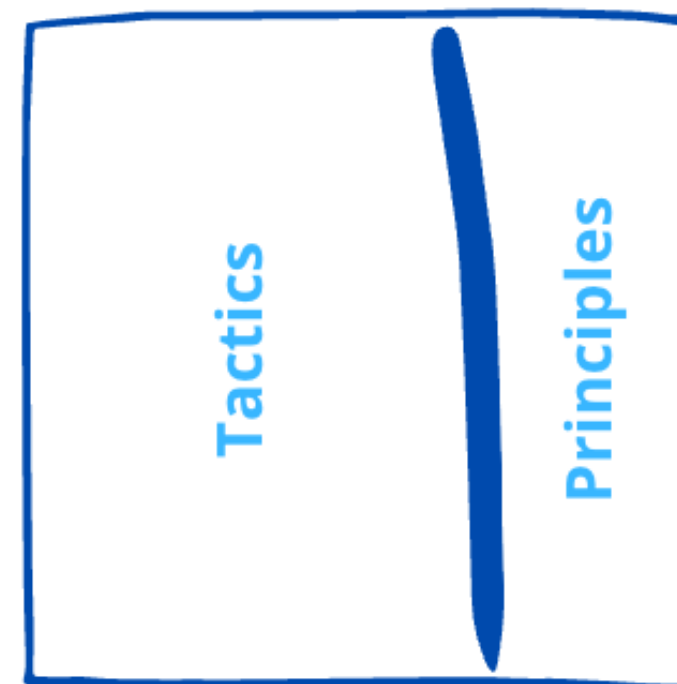
FINANCE



OPS



SALES



SCALABLE FOUNDATION

PEOPLE

- Remote
- Async
- Scalable
- Written

Evolution

“Everything is in constant flux on this earth. Nothing keeps the same unchanging shape...”

Jean-Jacques Rosseau

System Components

- Inputs
- Outputs
- Process
- **Feedback Loops**
- **Reinforcing Mechanisms**
- **Balancing Mechanisms**
- Reference Documentation



Josh Schultz

@joshuamschultz

Improvement only happens when there is
feedback

9:00 AM · Jan 29, 2022

What are your feedback loops?

Components of Feedback

- Output
- Reaction
- Loop to itself
- Positive Process or Negative Process

A feedback loop is like an input, but its origin is from within the system itself, not from outside the system.

Courtney Brown from Graph Algebra

Internal Existence Implications

- Collecting Data
- Data Is stored and reviewed
- Data of certain types initiates new processes
- Those processes can create, destroy, and modify existing systems

Examples

- Quality Meetings / 8D / Root Cause
- Metric Review Meetings
- Customer Feedback & Surveys
- Employee Feedback
- Resource Review
- Bottleneck Identification
- New Opportunity

Feedback Loops start with Great Questions

- When would this break?
- How would we know?
- Where would this show up?
- What would the preferred outcome be?
- What is a generalized way to approach a fix?

Self Organizing Systems

4 Basic Ingredients

1. Strong dynamic non-linearity (ie loops & mechanisms)
2. Balance of exploration and exploitation (matrix management)
3. Multiple interactions (thresholds)
4. Available energy to overcome natural tendency (allocated resource)

**Evolving systems are ever
probing for adaptive fit.**

Principles of Systems Science

**Internal / External
Exploitation / Exploration**

Where To Start

1. Meetings

Preventive & Prescriptive

	Daily	Weekly	BiWeekly	Monthly	Quarterly	Semi Annually	Annually
Sales	Huddle	Sales Metrics/ Meeting	1:1	Pipeline Review		Customer	Strategy & Goal Setting / Compensation Reviews
Operations	Huddle/Async Check - in	Ops Metric/ Meeting Ops Report	1:1	Plant OKRs	Plant Accountability		
Finance		Financial Update	1:1	Financial Review			

2. Incentives & Metrics

- Find Important Areas of the business
- Setup Data capture
- Create feedback mechanism
- Tie pay and benefits to meeting/exceeding those metrics

KPI Results

	RESULT	TARGET		TREND	IMPORTANCE
A PROFITABILITY	NOV 2021			vs OCT 2021	
Total Revenue	\$174,182	\$241,224	✘	▼ -4%	Critical
Gross Profit Margin	58.11%	87.72%	✘	▲ 4.34%	Medium
Profitability Ratio	17.65%	29.4%	✘	▼ -3.82%	Critical
Net Profit After Tax Margin	13.11%	15.48%	✘	▼ -3.85%	Medium
B NON-FINANCIALS					
Customer Satisfaction	97%	98%	✘	▲ 4%	Low
Customer Loyalty	25%	33%	✘	0%	Low
Kitchen Labour Hours	222	100	✔	▲ 8	Low
C EXPENSE RATIOS					
Food Costs % of Sales *	11%	5%	✘	▲ 1%	Low
Rent % of Revenue *	5%	5%	✘	▲ 3%	Low
Wage % of Revenue *	33%	56%	✔	▲ 8%	Low
D CASH FLOW					
Cash on Hand	\$1,599,532	\$950,000	✔	▲ 33.7%	Medium
Net Variable Cash Flow	78.17%	20%	✔	▲ 10.44%	Medium

* For this metric, a result below target is favourable

3. Surveys

- Find Important Areas of the business
- Setup Data capture
- Create feedback mechanism
- Tie pay and benefits to meeting/exceeding those metrics

A Few Tools To Implement

- Slack
- Google Sheets
- Fathom
- Jotform
- Craft

Questions?