



Operational Excellence, Strategy & Innovation

Module 11 · C-AE24 Strategic Business Analysis

PART 1: OPERATIONAL STABILITY & TRANSFORMATION

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Learning Outcomes

1

Eliminate Waste

Apply Lean, Six Sigma & Theory of Constraints

2

Innovate Processes

Deploy digital tech & change management models

3

Scale Structure

Manage growth stages & maintain flexibility

4

Sustainable Supply

Design circular operations aligned with ESG



SECTION 1

Foundations of Operational Excellence

Start Here

Build a reliable, cost-effective baseline *before* you scale

Exploit First

Extract maximum value from existing resources & processes

Then Build

Master the present state — earn the right to build the future

Efficiency vs. Effectiveness

Operational Efficiency

"Doing things right"

Minimize inputs — time, capital, labor — to produce a given output. Inward-looking. Benchmark-driven.

Strategic Effectiveness

"Doing the right things"

Outward-looking alignment with market demands and customer needs. Both dimensions must work in harmony.



The CD Factory Paradox

Peak Efficiency ✓

Zero waste. Optimized labor. Minimal material costs. Flawless execution.

Zero Effectiveness ☐

The product is a physical CD — in a world of digital streaming. Nobody is buying.



Efficiency without strategic alignment is the fastest route to irrelevance.

Porter's Critical Distinction

Operational effectiveness is necessary — but insufficient for sustained competitive advantage.

The Problem

Competitors copy best practices rapidly → competitive convergence → price wars → destroyed margins

The Solution

Combine efficiency with a **unique strategic position** that rivals cannot easily replicate

The Rule

Use efficiency to **fund** your strategy — never let efficiency *become* the strategy



Three Primary Efficiency Frameworks



Lean Methodology

Speed & waste elimination — strip every non-value-adding step from your processes



Six Sigma

Precision & variance reduction — achieve near-perfect defect-free output through statistical rigor



Theory of Constraints

Throughput & capacity — identify and shatter the single bottleneck limiting the entire system

FRAMEWORK 1

Lean Methodology

Origin

Toyota Production System
(TPS)

Core Goal

Maximize customer value.
Eliminate all **Muda** (waste).

The Test

Would the customer pay extra for this step? If not — it is waste.



DOWNTIME — First Four Wastes

D — Defects

Time, labor & materials lost correcting errors and reworking broken output

O — Overproduction

Manufacturing before demand exists — the worst waste; it breeds all others

W — Waiting

Idle time when employees or machines wait for a prior step or missing information

N — Non-Utilized Talent

Ignoring employee skills, creativity & knowledge — treating people as cogs

DOWNTIME — Final Four Wastes

T — Transportation

Unnecessary movement of materials or information — adds cost, risks damage

I — Inventory

Excess stock sitting idle — ties up working capital, consumes physical space

M — Motion

Unnecessary physical movement of people or excessive software navigation

E — Extra-Processing

Performing more work or adding more features than the customer ever requested



FRAMEWORK 2

Six Sigma

The Mission

Eliminate process variation —
the root cause of unreliable
quality

The Goal

99.99966% defect-free
output — no more than **3.4**
defects per million
opportunities

The Method

Rigorous statistical analysis transforms chaotic operations into
predictable systems

Define & Measure

D — Define

Explicitly state the problem, scope, goals, and Critical-to-Quality (CTQ) customer requirements.

Know exactly what success looks like before changing anything.

M — Measure

Collect precise baseline performance data from the current process.

Without hard measurements, improvement is just guesswork. Build a rock-solid data foundation first.

Analyze, Improve & Control

1

A — Analyze

Isolate & statistically verify root causes of defects

2

I — Improve

Design & implement targeted solutions that eliminate root causes

3

C — Control

Install monitoring protocols — prevent regression to old habits

❏ DMAIC ensures improvements are permanent, disciplined, and entirely data-driven.

FRAMEWORK 3

Theory of Constraints

Every system has one constraint that limits total throughput. Fix the weakest link — everything else is noise.

Introduced by **Eliyahu M. Goldratt** — optimizing a non-bottleneck step adds zero system benefit. All focus must target the single constraint.



The Five Focusing Steps

01

Identify

Find the exact point where work is backing up in the system

02

Exploit

Squeeze maximum output from the constraint using existing resources — never let it idle

03

Subordinate

Align all other processes to the constraint's pace — prevent excess inventory buildup

04

Elevate

Invest capital, labor, or technology to expand bottleneck capacity

05

Repeat

Once broken, a new constraint will emerge — restart the cycle



MEASURING EFFICIENCY

4 Critical Operational KPIs



Asset Turnover



Capacity Utilization



Cycle Time



Cost-to-Serve

KPI 1

Asset Turnover

Formula

$$\frac{\text{Net Sales}}{\text{Total Assets}} \div$$

Strategic Insight

For every dollar locked in machinery, real estate & inventory — how many dollars of revenue does it generate?

- **High ratio** → lean, capital-efficient operation
- **Low ratio** → capital trapped in underperforming assets

Critical for driving ROI and investor confidence.

KPI 2

Capacity Utilization

Formula

$$\left(\frac{\text{Actual}}{\text{Potential}} \right) \times 100$$

The Sweet Spot

Too low → wasting money on idle overhead. Too high → zero buffer, burnout, and bottlenecks.

📌 World-class target: **80–85%** — maximum productivity with strategic flexibility intact.

KPI 3

Cycle Time

Definition

Total elapsed time from process start to final completion
— manufacturing a car or processing a claim.

Why It Matters

- Less cash trapped in work-in-progress
- Faster revenue collection
- Respond to market shifts before slower competitors can react

KPI 4

Cost-to-Serve



Beyond Gross Margin

A high-priced product can quietly destroy profit through custom packaging, expedited shipping & excess support.

Cost-to-Serve reveals which **customers, channels & products** are truly profitable — and which are draining resources.

SECTION 2

Process Innovation: Redefining the Rules

Efficiency

Optimize the current state → **survive today**

Process Innovation

Redefine the current state → **dominate tomorrow**

Stop asking *"How can we do this faster?"* — start asking *"Why are we doing it this way at all?"*

Incremental vs. Radical Innovation

Incremental — Kaizen

Small, continuous daily improvements by frontline workers.

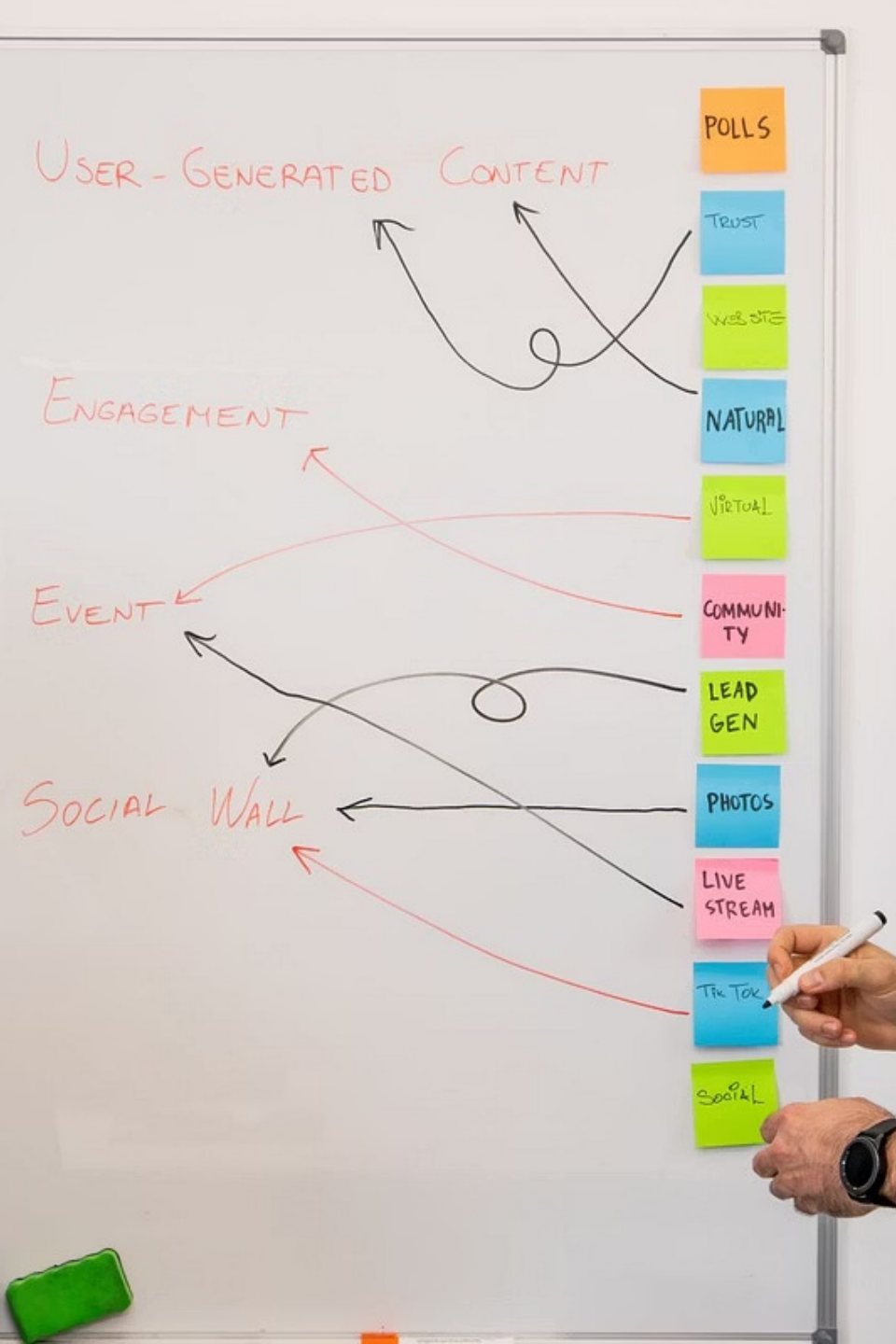
- Low risk, low cost
- Cumulative, steady gains
- Steers the ship daily

Radical — Disruptive

Complete abandonment of legacy systems for entirely new frameworks.

- High risk, high reward
- Reshapes competitive landscape
- Requires bold leadership

❏ Long-term survival demands both — steady Kaizen AND the courage to execute radical shifts.



RADICAL CHANGE

Business Process Reengineering

Fundamental rethinking and radical redesign of business processes to achieve dramatic performance improvements. — Hammer & Champy

Reject Incrementalism

Don't improve the old process
— delete it entirely

Blank Sheet Thinking

Design the ideal workflow as if
starting from zero

Customer-Centric

Eliminate silos, destroy redundancy, realign everything around value

Technology as a Radical Enabler

Legacy Ops

RPA

AI / ML

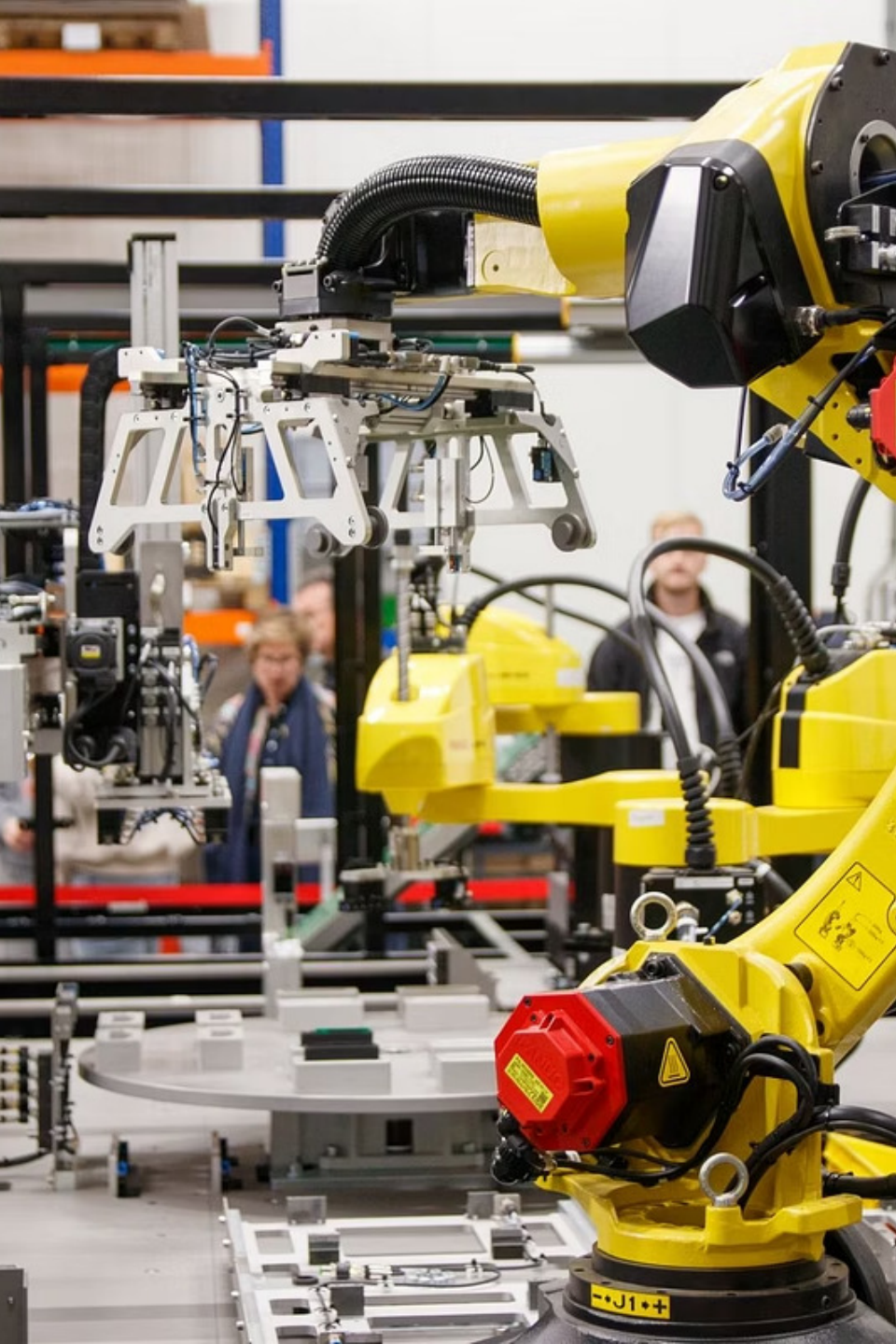
Autonomous Ecosystem

RPA

Automates repetitive, rules-based digital tasks — frees humans for strategic work

AI / ML

Predictive maintenance, dynamic routing, and demand forecasting that continuously learns



INDUSTRY 4.0 → 5.0

The Human-Machine Frontier

Industry 4.0

Cyber-Physical Systems · IoT · Cloud · Big Data — machines communicating in real time on the factory floor

Industry 5.0

Human creativity + cognitive computing in true collaboration — the worker returns to the center of the smart ecosystem

- ❏ Kotter's 8-Step Model guides leadership in overcoming cultural resistance throughout this transformation.