

GOTO Copenhagen
2025

Growing and Thriving in a Multi-Model World

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@ziobrando

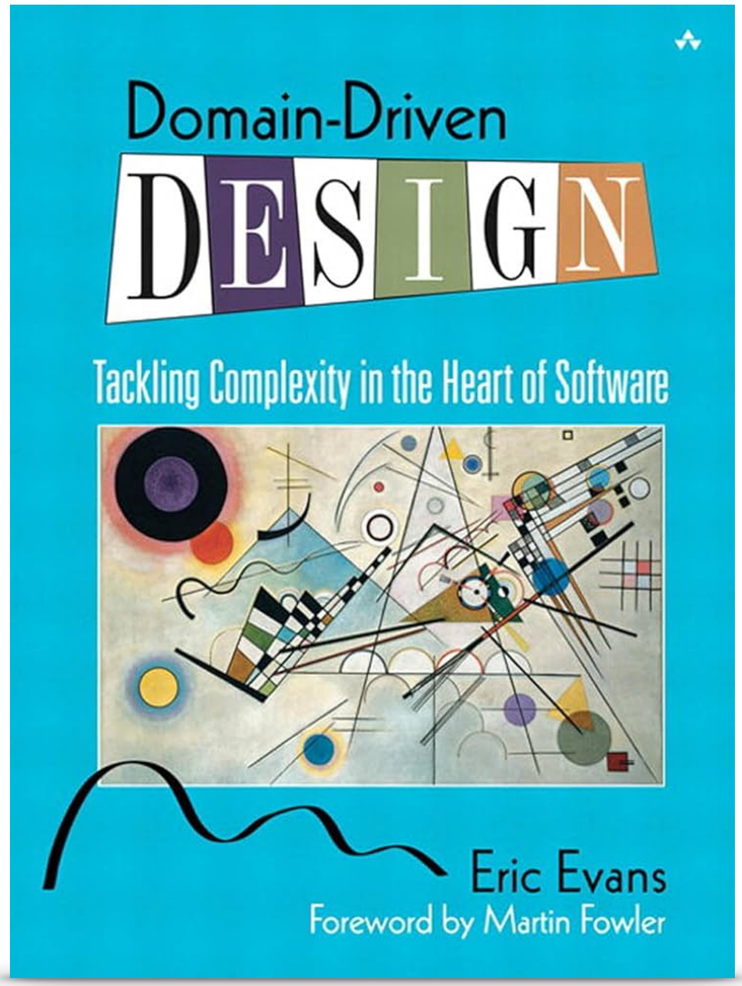
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My Plan

- "Good" Old Times
- Starting with the right foot
- Growing fast
- The joys of multi-country


Part 1
Good Old Times

Multiple Models?



- Read about it in 2005
- Thought: "Not my problem!"
- ..."My project is simpler than that"
- What a Fool!

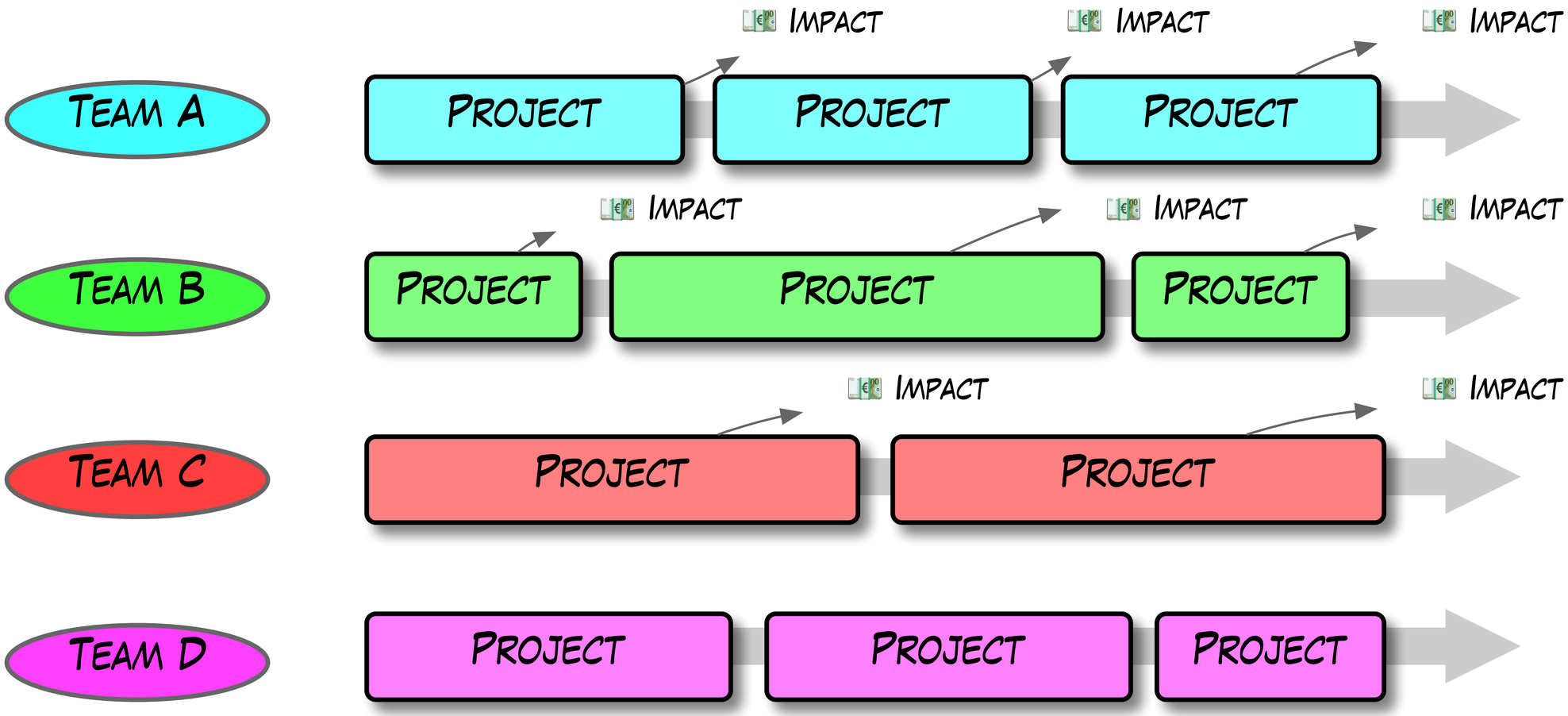

MODELS SPRAWL
... LET ME ADD JUST ONE MORE TABLE...


SOMEBODY GOTTA STOP THIS!!!

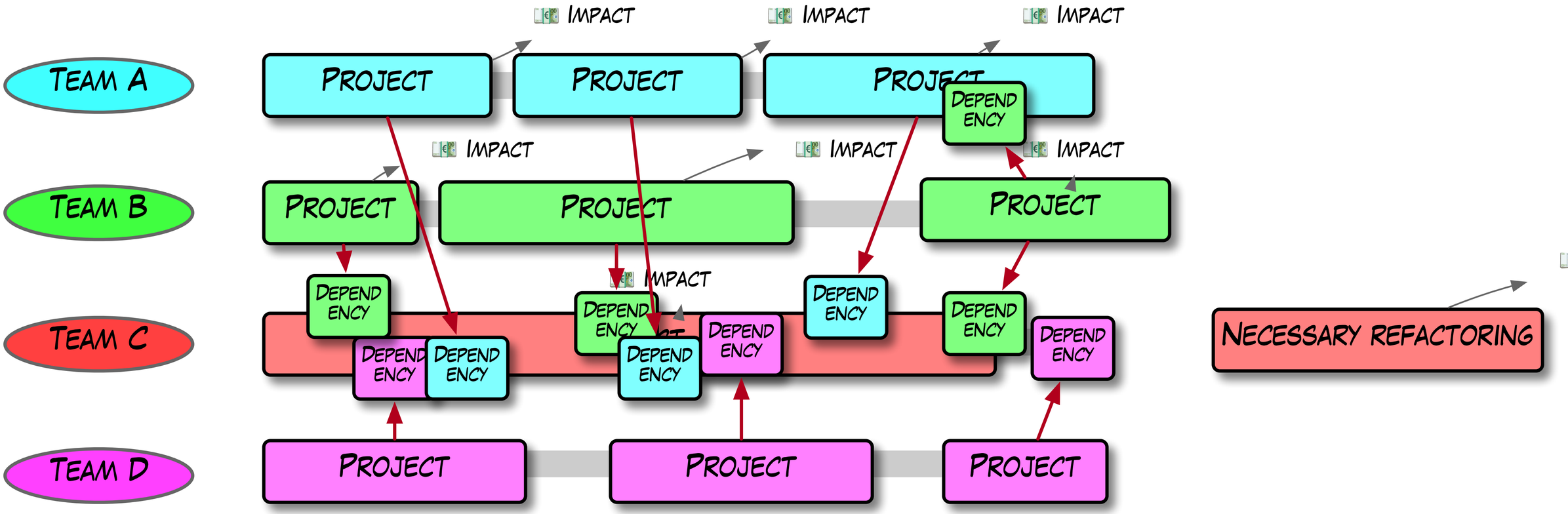

But first, a few more features...


Fake Gantt
Someone talking about AI
Someone saying: "It will take longer than this"

The illusion of parallelism



The reality of dependencies



Planning meetings



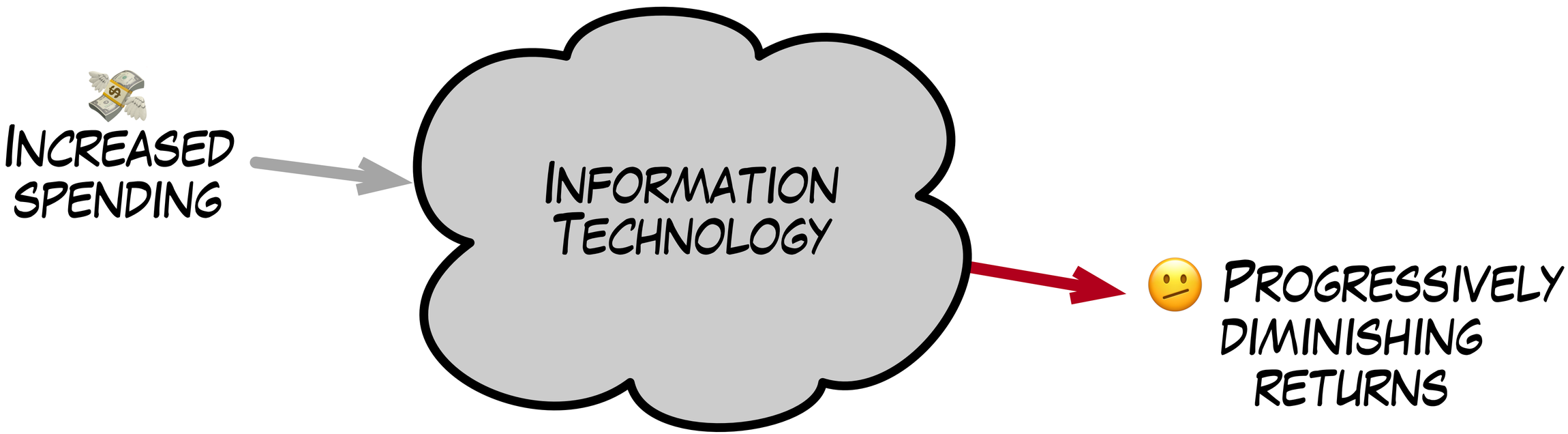


Black Market Planning

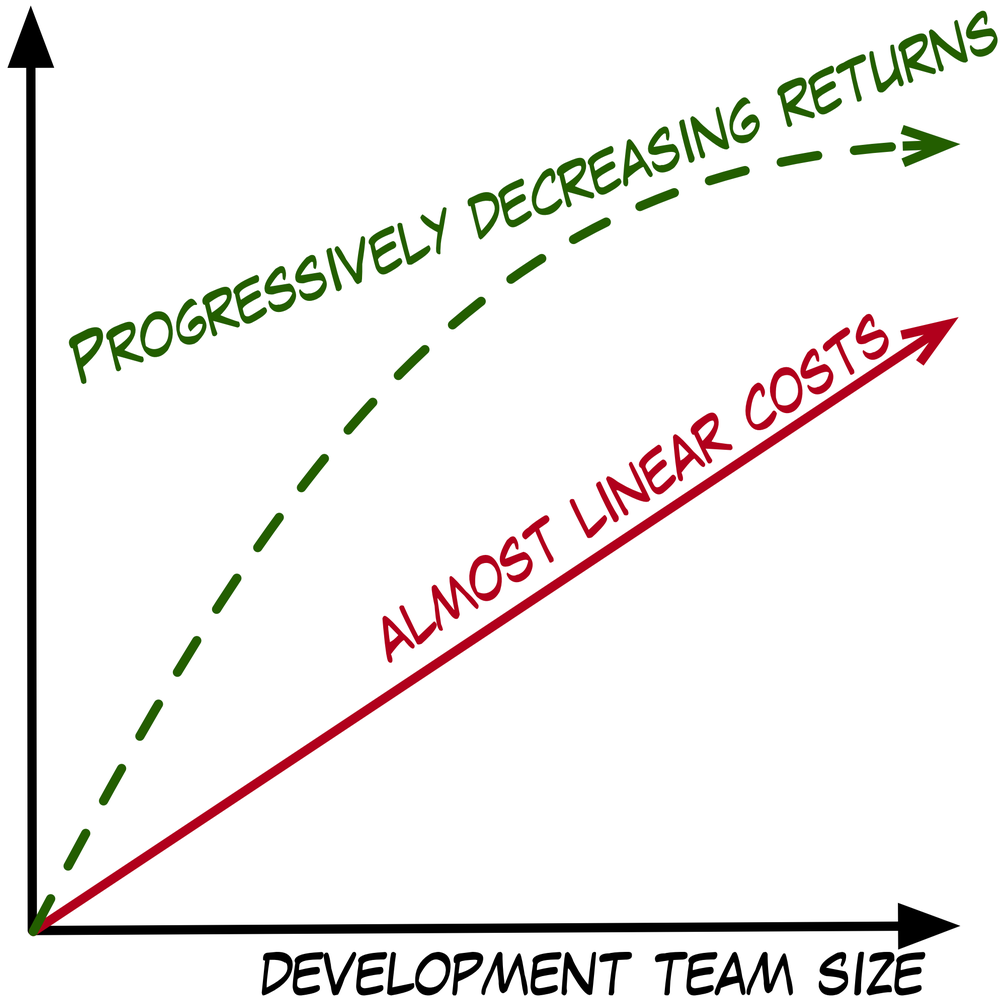


How does the wake up call look like?

From above...


Increased spending
Information Technology
Progressively diminishing returns

More "precisely"



- But consider also:
  - Extra overhead for management layer(s)
  - Extra costs for supporting roles
  - Inertia and lagging metrics

Many variations are possible

But the pattern repeats

1. We don't need multiple models
2. We grow without clean separation
3. We're stuck


Repainting with Microservices or Serverless

Splitting around data won't help you

What's wrong with single Model

- Serves Multiple Purposes
- without excelling in any
- More stakeholders == more trade-offs
- More stakeholders == More risks

MORE RISK == MORE FEAR

Summary: Good Old Times

- Sprawling is natural or... do we lack antibodies?
- Nobody intentionally starts a Big Ball of Mud
- But a Single Model turns into coupling, increased risk and paralysis
- Latency and luck delay the warning signals
- ...while the cost of recovery progressively increases


Starting with the right foot
Is it even possible?

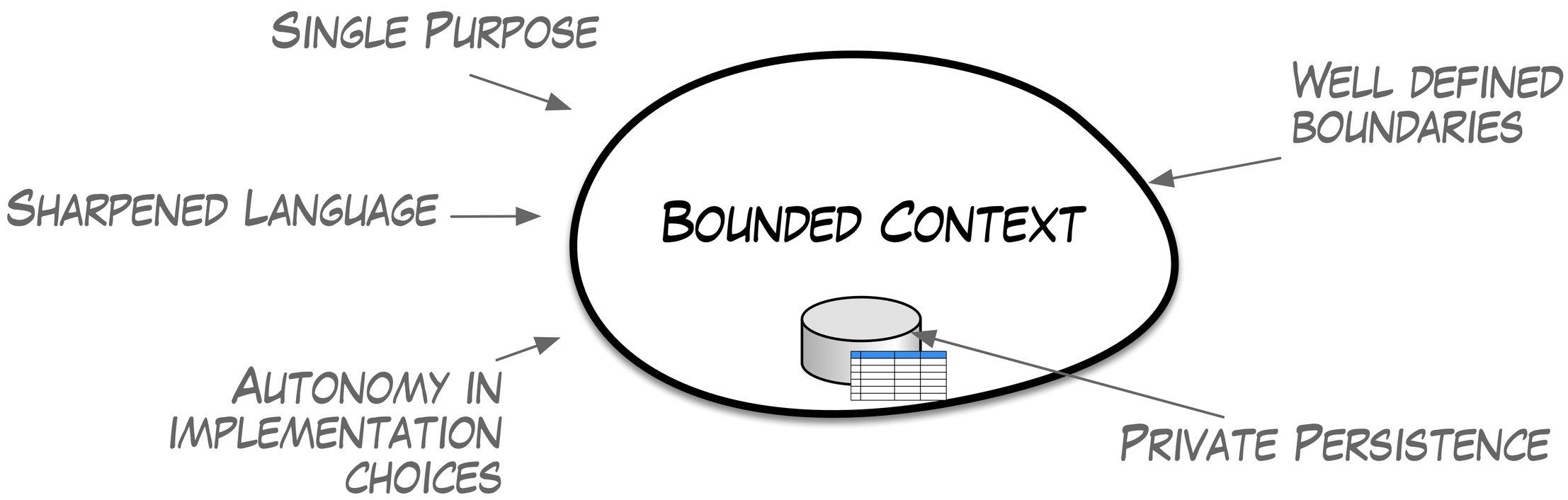
In-house project

- Critical, but in a small company
- Still, a place to make mistakes
- Small development team
- CQRS/ES from the ground up
- Circa 10-12 Bounded Contexts (Growing)

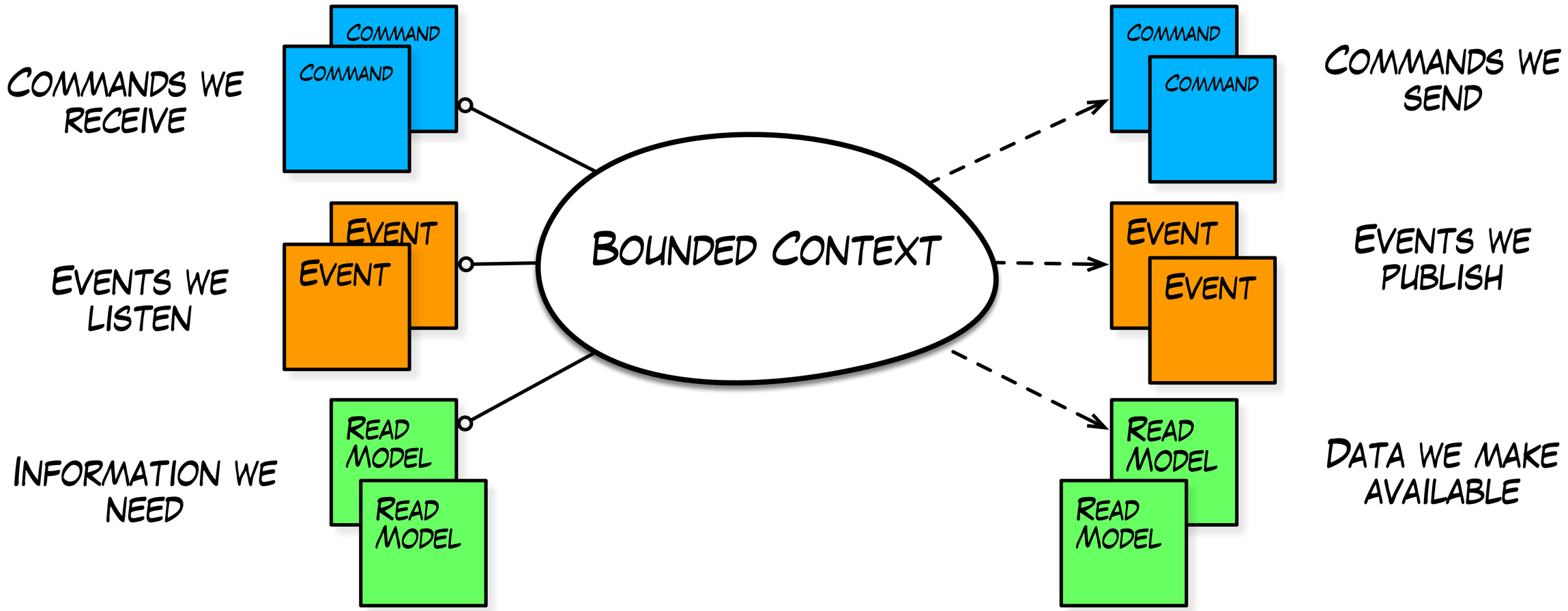
I AM THE BUSINESS

SEE THE POWER IN MY HANDS?

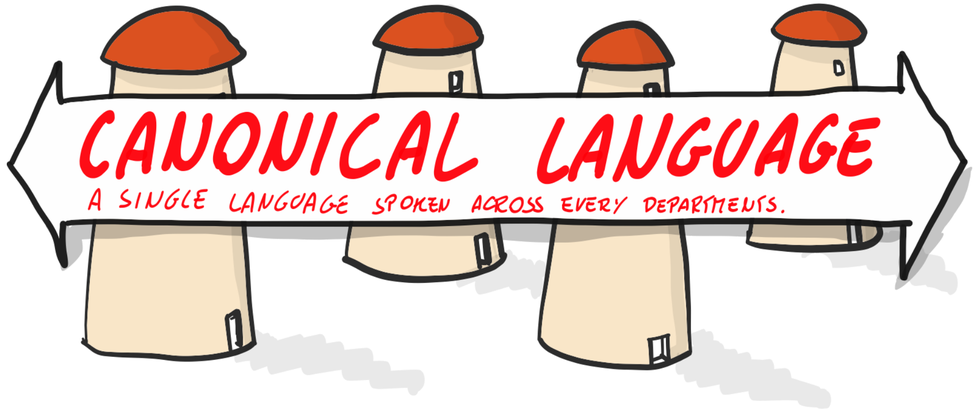
Bounded Context

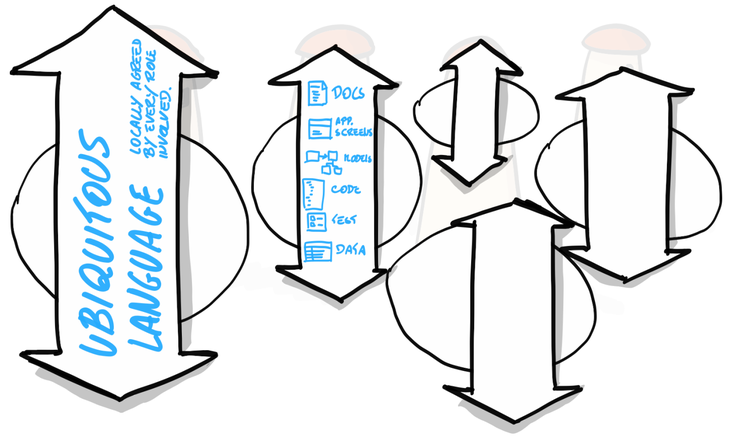


Neighborhood relationships



Canonical vs Ubiquitous





Approach	Data-Centric	Behaviour Centric
Intention	Sharing information	Deep integrity
Shape	A single large model	Many independent models
Sponsors	UX, Database Design, BI	Domain-Driven Design, Microservices

Is it enough to avoid this?



The upside

- Small and beautiful
- Flat cost of evolution
- No blockers: "This is going to be a mess"



Photo by Mark Tegethoff on Unsplash

The downside



Modelling time

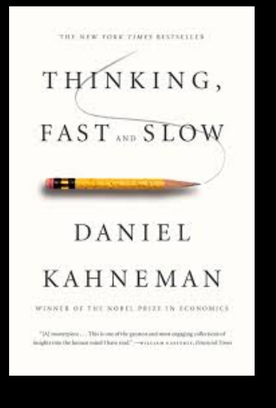
Requires discipline

Possibly fragile (new team members)

Photo by Thao Lee on Unsplash

Discipline isn't free!

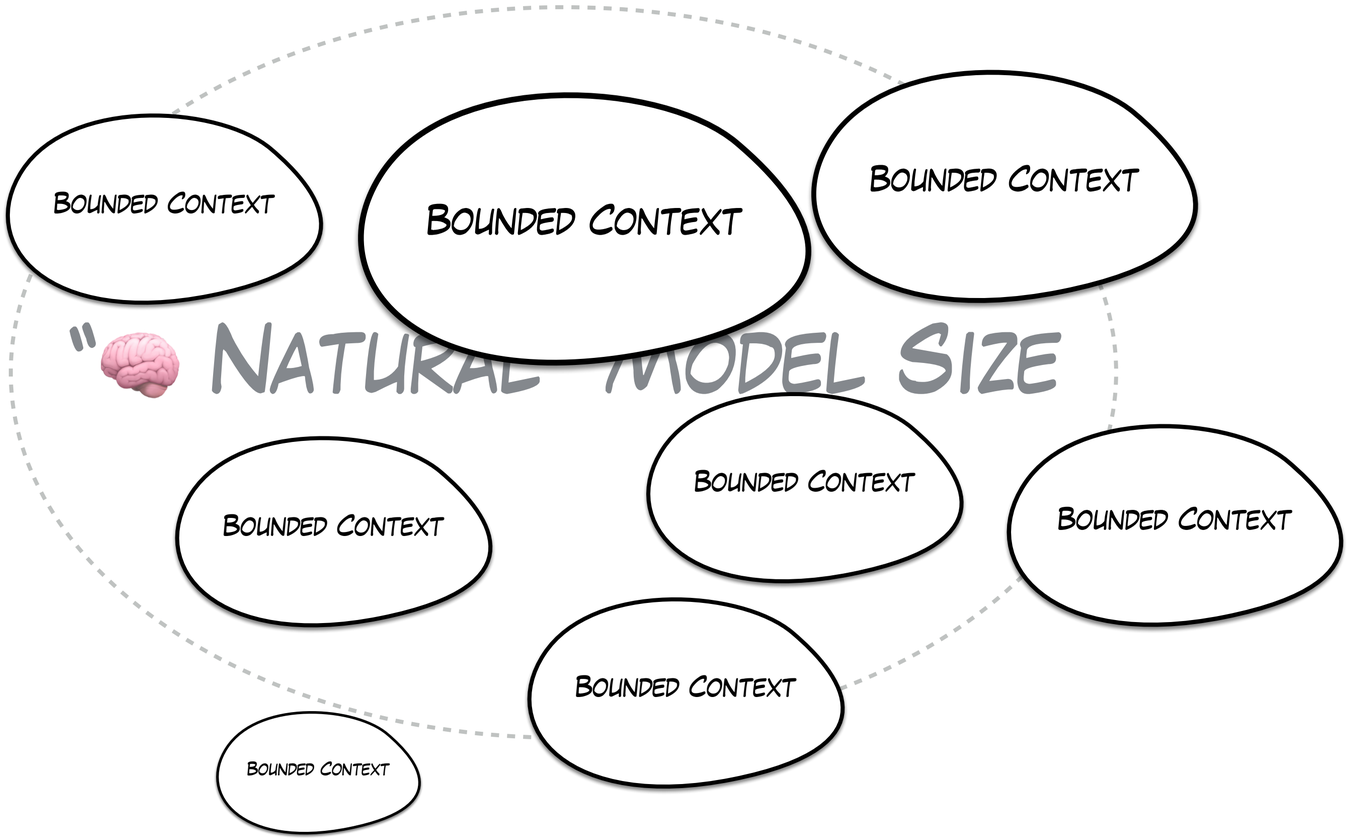
Discipline is system 2




Forecast needs to know about Invoices!
Every sentence is a temptation!

We have a problem...

- We can handle it!



Delayed feedback, again!

We have a problem...



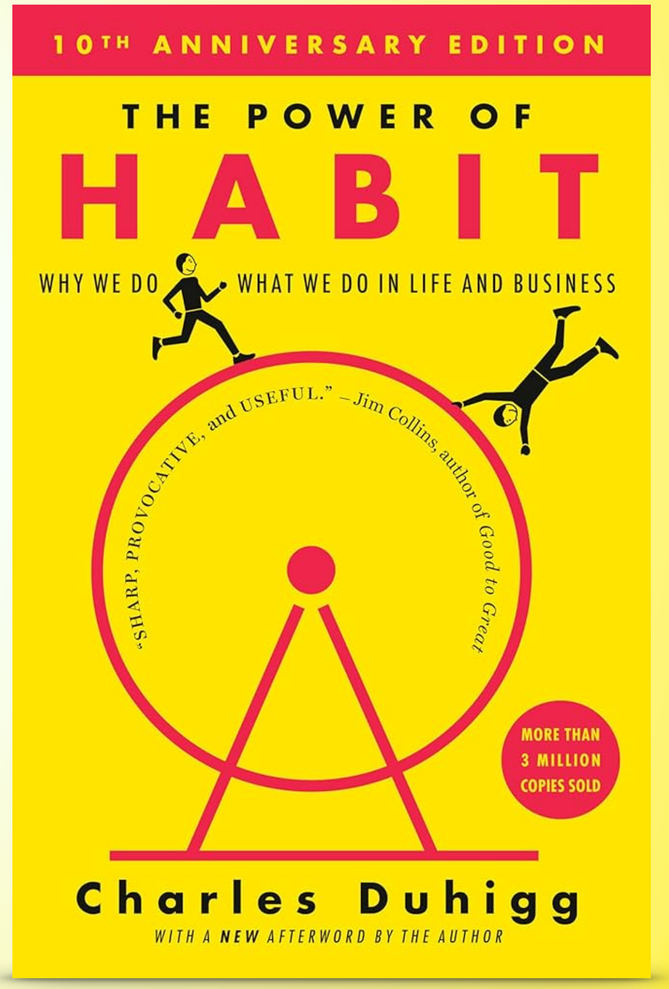
- Our brain still defaults to Canonical Model
- This happens especially if we are talking to ourselves
- ...is the difference between verbal and visual thinkers relevant?

A SENTENCE WITHOUT VISUAL ANCHORING IS A TRAP!

so...

Treat it like an addiction!

- Define guiding principles
- Intercept the moment we are triggering the old habits
- Do something different instead



Hack #1

We don't change working design

We don't open boxes without a very good reason

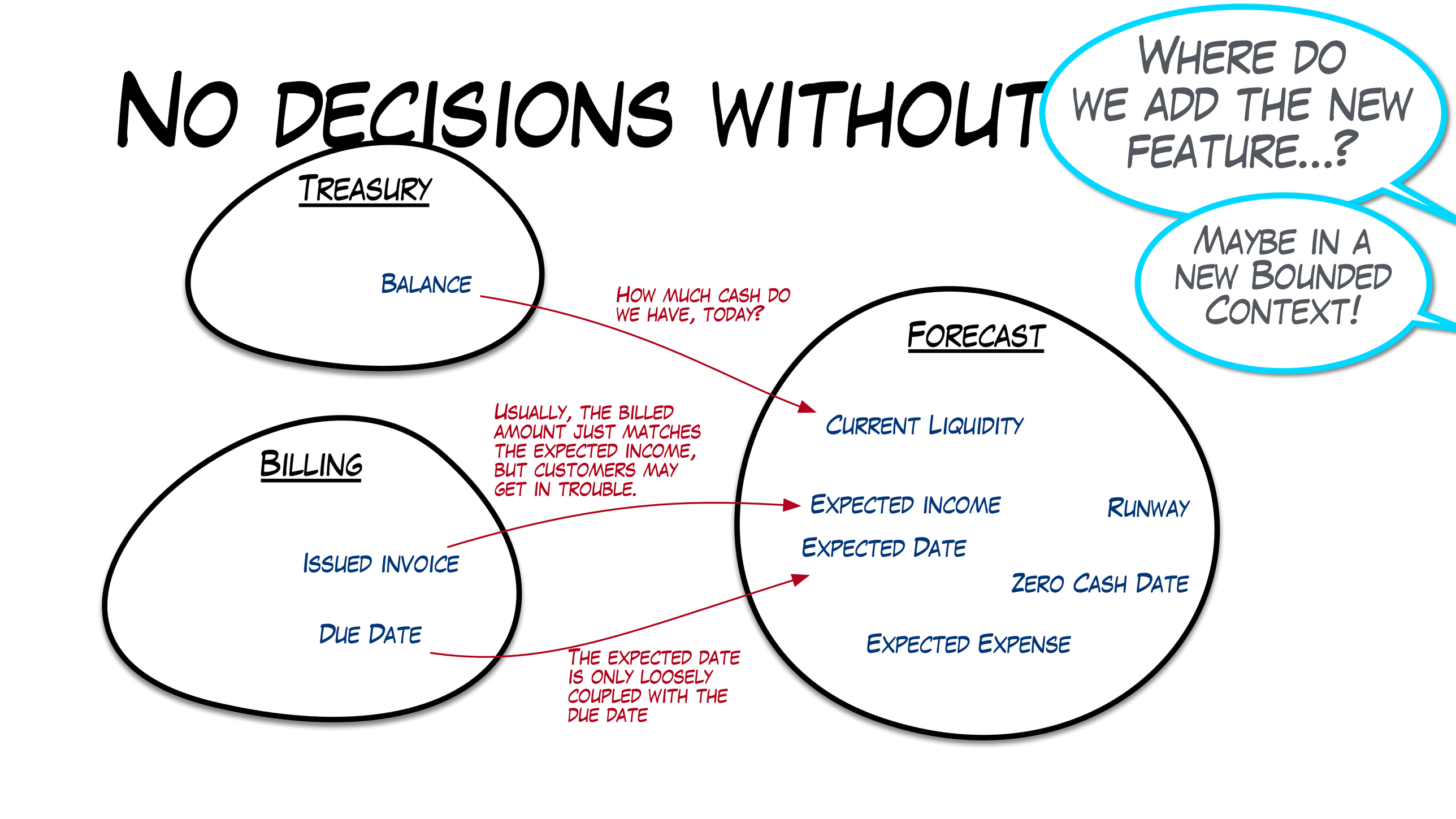

ALBERTO, I AM REVISITING YOUR CARBONARA RECIPE WITH NEW INGREDIENTS
I DON'T THINK SO

What's the right bucket?



Photo by Green Grasshopper on Unsplash

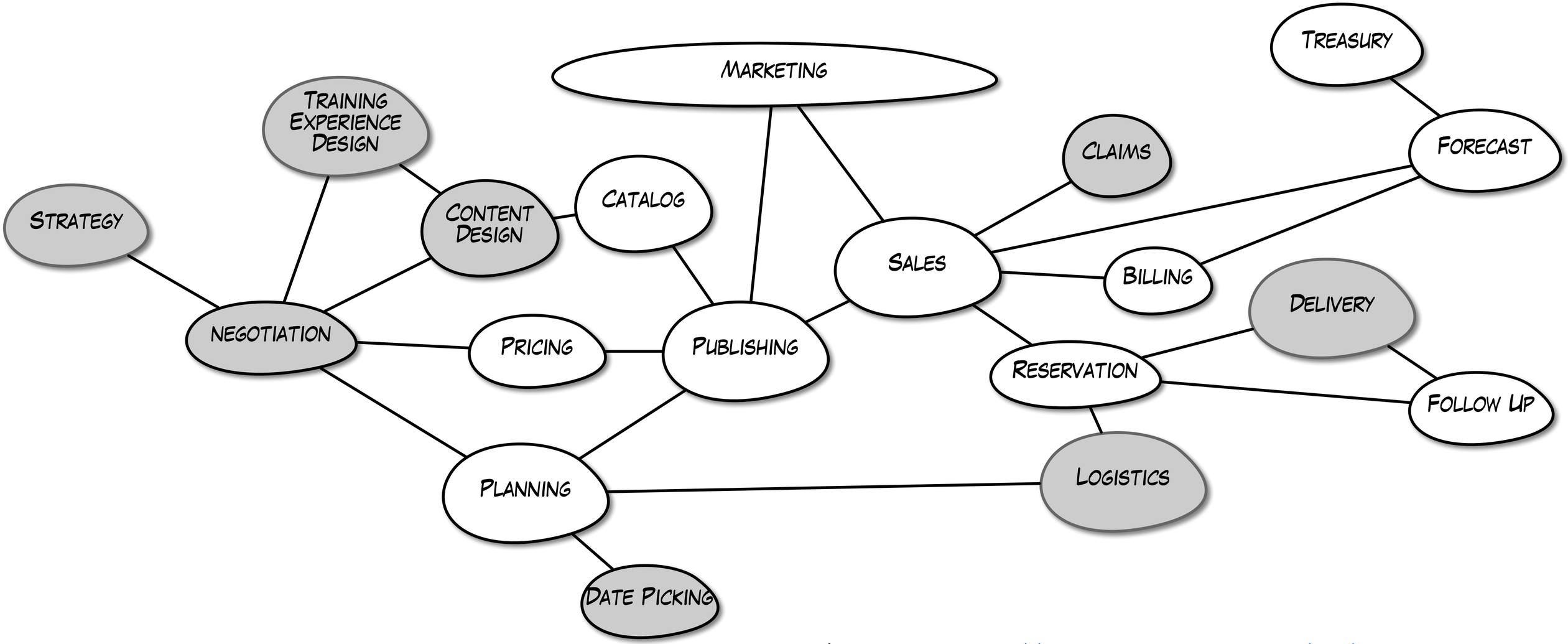
No decisions without



We need Dissociation

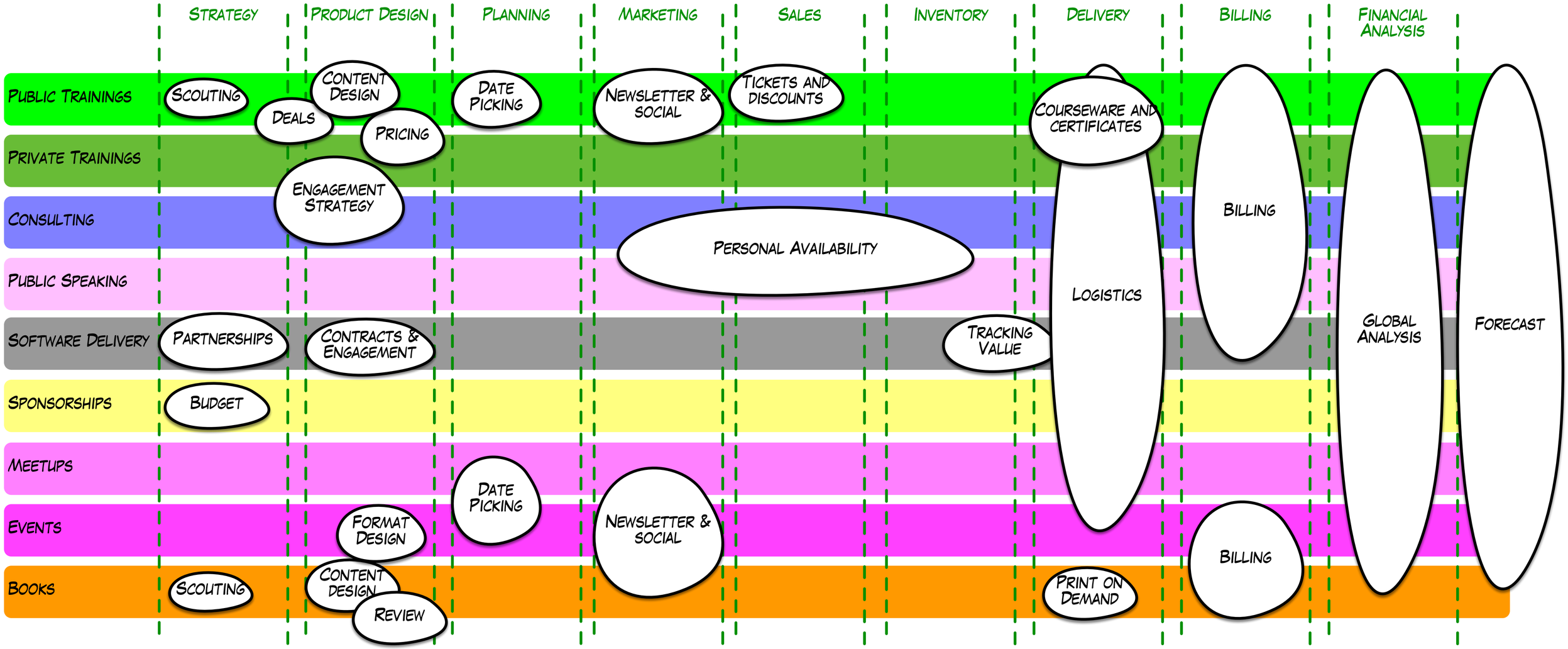
Or "the ability to see the problem from different perspectives"

Context Map for one Business Line



More at https://www.avanscoperta.it/en/context-mapping/

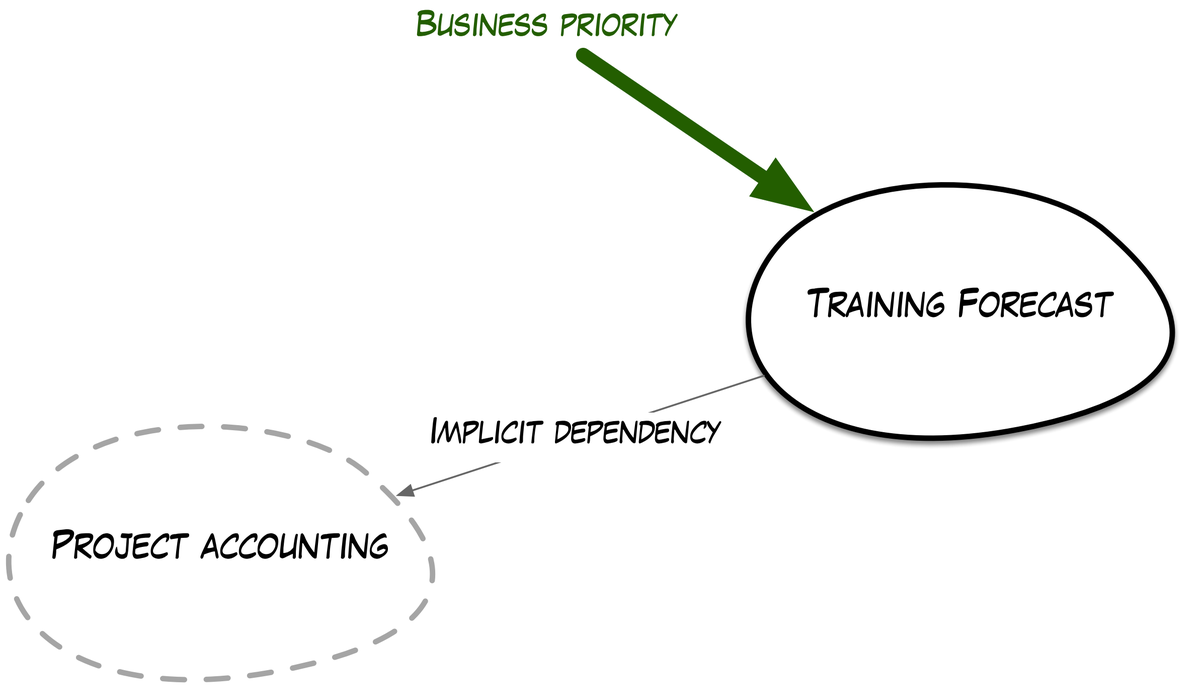
And for more...



More About It https://blog.avanscoperta.it/2020/04/21/context-mapping-on-a-business-grid/

Tricky Scenarios

- Business and modelling priorities may collide.
- Big invitation to "We'll fix it later"



Small Team on top of multi-model

- Without visuals Our Brain switches to verbal
- Verbal inevitably drifts towards Canonical
- Canonical messes up with your model clarity

- We'll need MAPS to rule out this complexity

Hack #2

Framing Discussions

1. Visualise the current problem -> We don't discuss invisible things
2. Highlight critical issues -> We don't discuss invisible things
3. Visualise alternative solutions -> One is never enough.
4. Visualise Pros & Cons (Obvious, but not resolutive)
5. Highlight Scenarios ...and their probability
6. Pick your preferred solution
7. Capture the discussion with an ADR

Blog Post Coming soon on https://blog.avanscoperta.it

YOU DON'T BUILD A GOOD ARCHITECTURE OUT OF DYSFUNCTIONAL DISCUSSIONS

Explicit time to wrap up!





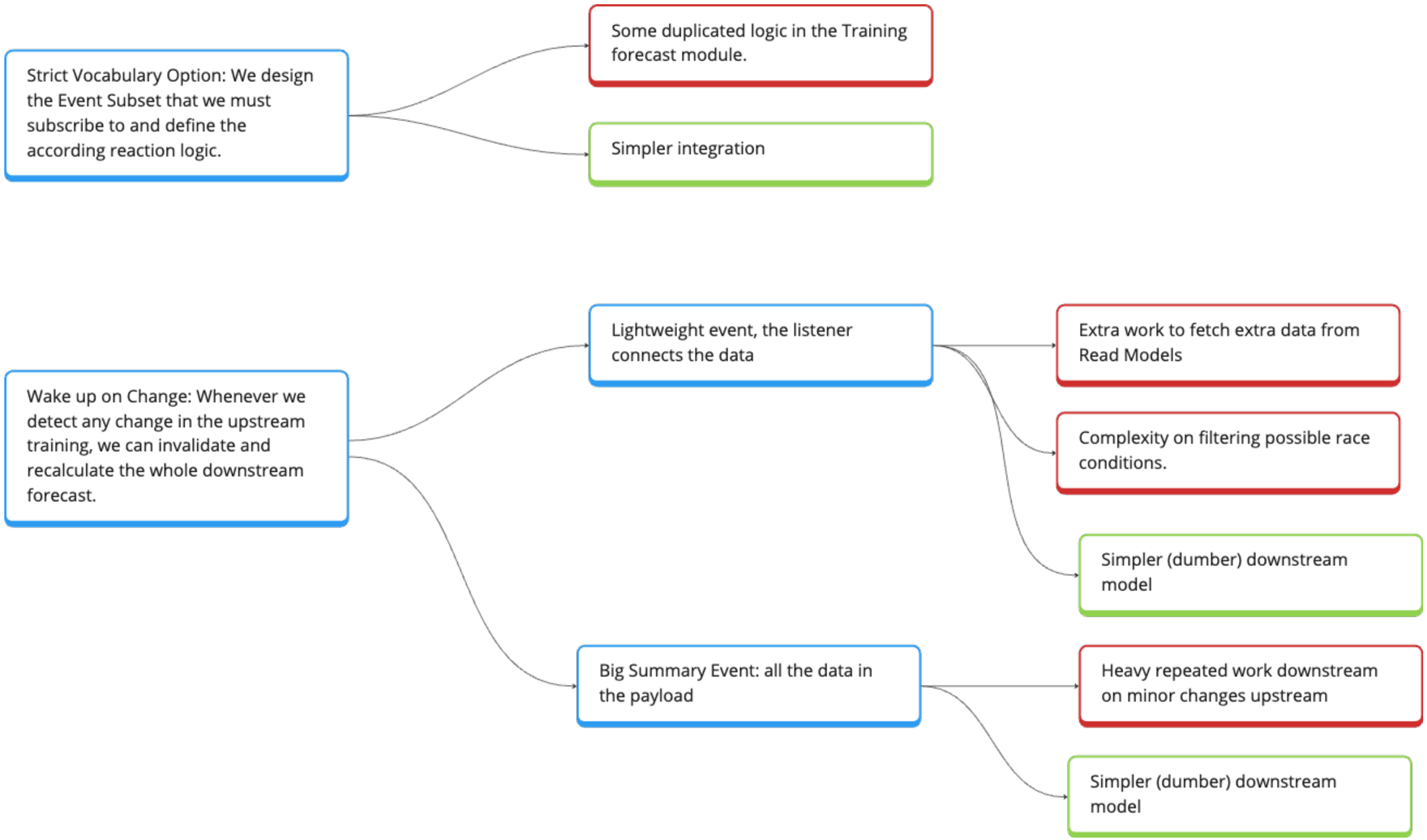






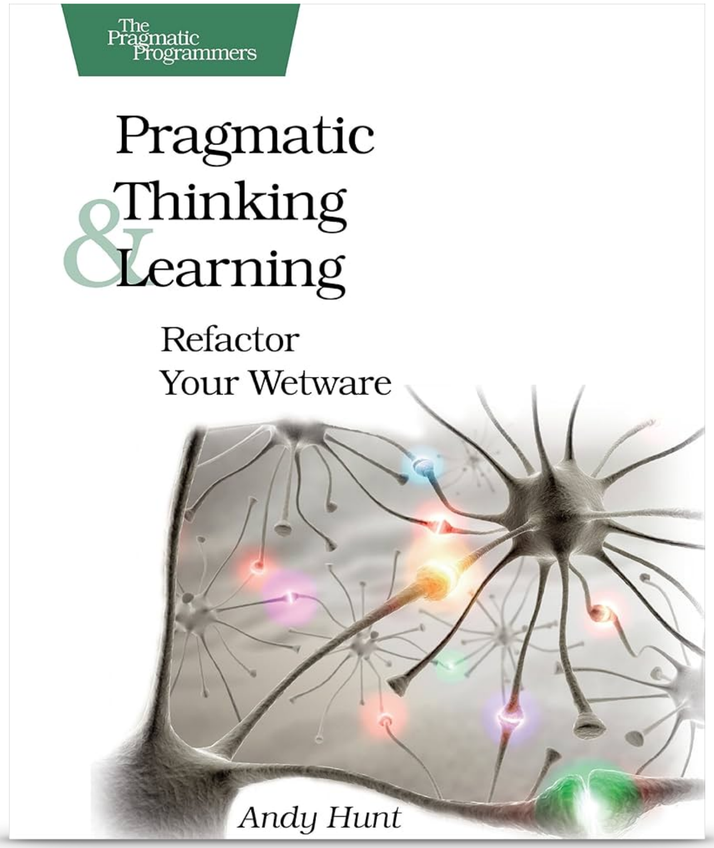


Structuring thoughts?



But Think freely!

- Discussion alone isn't design
- Balance solo and team
- Balance Computer and Lo-Fi
- Balance Indoor and Outdoor



Explicit Purpose

- Reaching clarity is **HARD**
- ...and clarity is **ephemeral**
- Let's capture the **conversation** as a memento!
- The bare minimum to get back in the "clarity mood".

Filtering out terms is key!

Share

🔮

Forecast

Assign Alberto Brandolini

1 more property

Purpose

To display a reasonable assumption of the expected cash flow in the future.

Narrative

Uncertain information about the future is turned into Expectation(s), from the obvious Invoice Issued that should trigger an Income Expectation around the Due Date to the more generic Expectation(s) of billing a given monthly amount to a specific customer in a consulting gig that we are currently negotiating.

Expectation(s) have different degrees of Confidence

Key Tests

```
Scenario: Estimating public training revenues
  Given an existing deal with trainer "Trainer" with a 50% revenue share
  When we announce the public workshop "Amazing Stuff" with "Trainer" on date: "2025/13/03" on
  And we expect to sell 20 tickets
  Then there should be 20 income expectations of "500 €" between today and "2025/13/03"
```

Key terms

Local terms

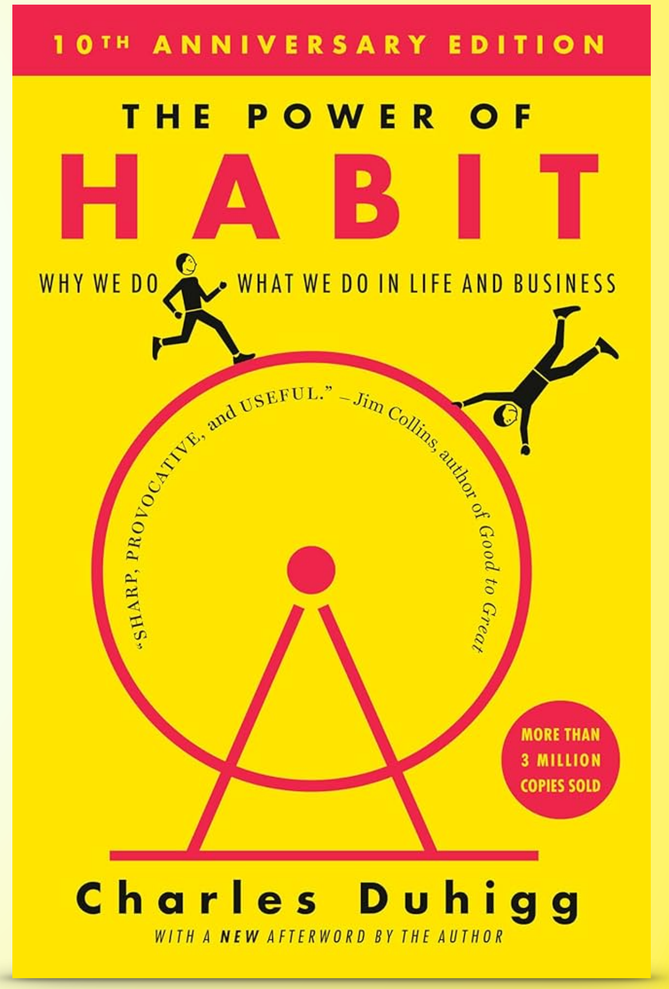
- Expectation(s)
- Income Expectation
- Expense Expectation
- Confidence

Shared terms

- Invoice Issued

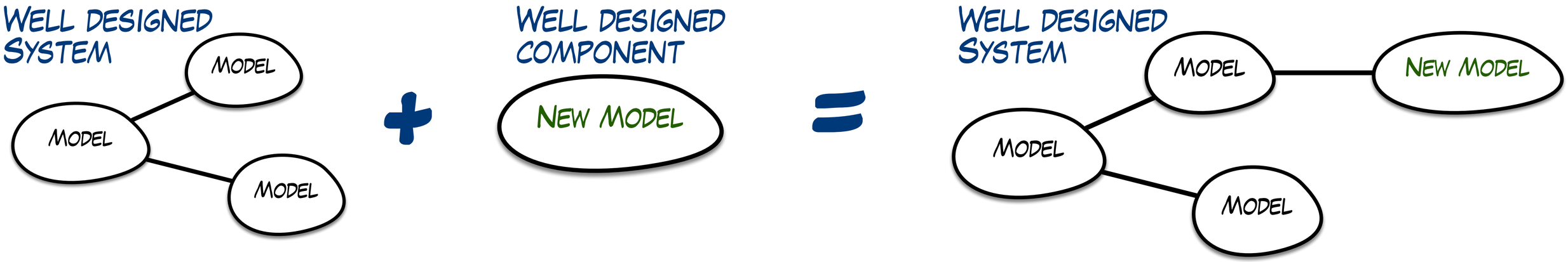
Treat it like an addiction!

- (Slowly) Build a system of tools, interactions and practices that defaults to doing the right thing.



Models' simplicity enables Business Options

The Obvious Math



Multi-Model in the small

- Counterintuitive: still our brain will be tempted
- Logical Boundaries, but ready to go physical
- Discipline is essential
  - Stable team, agreed principles and practices
- Maps are the winning ingredient
- Hack the habit with new routines

Running Faster



Chasing the dream

Growing to market fit

- Growing a product/Service/Solution
- Good principles,
- Business pressure (Phase 1: Quickly discover market fit)
- Single country, clear business model

Growing team size

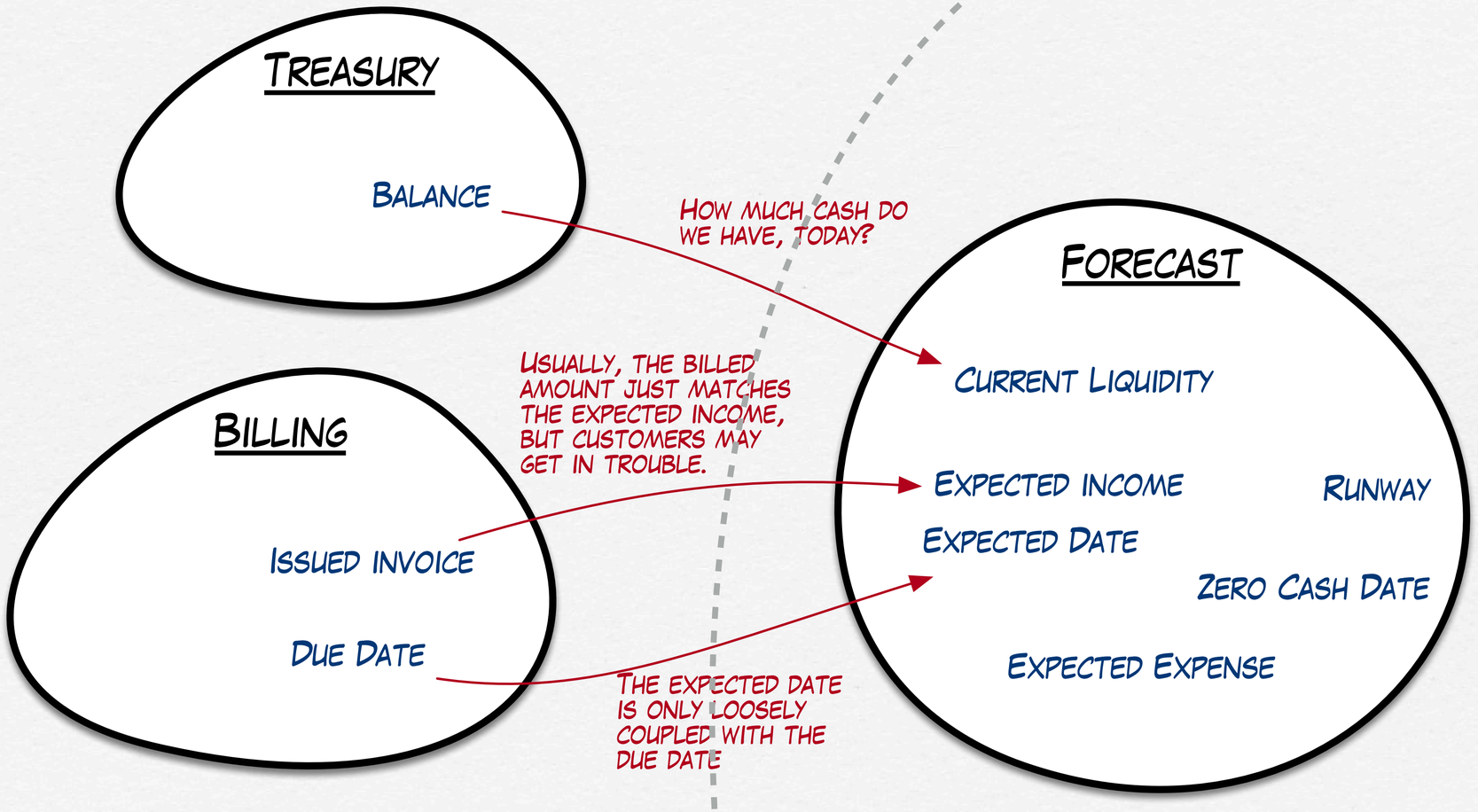
How do we split?



Photo by Romario Roges on Unsplash

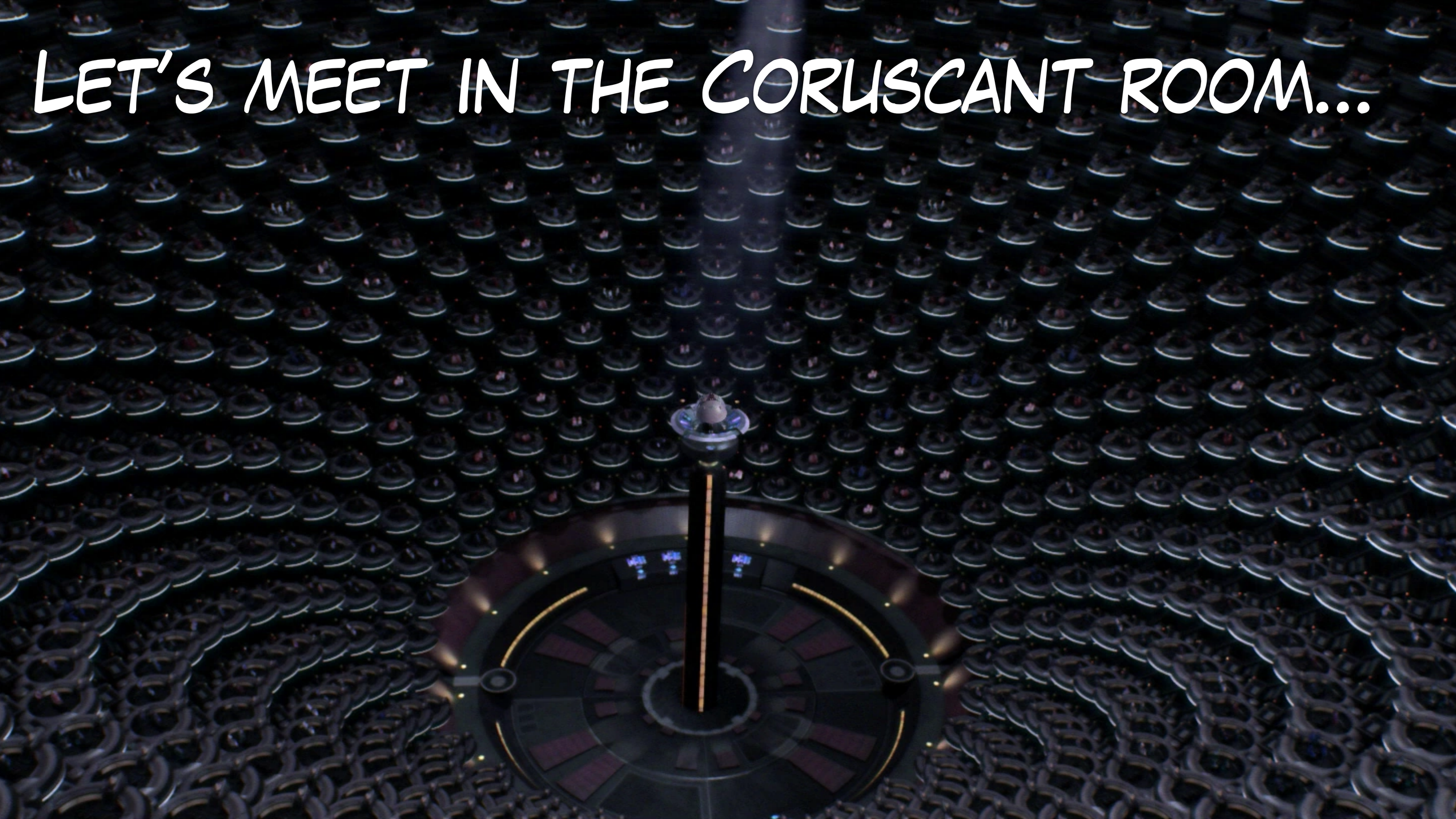
DO YOU HAVE A MAP?

On a good map...



Did you split around purpose?

Maps are cheap
when
you don't need them


Let's meet in the Coruscant room...

Decisions become more and more expensive

But the empire isn't a solution

When to split?

- When signals are clear and decisions are cheap?
- When your team is splitting?
- When you are paralised by coordination costs?
- Never?
- In the next company?

Logical separation is not physical separation


Meet the domain Expert

Should we trust the experts?

Define: "Trust"

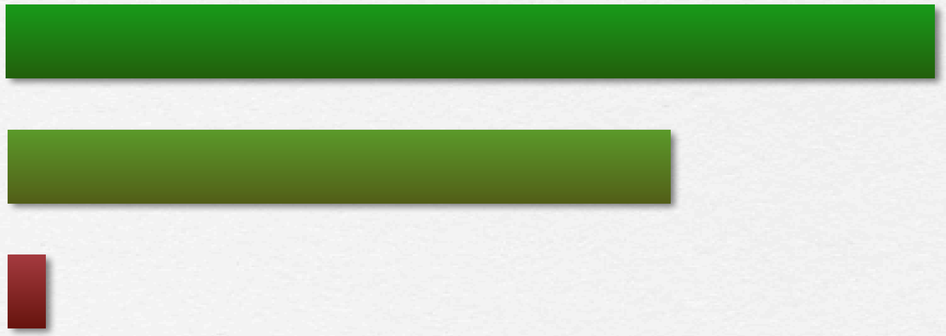
Warning signs

- Strong local domain expertise
- Developer Turned Domain Expert
- Possible expertise contaminations
  - "It's =...= by definition"
  - "That will never happen"
  - "The law says so!"


BRRRREGULATORS

Regulator scorecard:

- Authority
- Competence
- Domain Modelling Skills



Our model is not a replica of the domain

Preparing for the future

Obviously, without overengineering


WE HAVE NO IDEA!


We have no information
We are hiring a domain expert for the =...= market
It's too early for that
We don't want to overengineer

Really?

No precise requirements, so...

- Can find Stressors with Residuality Theory
- Can use LLMs to get plausible expertise on foreign markets
- ...

There are so many options

If we accept the grey zone...

Growing in single market

- Business pressure to postpone design choices
- Reliance on Domain Experts (Blindly?)
- Progressively increasing decision-making costs
- Maps will make your life easier


We're stuck in deciding!
Turns out the technical part isn't the hardest one


ONLY MURDERS IN THE BUILDING
SUSPECT
VICTIM
STING
UMA HELLER
BUNNY FOLGER
HOWARD MORRIS
NDIDI IDOKO
DR GROVER STANLEY
TIE DYE GUY
FLOOR PLAN
ARCONIA APARTMENTS
FIRST FLOOR
Young New Yorker Commits Suicide in Upper West Side Apartment
DETECTING WHERE TO START

Consensus is blocker number one

Coupling increases the cost of consensus


WE CAN SEE FRICTIONS BETWEEN MODEL AND REALITY
AND THE ONES MORE SENSITIVE FOR THE BUSINESS

Splitting has risks!

Make it worthy!

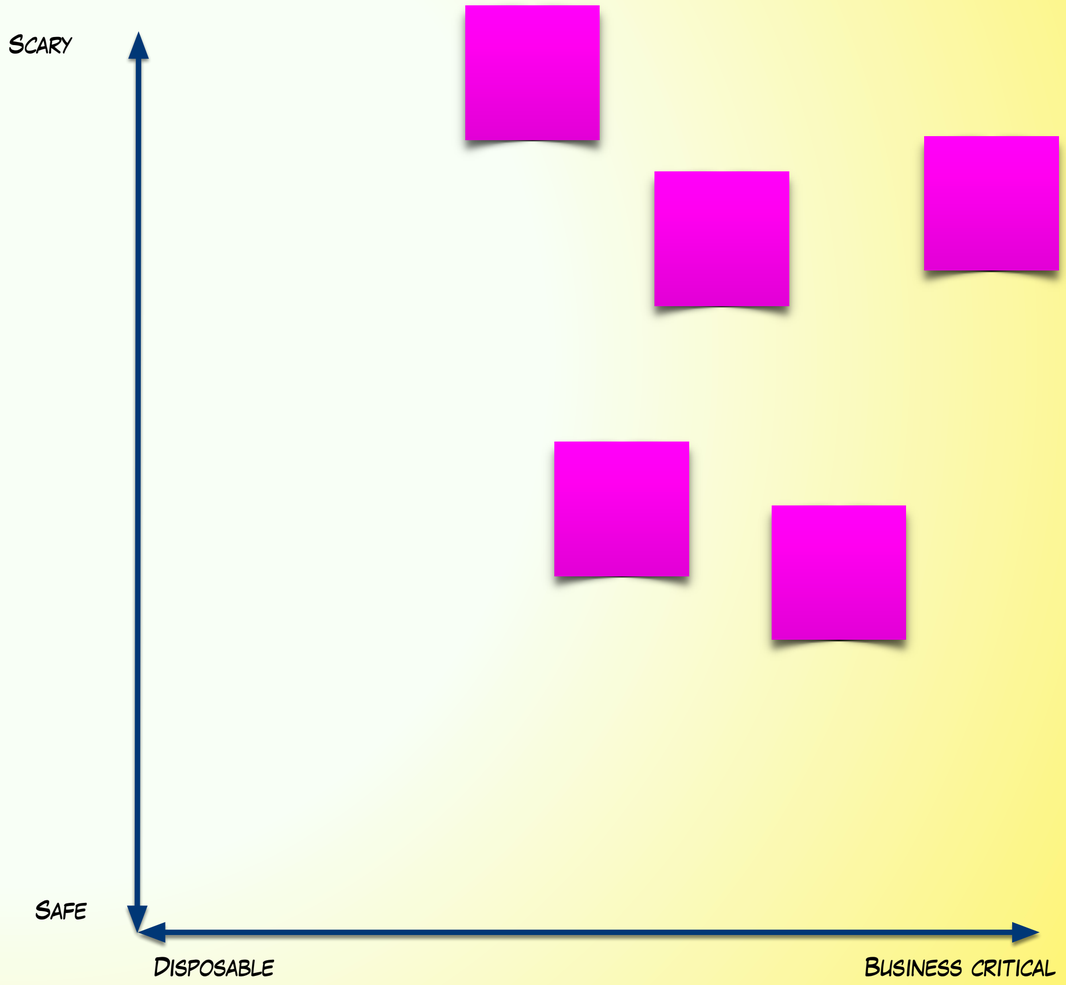
Not the whole story

What if actions and logic start to diverge?

What about Fear?

Fear Map

- If FEAR is the hidden driver, let's make it explicit!
- Map the critical components in a quadrant.
- Decide your strategy <u>together</u>



Can we talk about it?

Model splitting

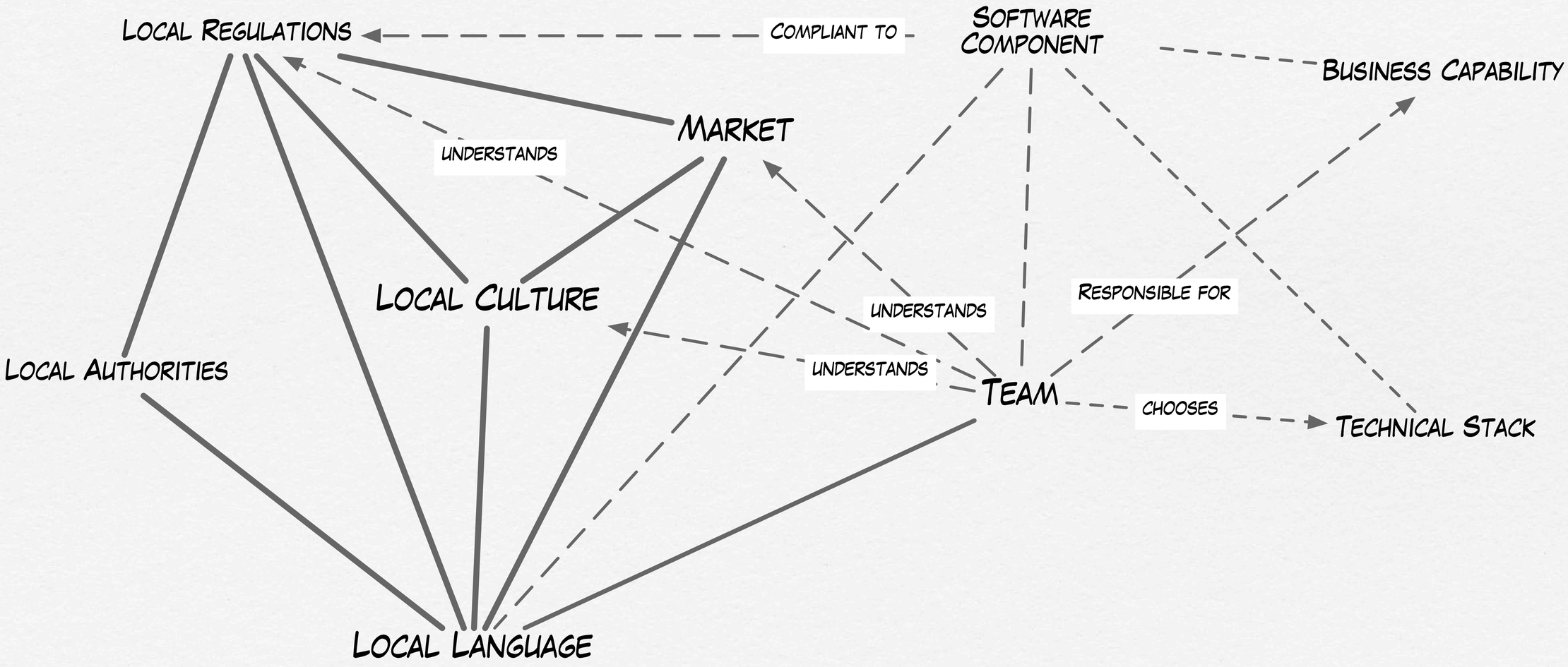
- There are tools and practices to make it happen
- But the safety scaffolding takes time
- Architecture views will tell us where it's ugly
- Business will tell us where is worthy
- Fear will tell us where it's urgent


MULTI-COUNTRY

Getting International

- Successful in one country.
- Entering different markets
  - By Default (Worldwide product/service)
  - By Colonisation (Expanding in new countries)
  - By Conquest (Strategic Acquisitions)
- Growing the team(s)
- Looking for new domain expertise.

What makes a country different?



"We already paid half of the price"

Or: "You just need to customize"



1º COUNTRY RECIPE

- TOP TIER TEAM
- GREENFIELD IMPLEMENTATION
- ACCESS TO DOMAIN EXPERTISE
- MARKET POSITIONING
- TALENT ATTRACTION

2º COUNTRY RECIPE

- NEW TEAM (OFTEN MORE JUNIOR)
- BROWNFIELD IMPLEMENTATION (REQUIRES COORDINATION AND A PLATFORM)
- NEW EXPERTS NEEDED
- DIFFERENT POSITIONING
- TALENT ATTRACTION?

Following Business "Advice"


YOU TOLD ME IT WAS FOR THE LOCAL MARKET ONLY!

Following Business Guidance has a 99% probability of leading you to ...


BIG BALL
OF MUD

Cross-Country Domain Expertise


WE NEED SOMETHING DIFFERENT

The Uber-Domain Expert

- Cross-country expertise
- Able to describe differences and commonalities
- Able to see transcendent patterns and local variations
- Playing the long game



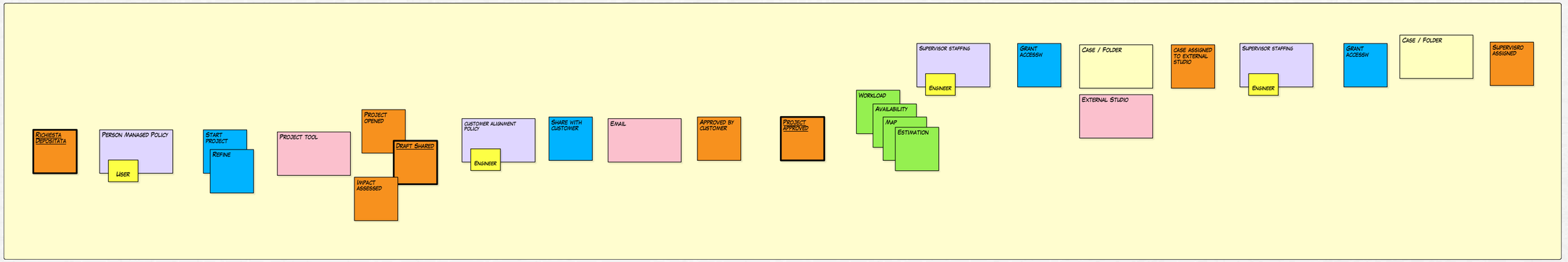
How to get a Nonfictional Uber-Domain Expert?

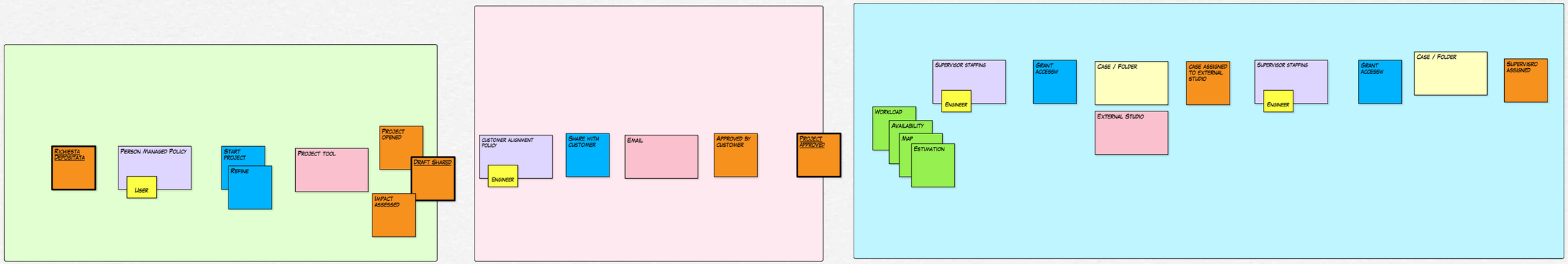
YOU PROBABLY NEED
TO BECOME ONE

How to become an Uber-Expert

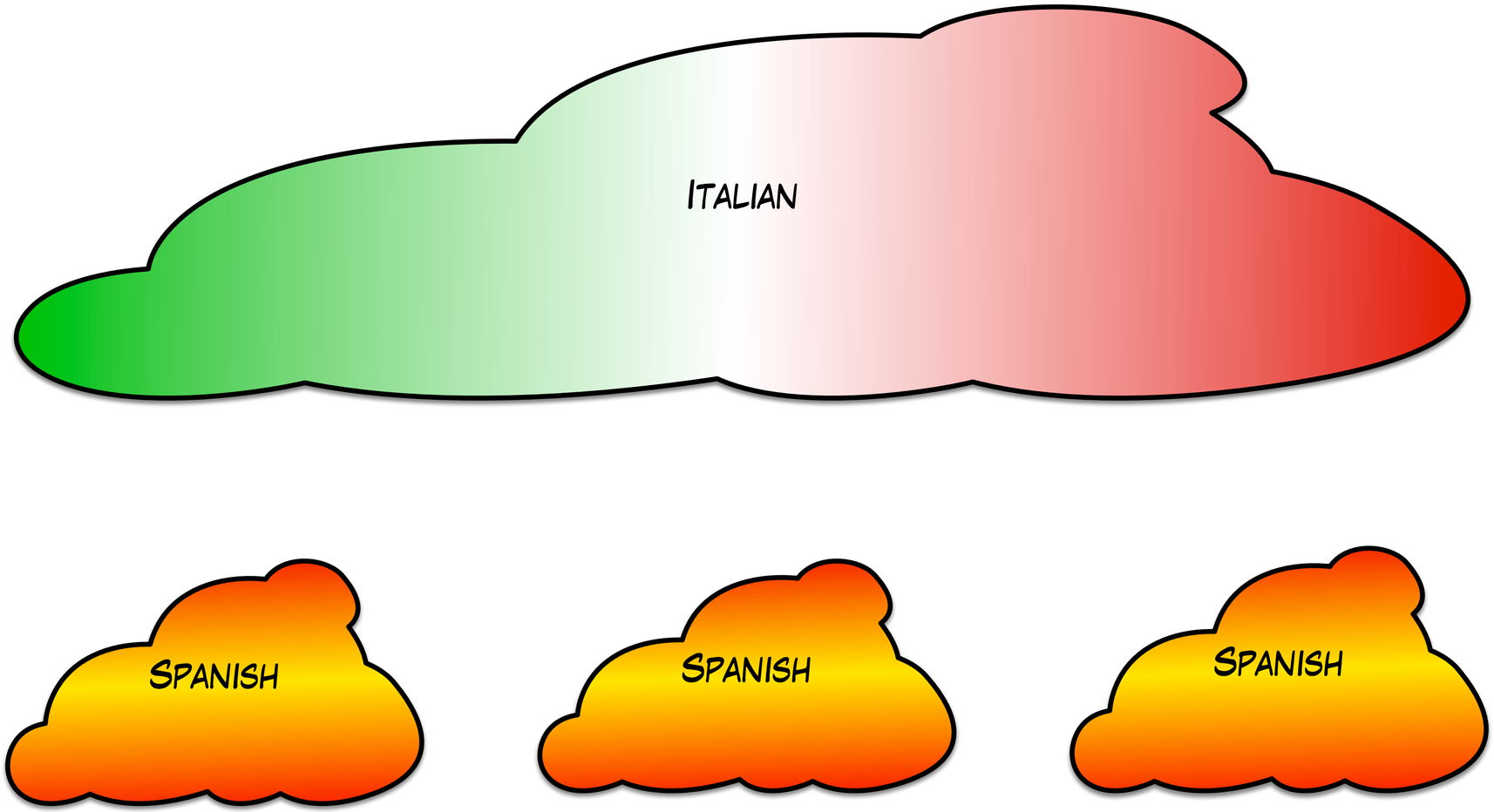
- Build a model of behaviour in country A
- Build a model of behaviour in Country B
- Compare the models and build a set of tentative abstractions
  - Purposes / Key Events / Roles ...
- Repeat

PARALLEL EXPLORATION





Separate exploration



But under the hood...



Lessons learned

- Don't force solutions in
- Explore independently then compare the results
- Conway's law is real!

Poking the landscape



Poking the landscape

Country-Specific Surface	Corsa Standard	Corsa a Richiesta	Trasporto Extra
Domain-specific Composition	Roaming Ride	Call Ride	Special Transport
Model Elements	Call, Priority, Ride, Vehichle, Unit, Journey		
Domain Concepts	Request, Destination, Target, Vehichle, Customer, Pick-up Location, Ride, Journey, Zone, Driver, Call, Car, Passenger		

4) Market-friendly surface.

3) Higher-level abstractions by composition (language is free)

2) Select the most flexible set of abstractions

1) Experiment with redundant terms and their lifecycles

Poking the landscape

- Collect the possible moving parts in a Domain. Be redundant
- Sketch possible state machines and check them against the expected ones
- Can you build the local concepts by composing some of the most basic ones?
- Prototype hiding the complexity under the hood.

Market fit can drive you into conformist


We're still stuck in deciding!
Turns out the technical part isn't the hardest one

Turning a tanker



Turning a tanker



- Need to plan in advance
- Time to execute
- Coordinated action
- Very hard to change the plan when turning


Maritime law is the same worldwide!
So is the chain of command!
But Port Regulations are very different!
Storage and capacity are bound by physics!
Taxes are massively different!
Security inspections largely depend on the port
We are a cargo, so DDD must work!

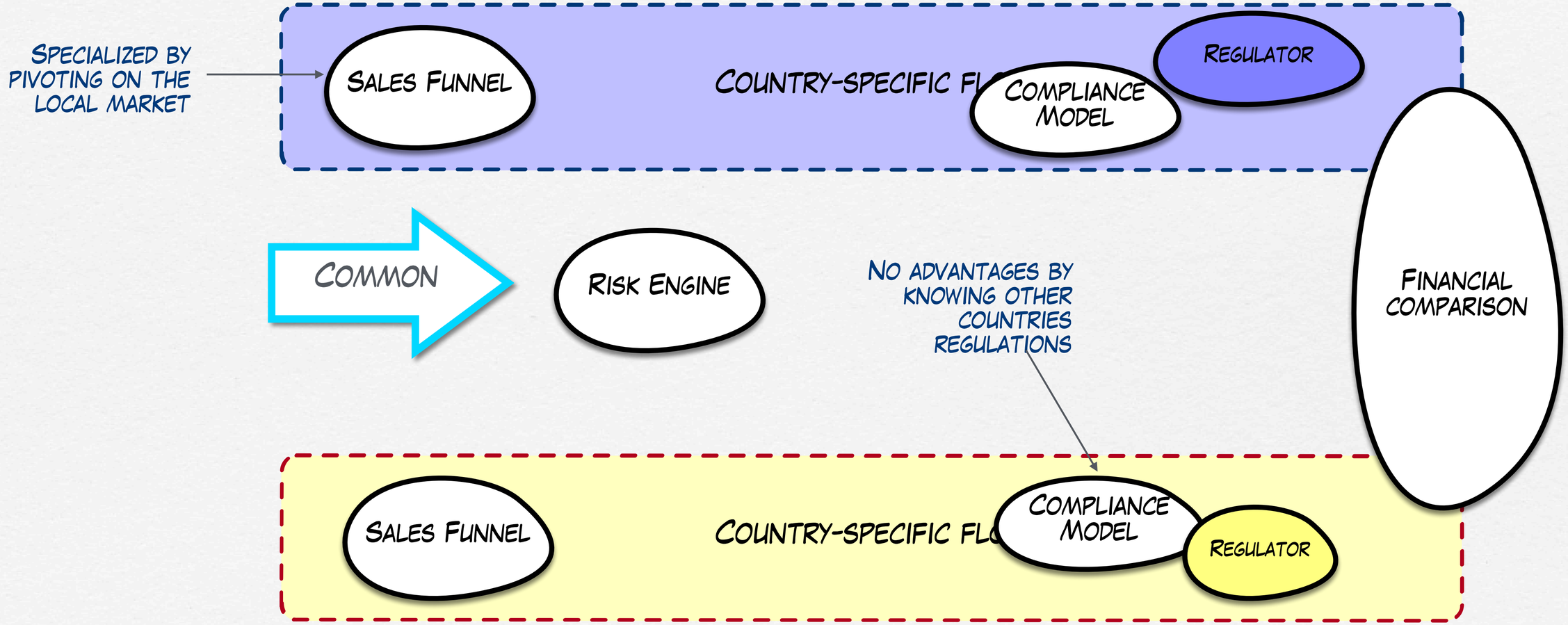

We need a standard model for financial analysis
The risk model is the same
By contrast...
We'll guarantee compliance to local regulators
We'll pivot to intercept potential customer
Snap-on
56

Good Bounded Contexts allow easier Local Choices

Events and Purpose as the way to split


ROUGH CONFERENCE STRUCTURE DEFINED
1 SHOT OR SERIES.
INITIAL BUDGET DEFINED
KPI
TWITTER
1 YEAR BEFORE
FACEBOOK
CANDIDATE NAMES DECIDED
OFFICIAL NAME CHOSEN
DOMAIN REGISTERED
THEME DECIDED
"STEERING COMMITTEE DECIDE"
BUDGET CHECKED
WE NEED VISUAL IDENTITY
HOW DO WE LOCATE HIM.
KEYNOTE SPEAKER
Decided to run conference
TEAM.
Created Trello Account
Hired Accountant
AWS
VENUE OWNER
VENUE
WHAT ABOUT VENUES?
ALL THE SIGNALS ARE VISIBLE!

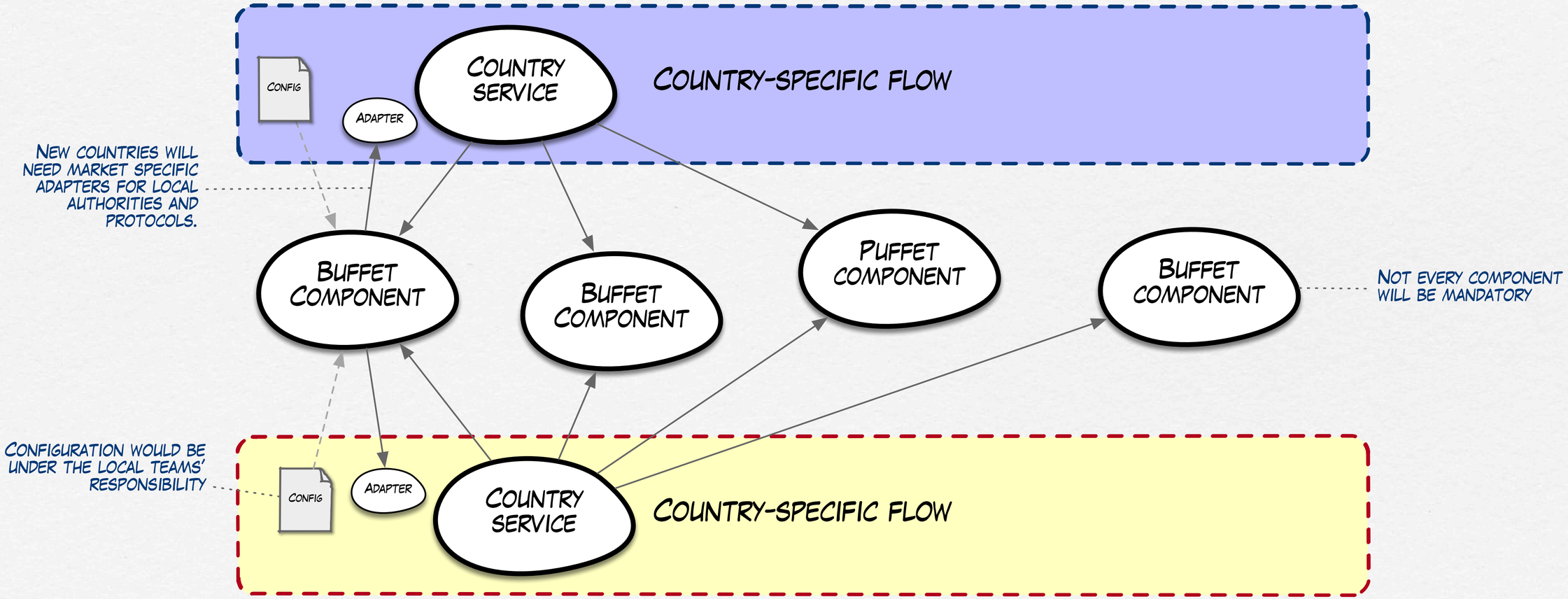
Simpler local choices



Purpose-oriented models

- Local forces are clearer in a single BC
- Decision-making involves less people.
- Mistakes are more manageable

Buffet component and ownership



Possible moves

- Smaller purpose-oriented component can be extracted from the main flow
- Country Models by
  - Copying
  - Forking
  - Customizing
  - Composition
  - Configuration
- None of them is rocket science.


TIME TO WRAP UP



EVERYBODY'S SECRET DREAM

THEY'RE
YOUR DECISIONS,
SORRY.

But decisions are your blocker.

Early Mapping pays off

And maps are cheap too!

Detect purposes and split

In the cheapest possible way

Maps & Disciplined Thinking

Words are just not good enough

HACK HABITS TO IMPROVE YOUR DECISION MAKING PROCESS

It's more emotions than skills

Sunken cost? Attribution?

Stop Expecting Certainty

It will always happen too late!

Reduce Uncertainty by Explicit Exploration

YOU MAY HAVE TO BUILD CROSS-COUNTRY EXPERTISE

Good Bounded Contexts Enable Strategic Flexibility



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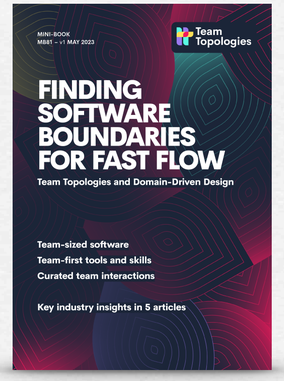
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- Blog:
  - https://blog.avanscoperta.it
  - https://medium.com/@ziobrando
  - https://ziobrando.substack.com/
- BlueSky: @ziobrando.bsky.social
- Consulting & Training: info@avanscoperta.it
  - https://eventstorming.com
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