

# Exploring Product Line Opportunities

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## Abstract

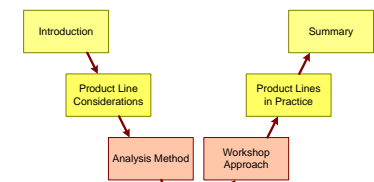
Many companies struggle to benefit from similarities between products they sell. The challenge is to find these commonalities that can be shared between products, while the product value for different customers is not (too much) compromised.

We will discuss a method understand the playing field both in marketing and technology, and we discuss a process to quickly explore this playing field by workshops and fast iteration over views and considerations.

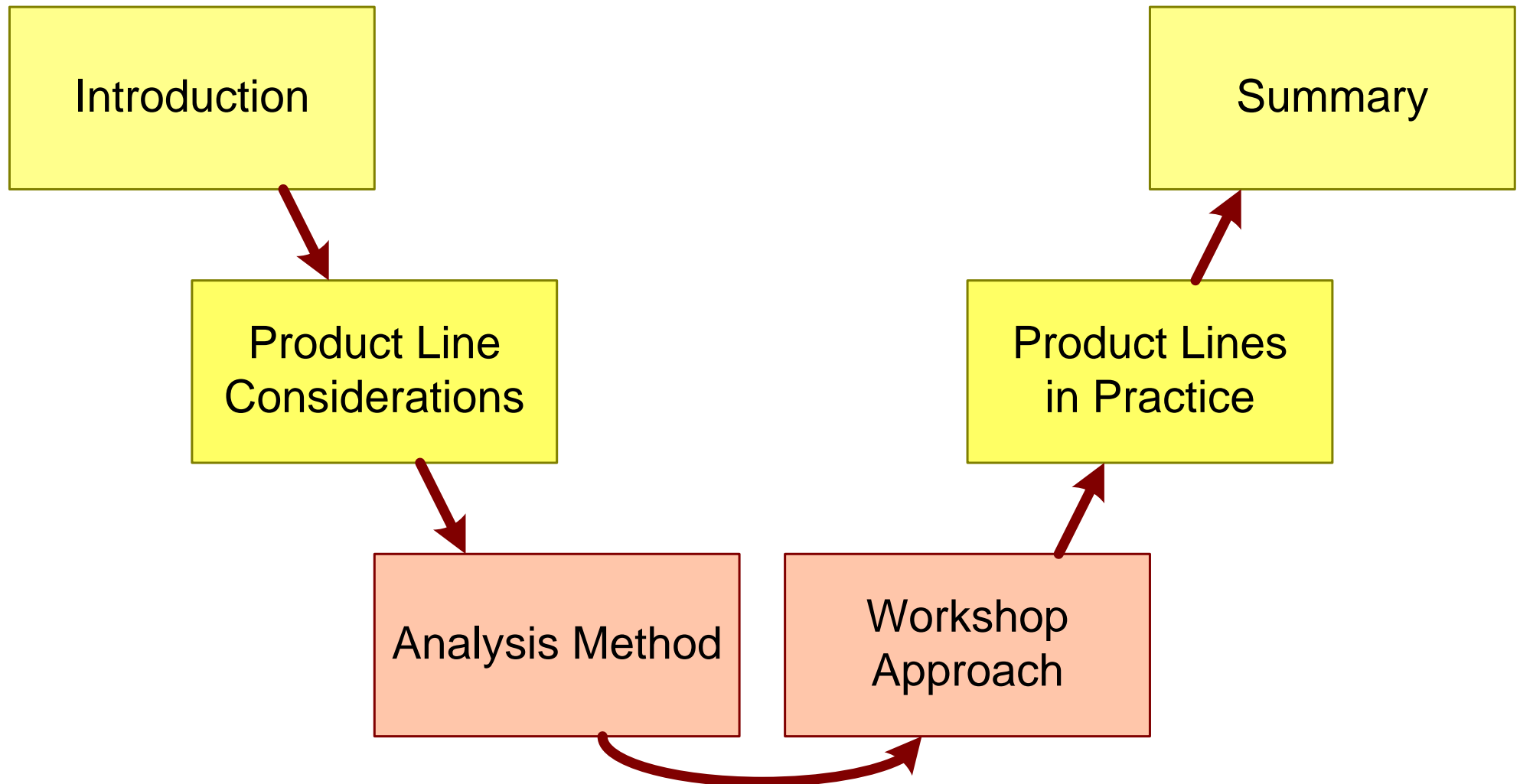
## Distribution

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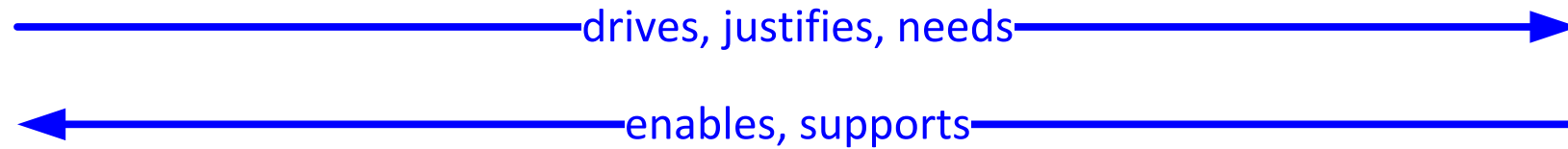
August 16, 2025  
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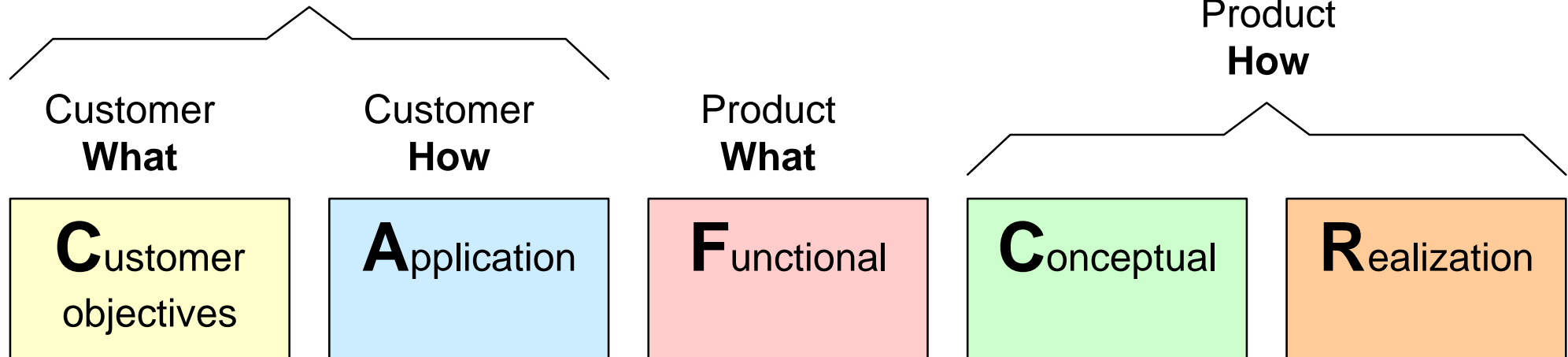
# Figure Of Contents™



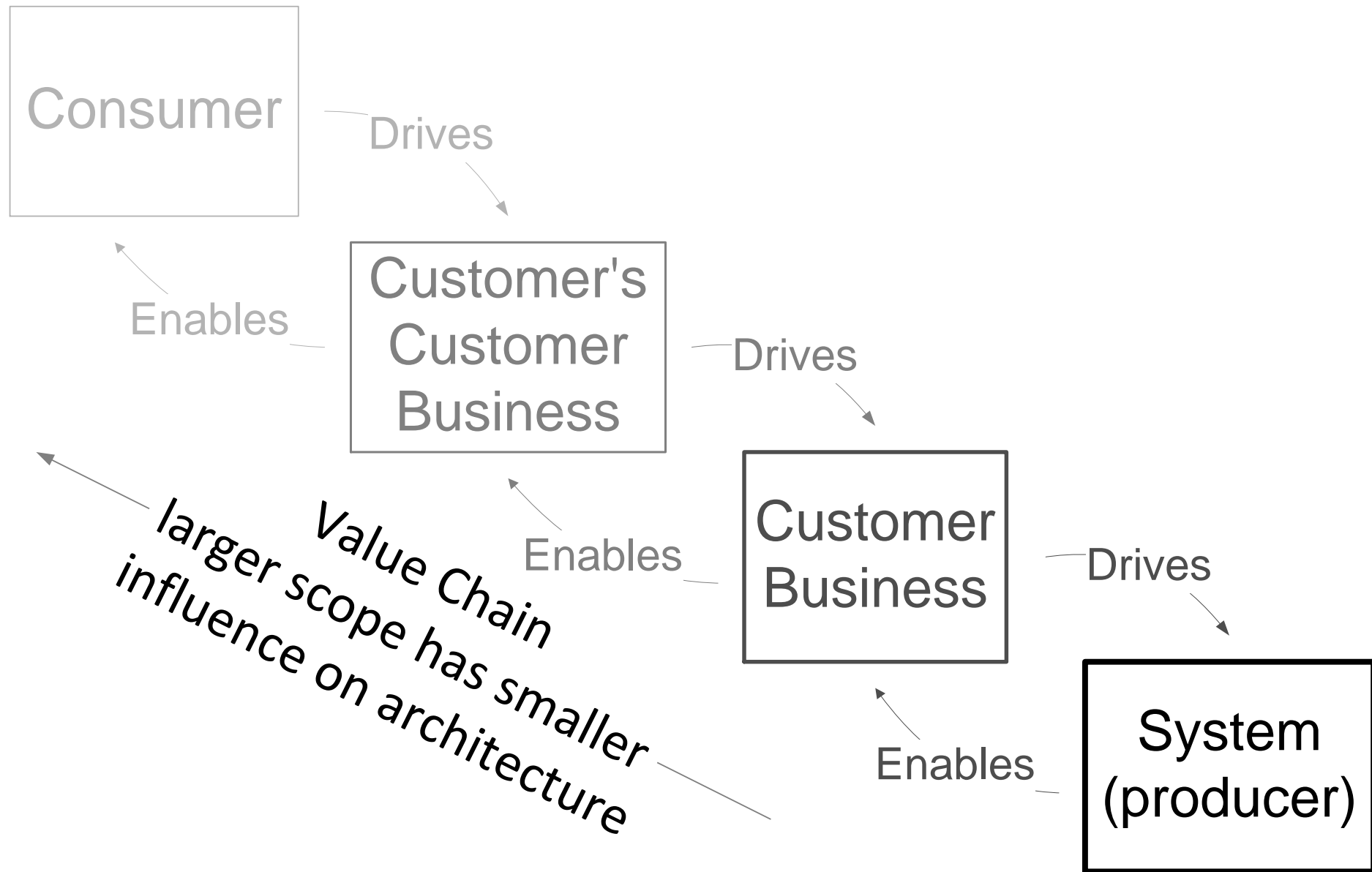
# The “CAFCR” model



**What** does Customer need  
in Product and **Why?**

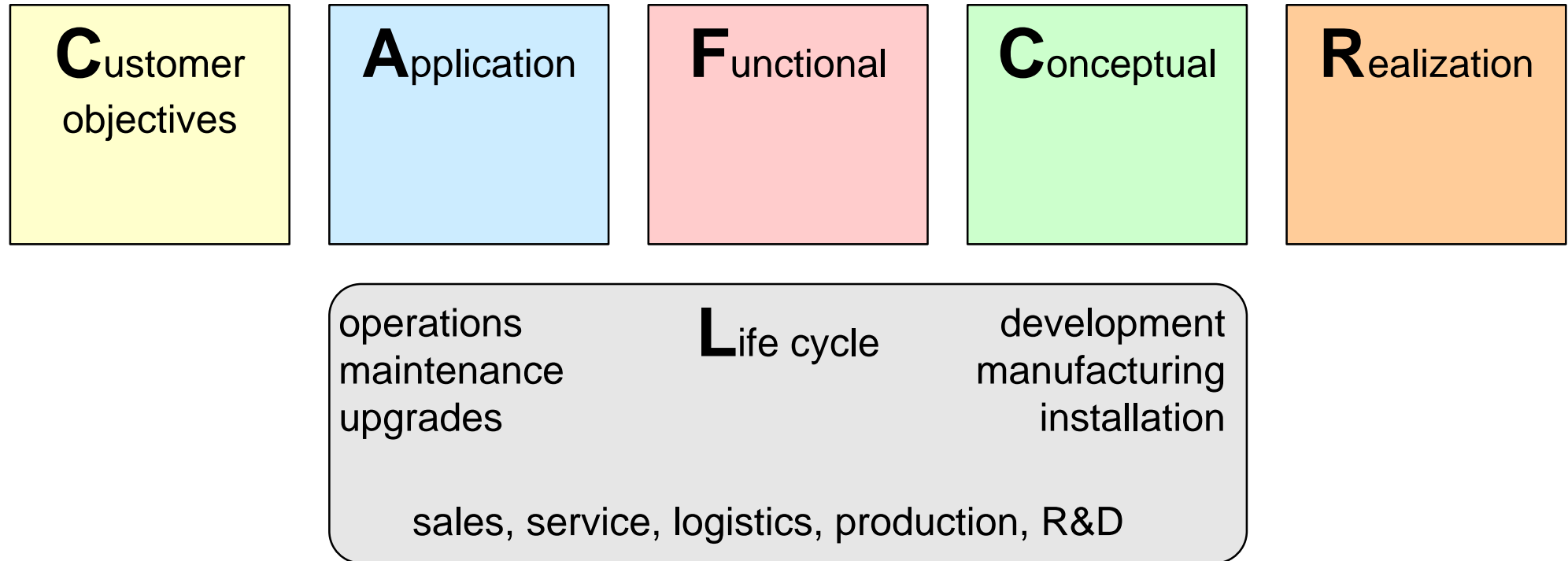


# CAFCR can be applied recursively

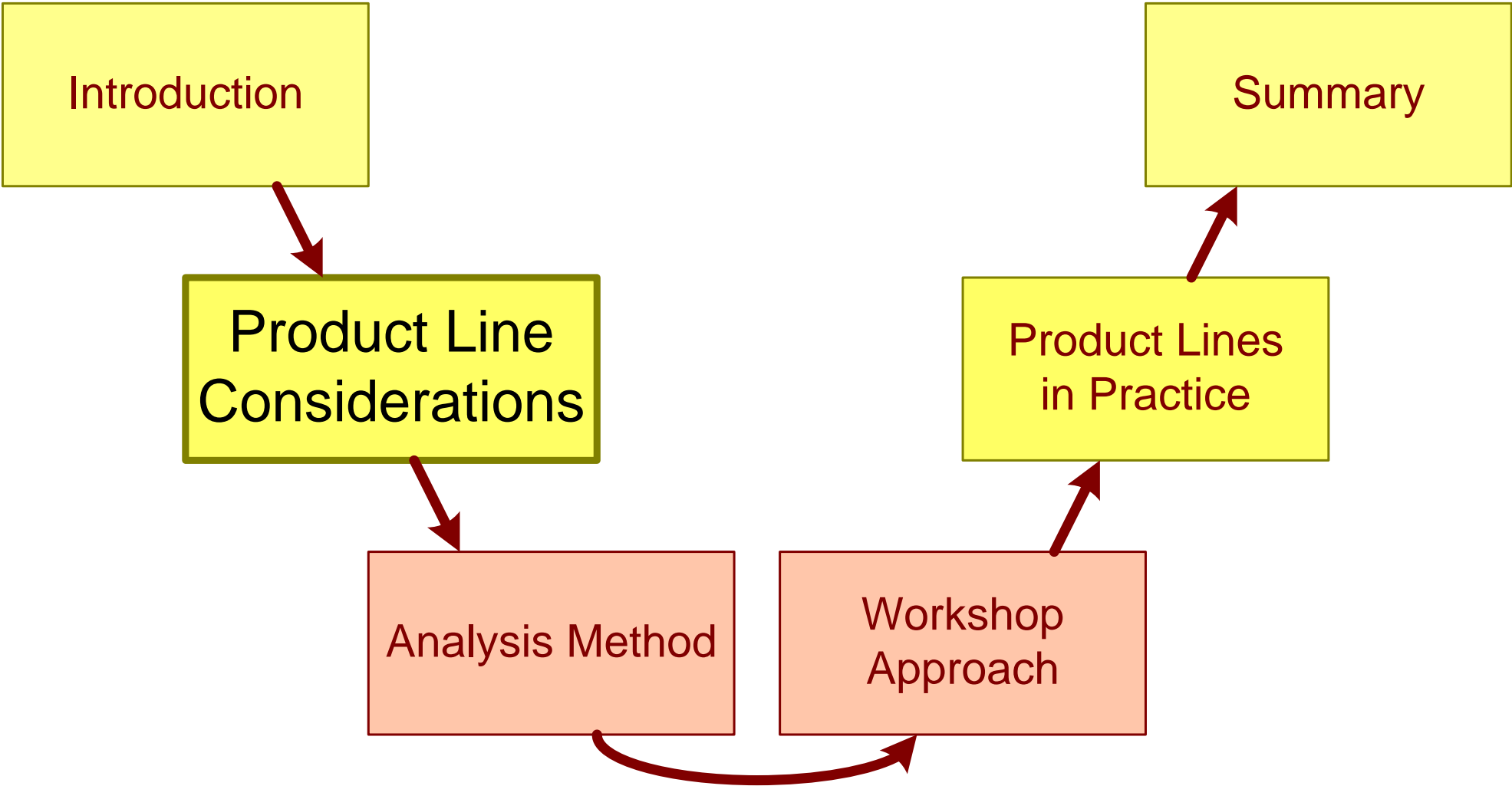


# CAFCR+ model; Life Cycle View

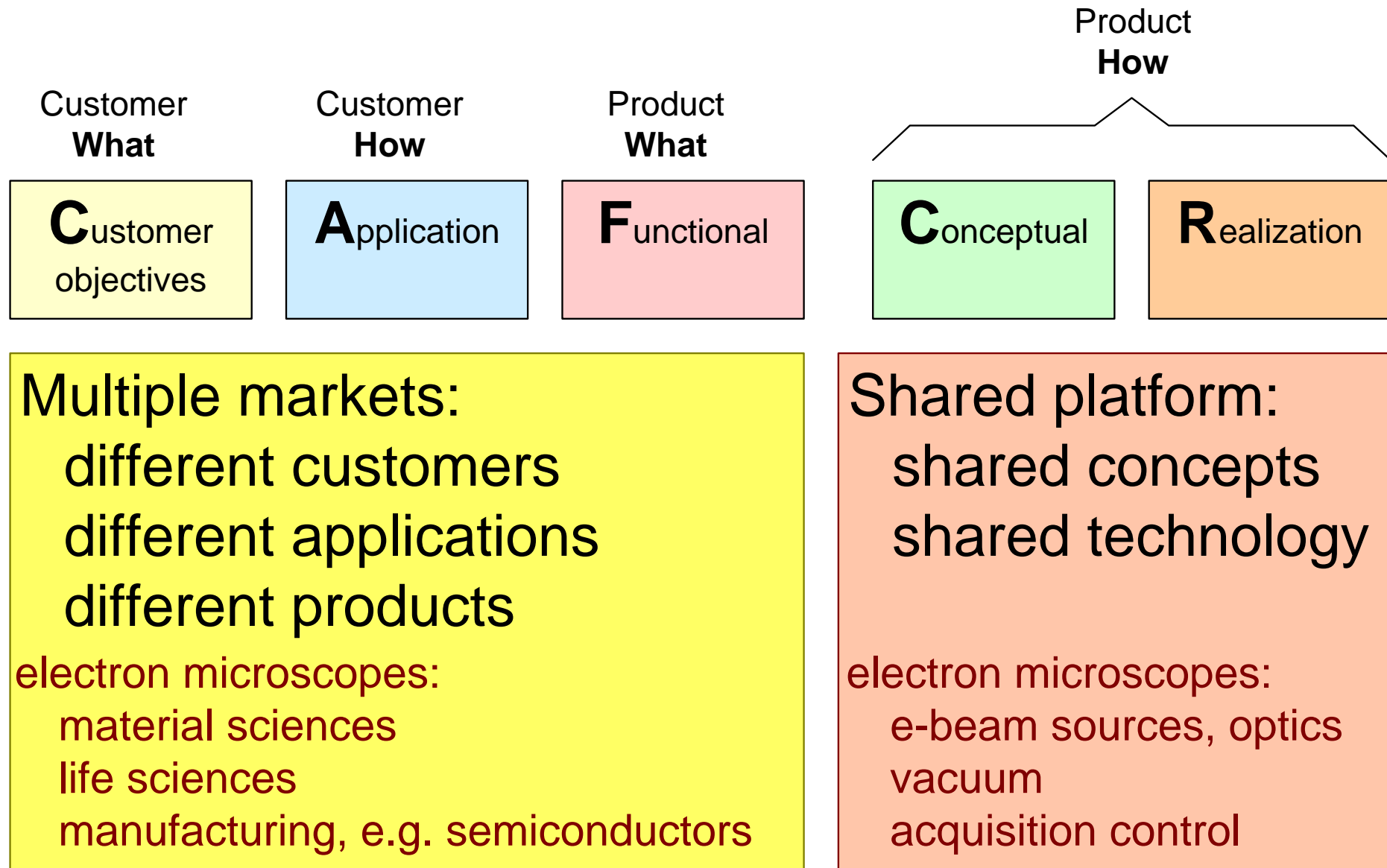
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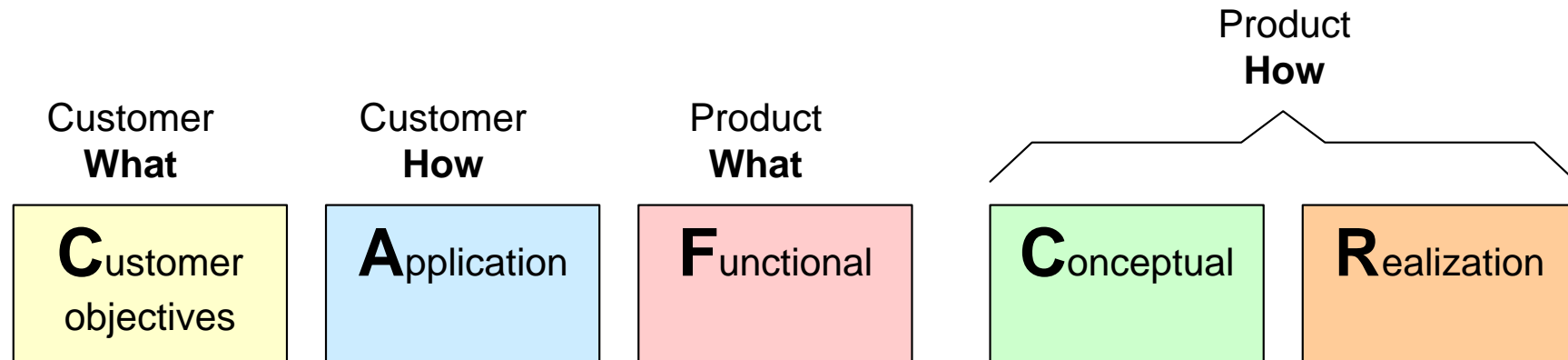
# Product Line Considerations



# Multiple Markets



# Complementing Systems for Same Market



**Single market:**  
different stakeholders  
different applications  
interoperable products

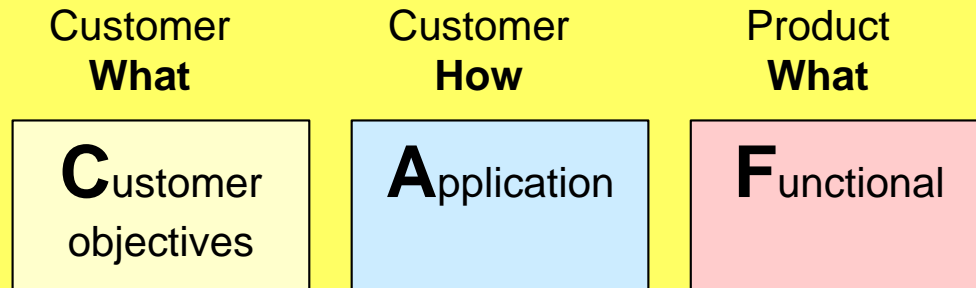
health care, e.g. cardiology:  
analysis  
diagnosis  
treatment  
administration

**Shared components:**  
shared concepts  
shared technology

health care, e.g. cardiology:  
patient support  
patient information  
image information  
storage & communication  
user interface

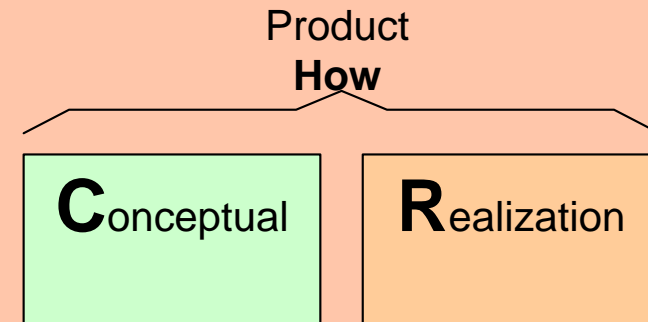
# Scope Analysis

## *market segmentation*



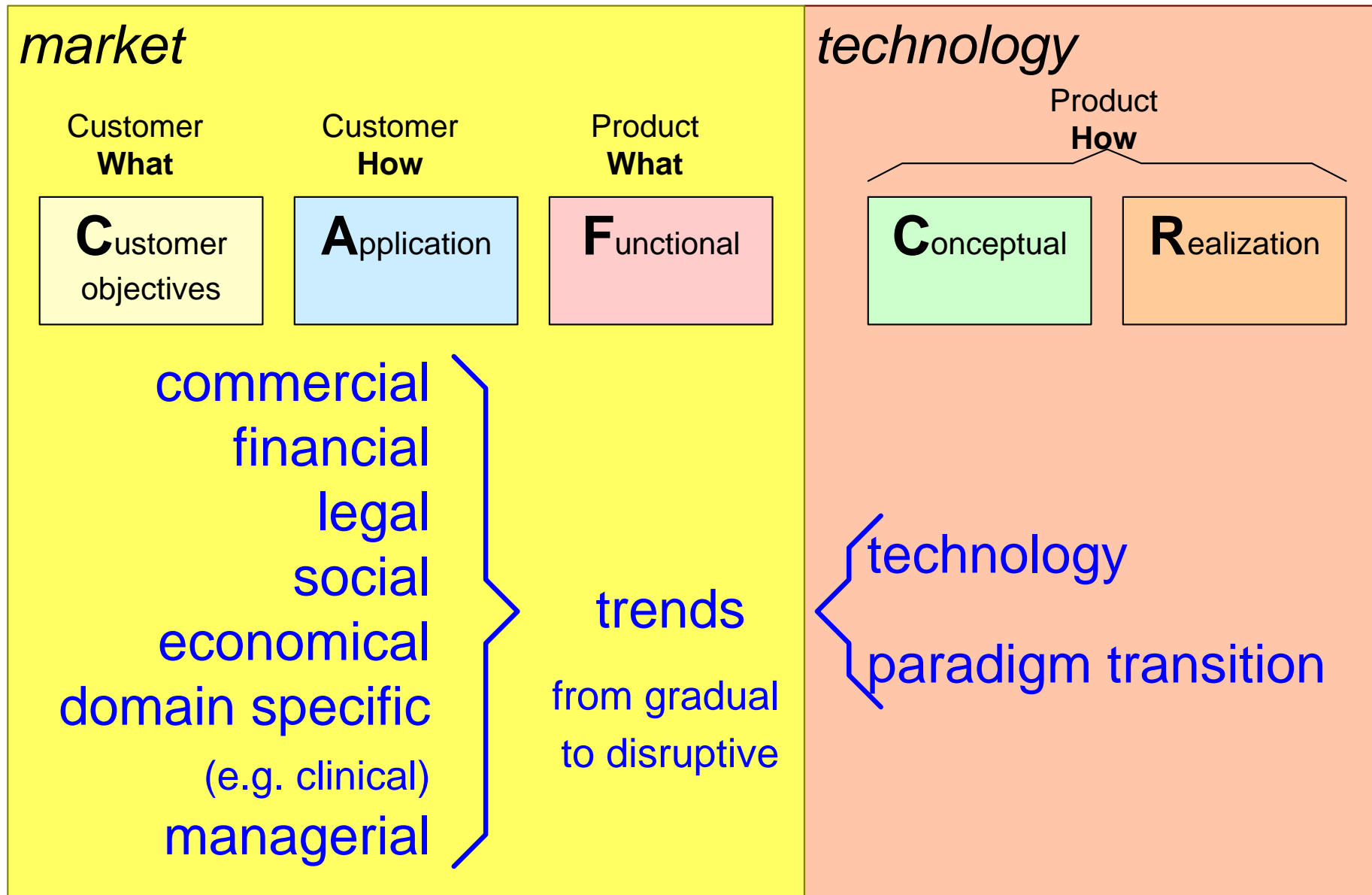
market taxonomy  
customer classification  
stakeholder classification  
inventarization applications  
inventarization  
functions  
features  
performance

## *synergy analysis*

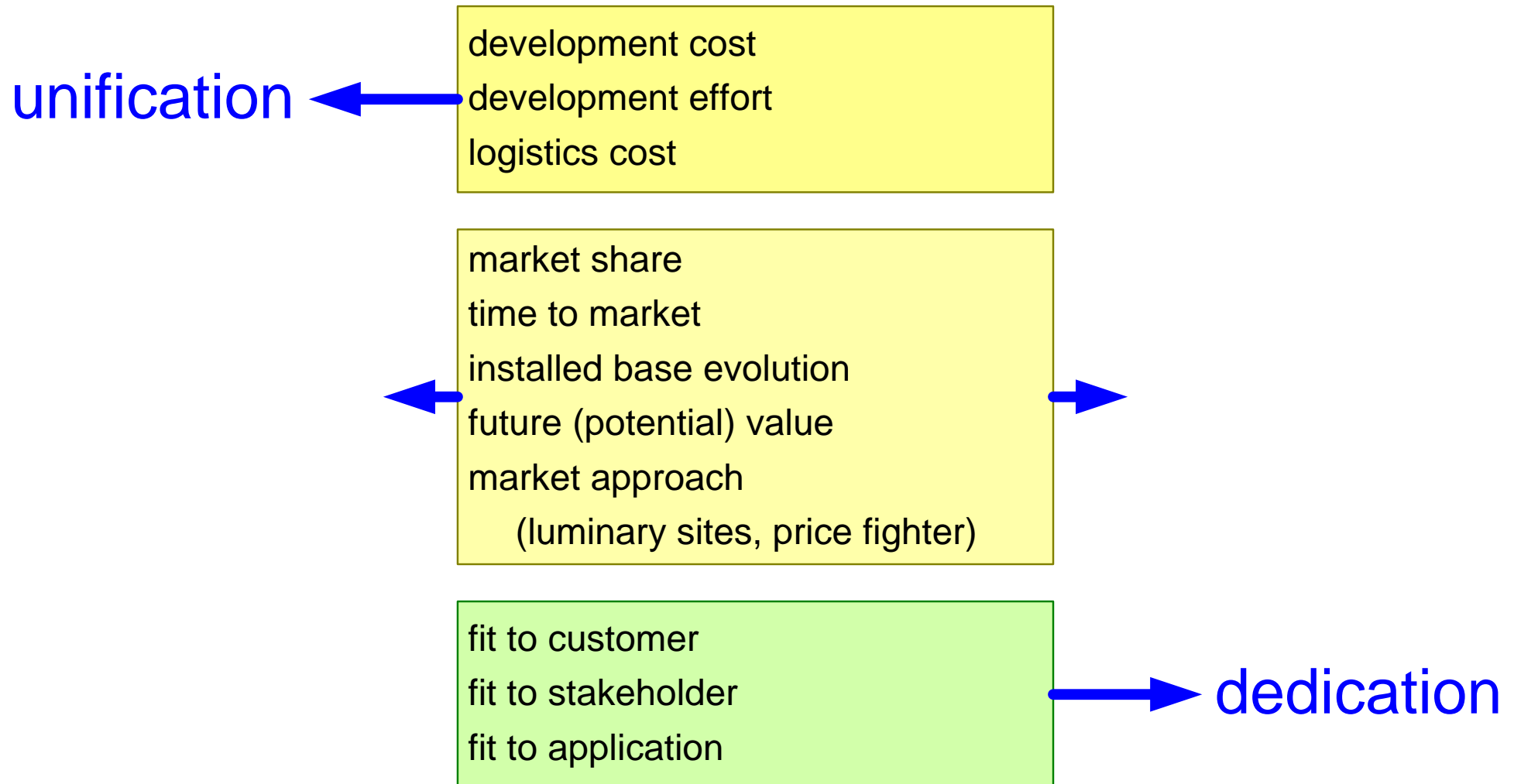


shared functionality  
analyse characteristics  
analyse differentiators  
functionality  
characteristics

# Roadmapping: Impact of Future



# Criteria and Forces for Synergy



# Possible Levels of Sharing

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## *intangible assets*

vision, objectives

specifications, interfaces

designs, concepts

processes

## *tangible assets*

realized components

integrated (sub)systems

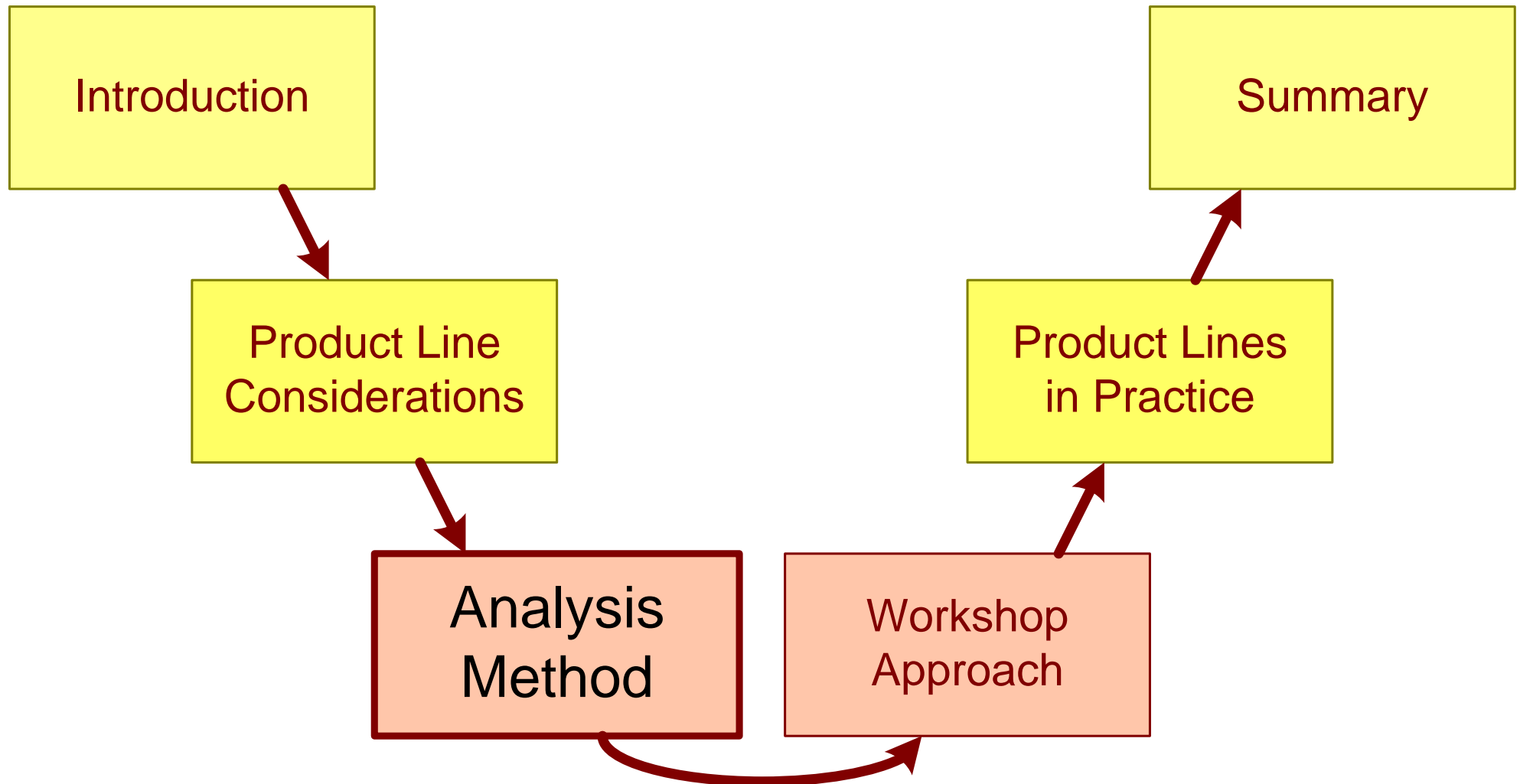
test suites

tools

infrastructure

*Not everything that can be shared should be shared!*

# Analysis Method



# Approach to Platform Business Analysis

explore markets, customers, products and technologies

share market and customer insights

identify product features and technology components

make maps:

market segments - customer key drivers

customer key drivers - features

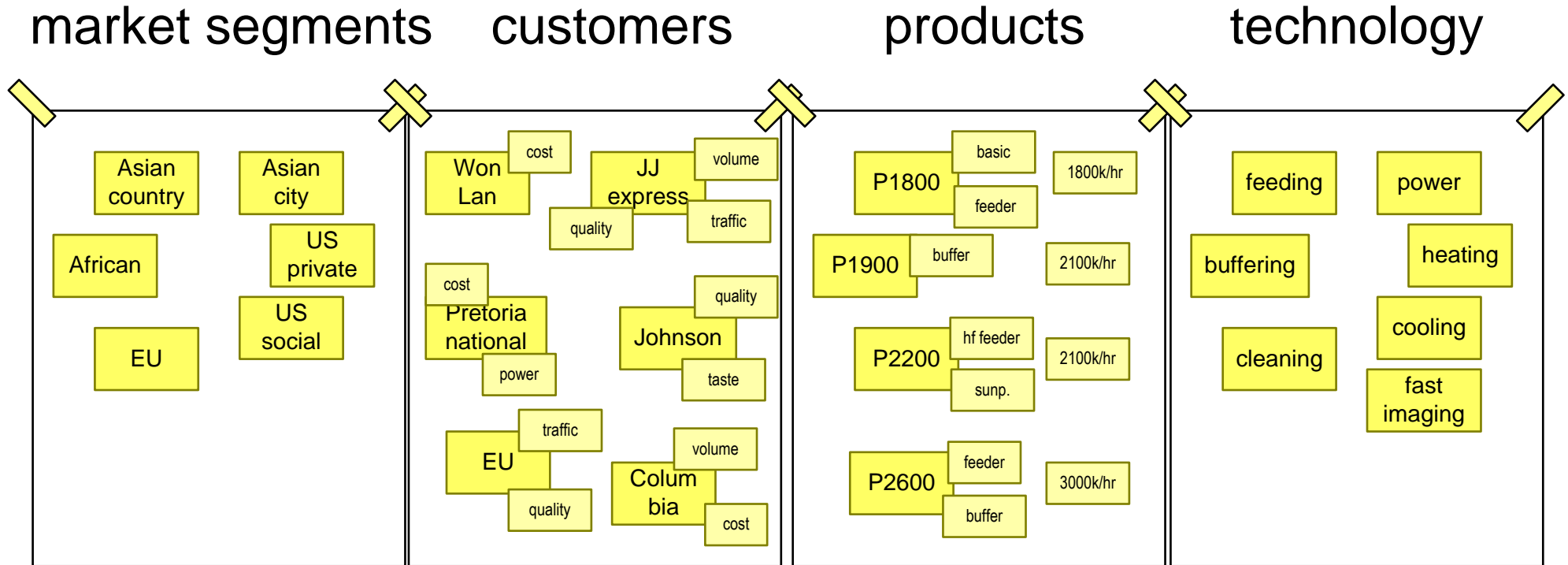
features - products

products - components

discuss value, synergy, and (potential) conflicts

create long-term and short-term plan

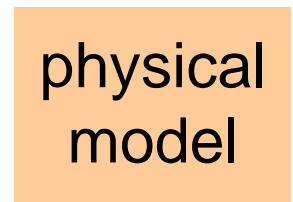
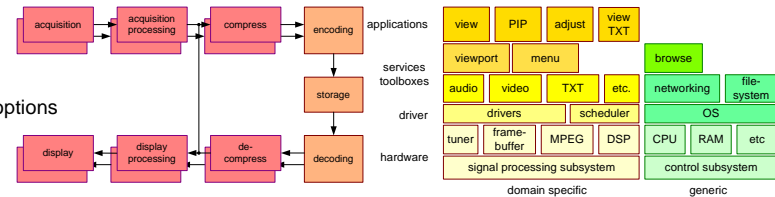
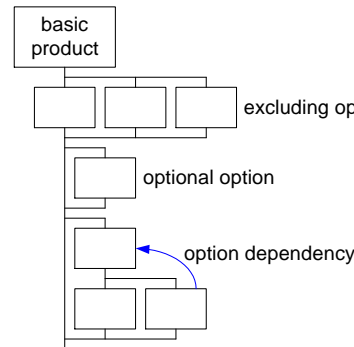
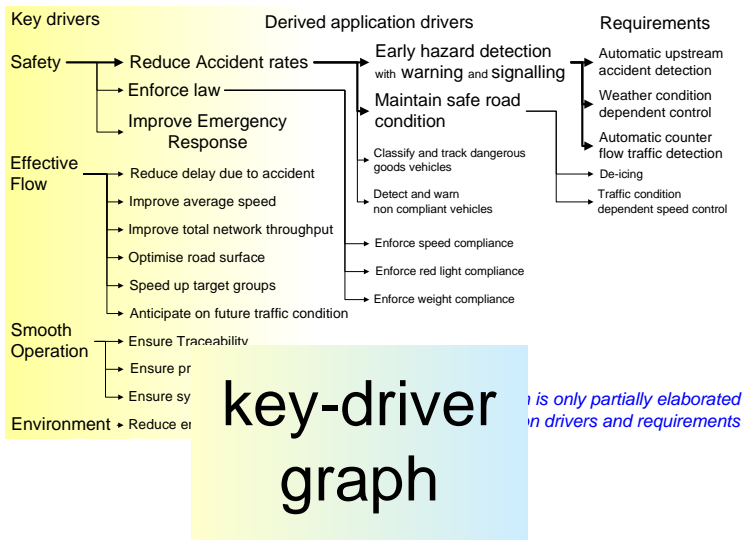
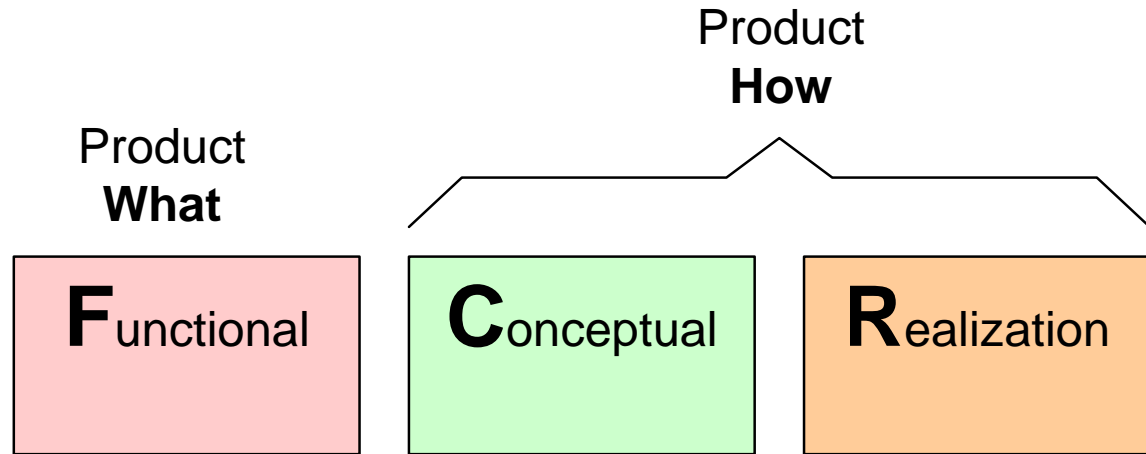
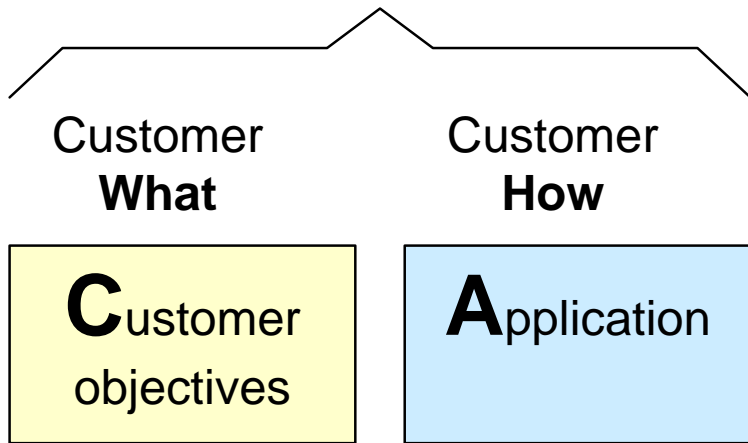
# Explore Markets, Customers, Products and Technologies



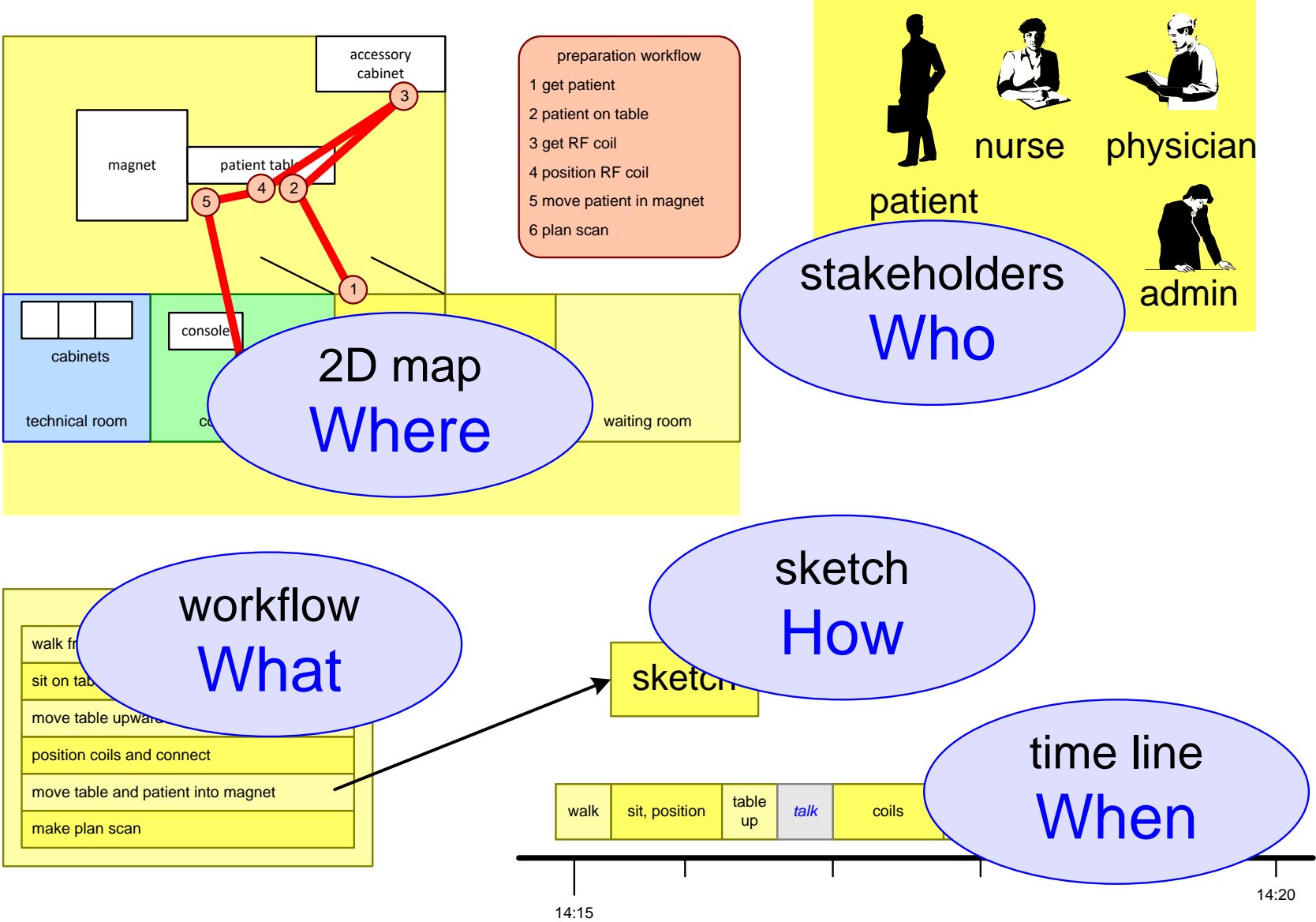
*brain storm and discuss time-boxed*

# Study one Customer and Product

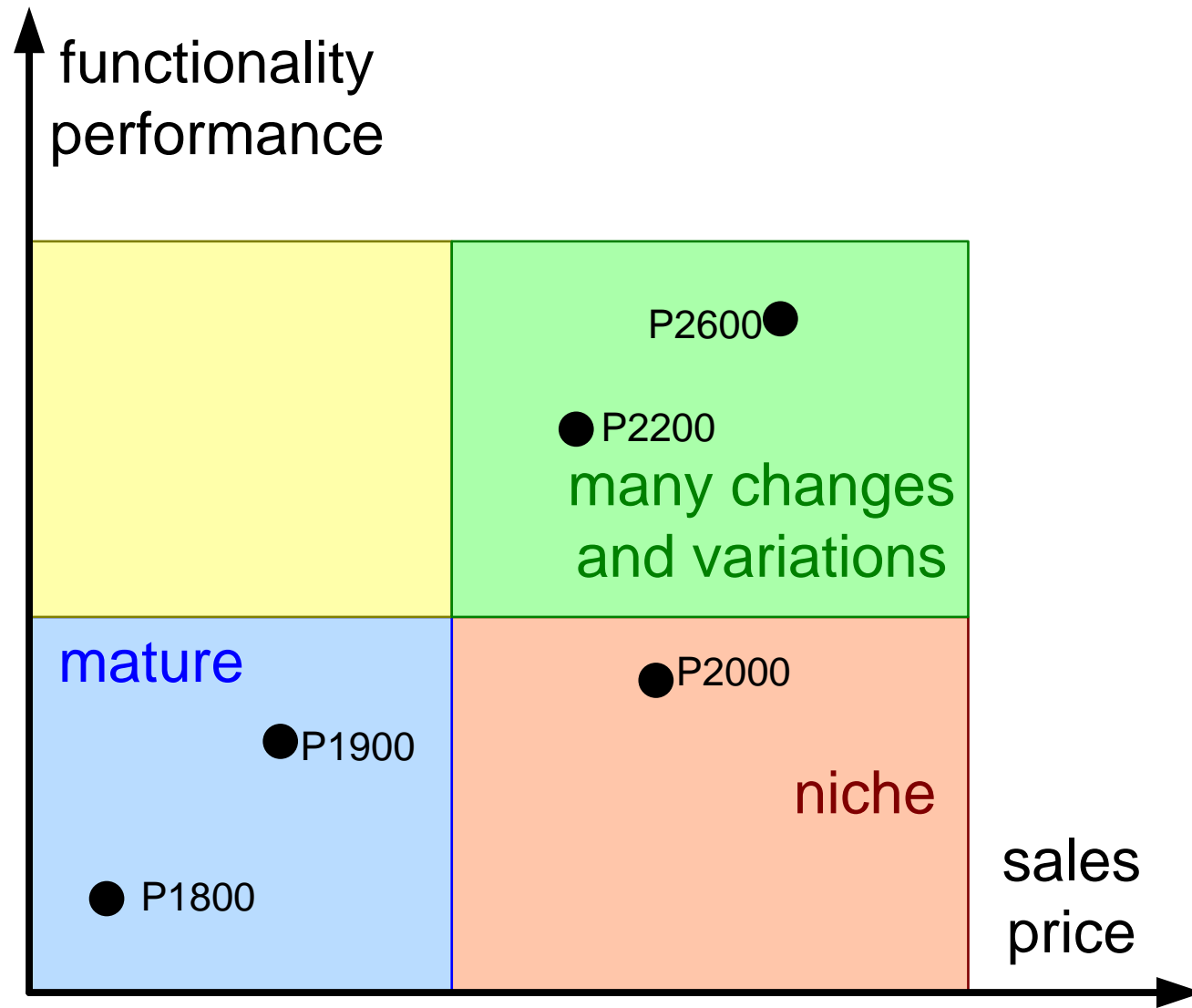
What does Customer need in Product and **Why?**



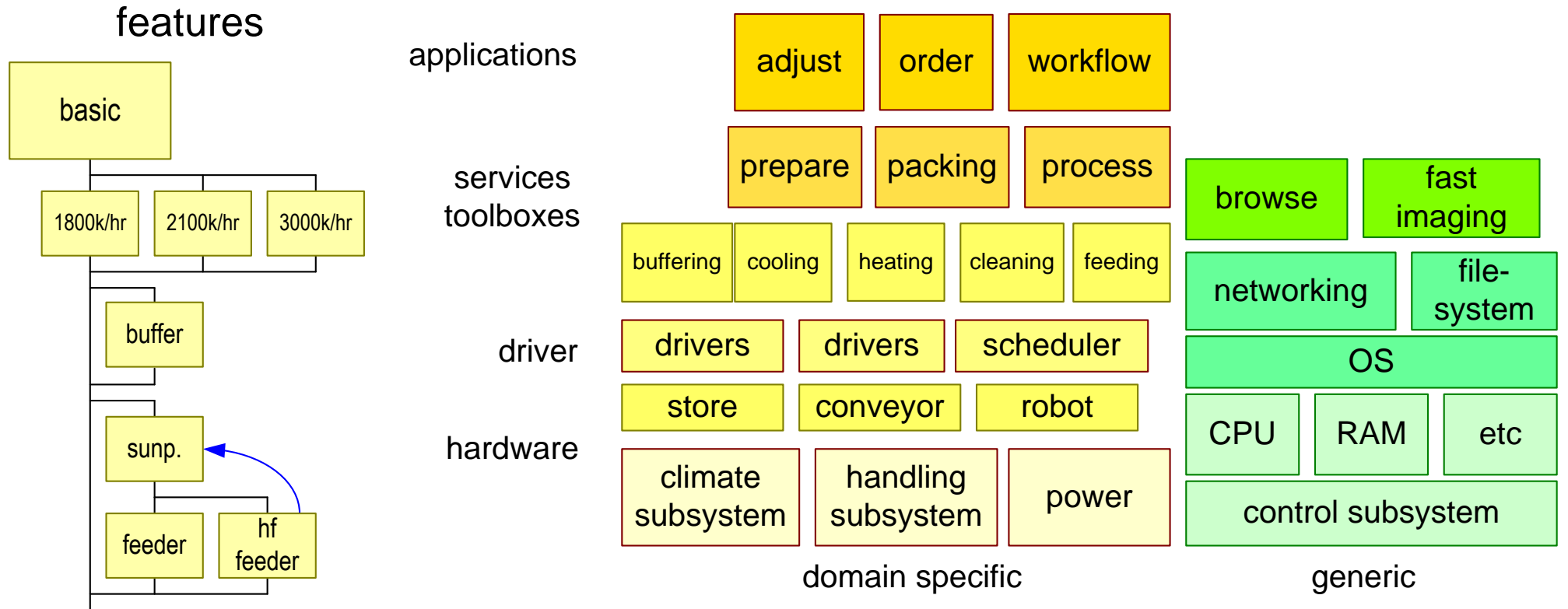
# Work Flow Analysis for Different Customers/Applications



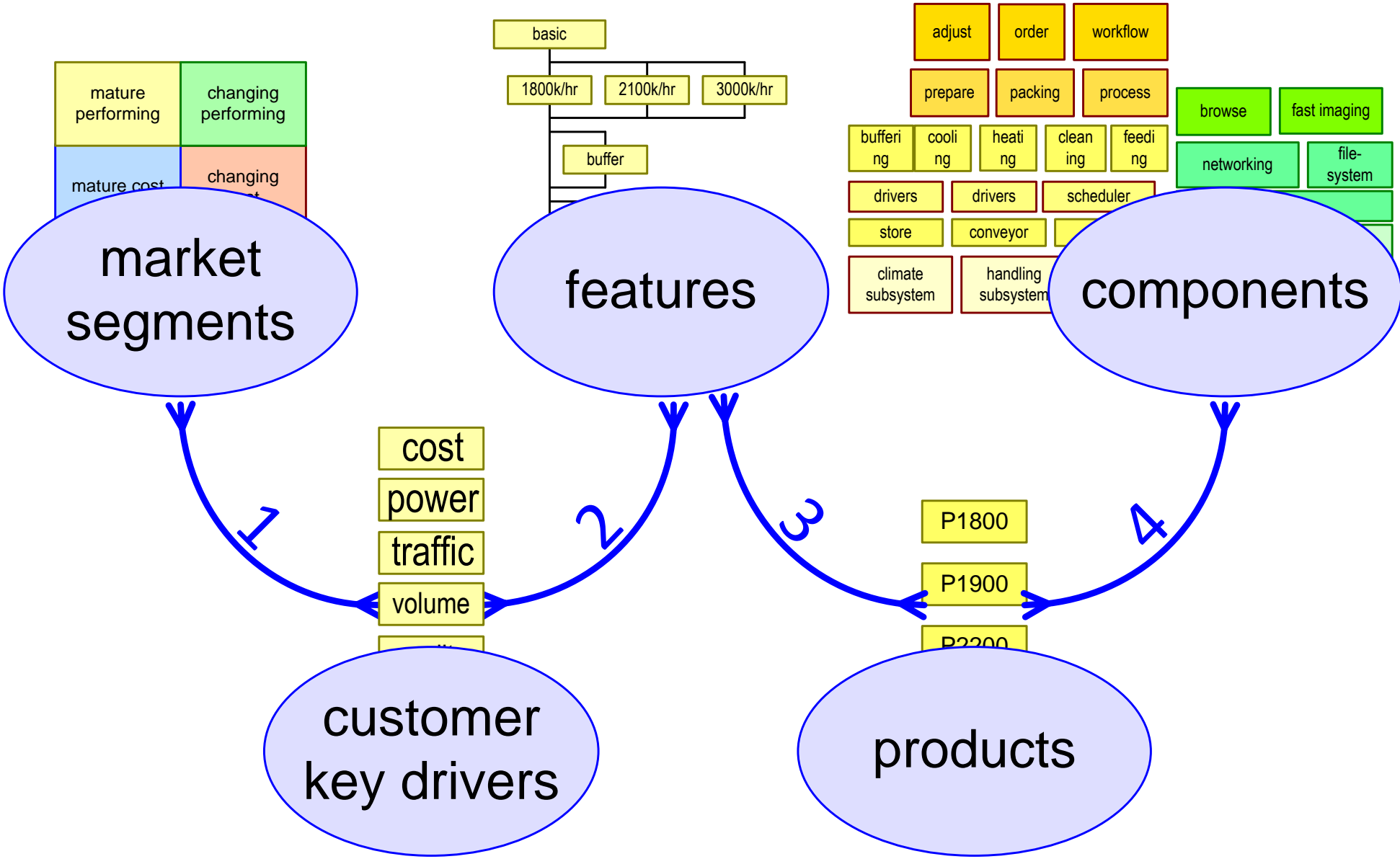
# Make Map of Customers and Market Segments



# Identify Product Features and Technology Components



# Mapping From Markets to Components



# Example Criteria for Determining Value

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- Value for the customer
- (dis)satisfaction level for the customer
- Selling value (How much is the customer willing to pay?)
- Level of differentiation w.r.t. the competition
- Impact on the market share
- Impact on the profit margin

Use relative scale, e.g. 1..5 1=low value, 5 -high value

Ask several knowledgeable people to score

Discussion provides insight (don't fall in spreadsheet trap)

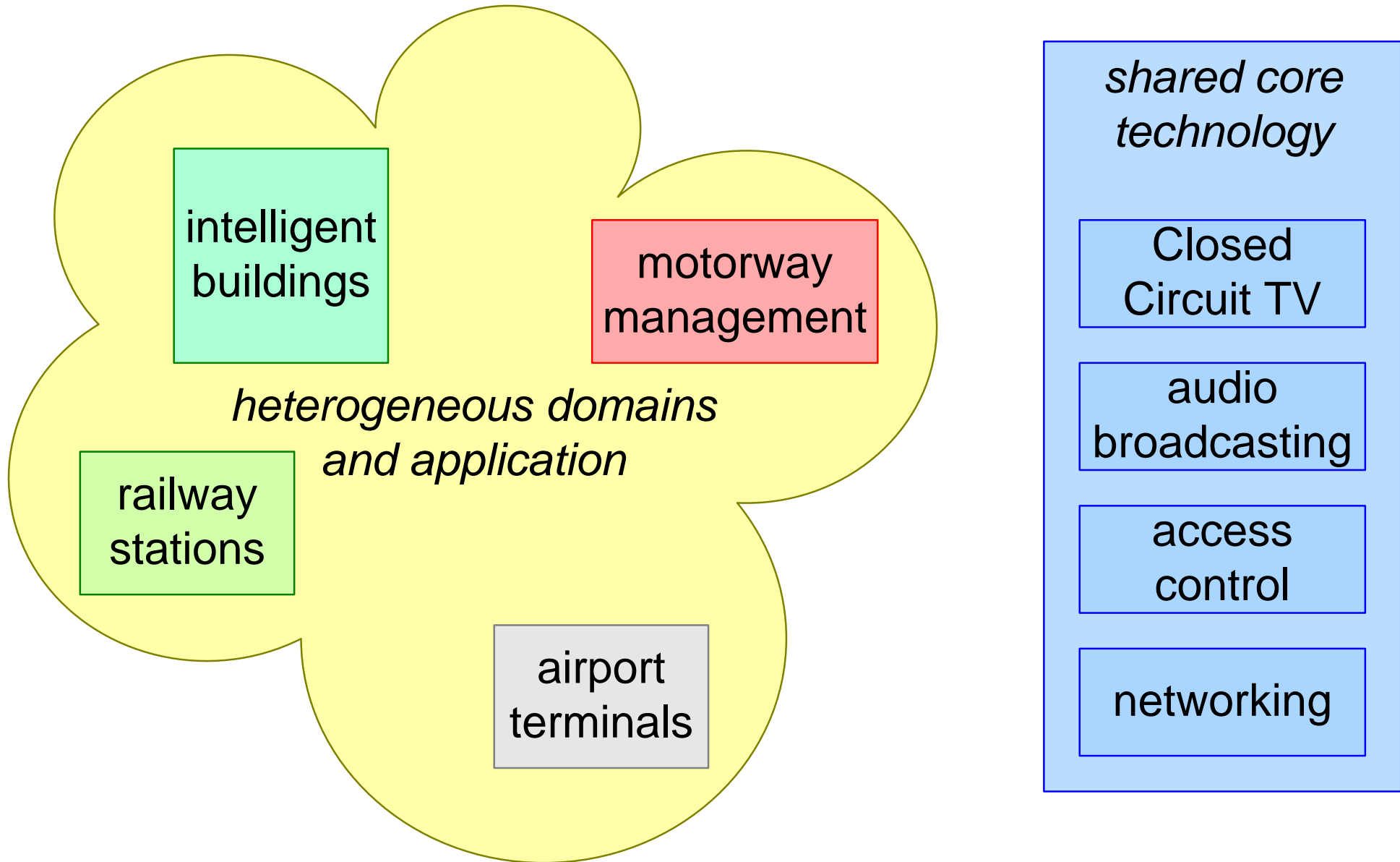
# Determine Value of Features

— products →

← features

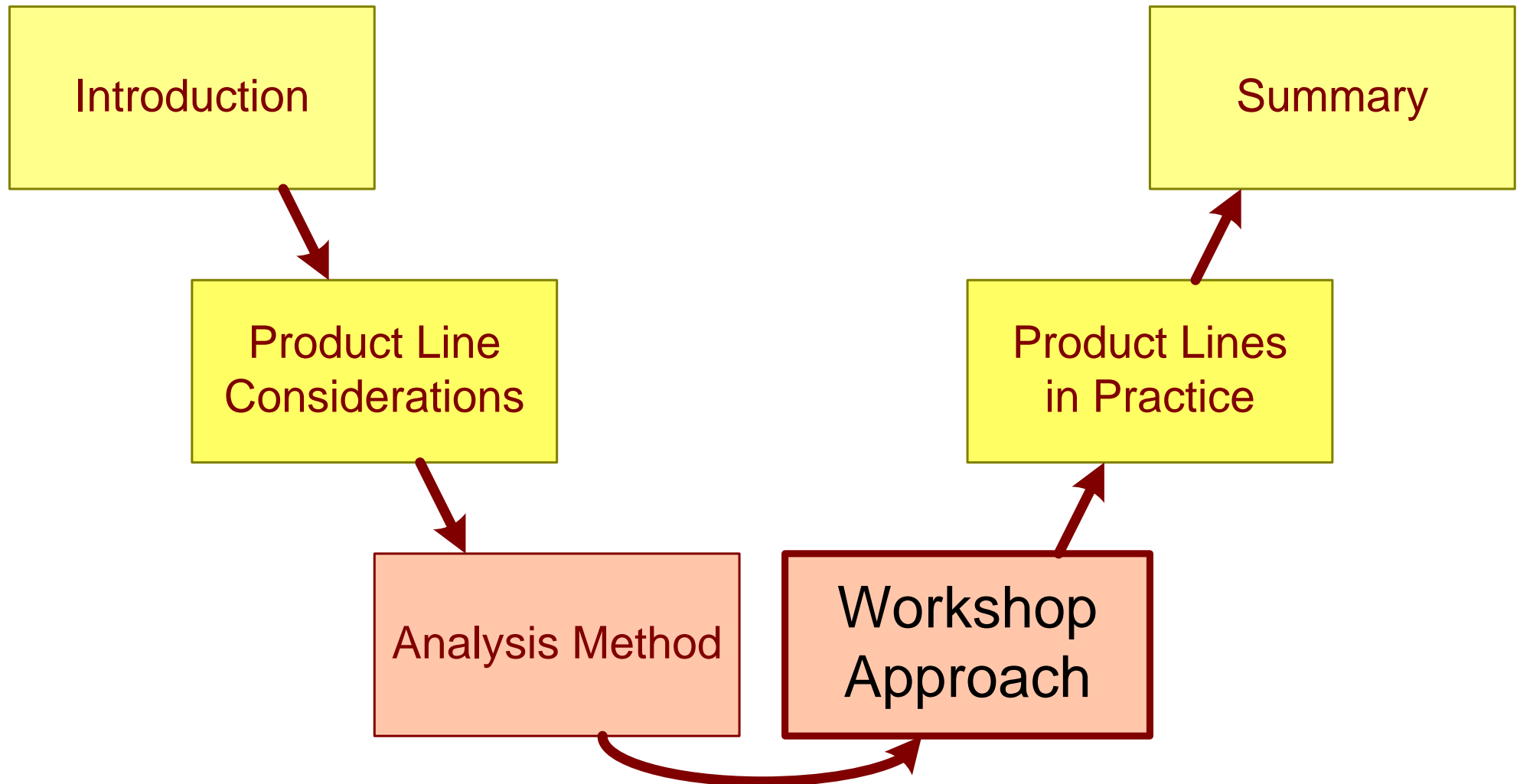
	P1800			P1900			P2200		
	satisfaction customer	sales price	market share	satisfaction customer	sales price	market share	satisfaction customer	sales price	market share
feeder	1	5	4	3	4	4	4	5	5
hf feeder									
buffer	4	3	4	5	3	4	4	3	4
sunpower	2	2	1	2	2	1	2	2	4

# Example Platform Scoping

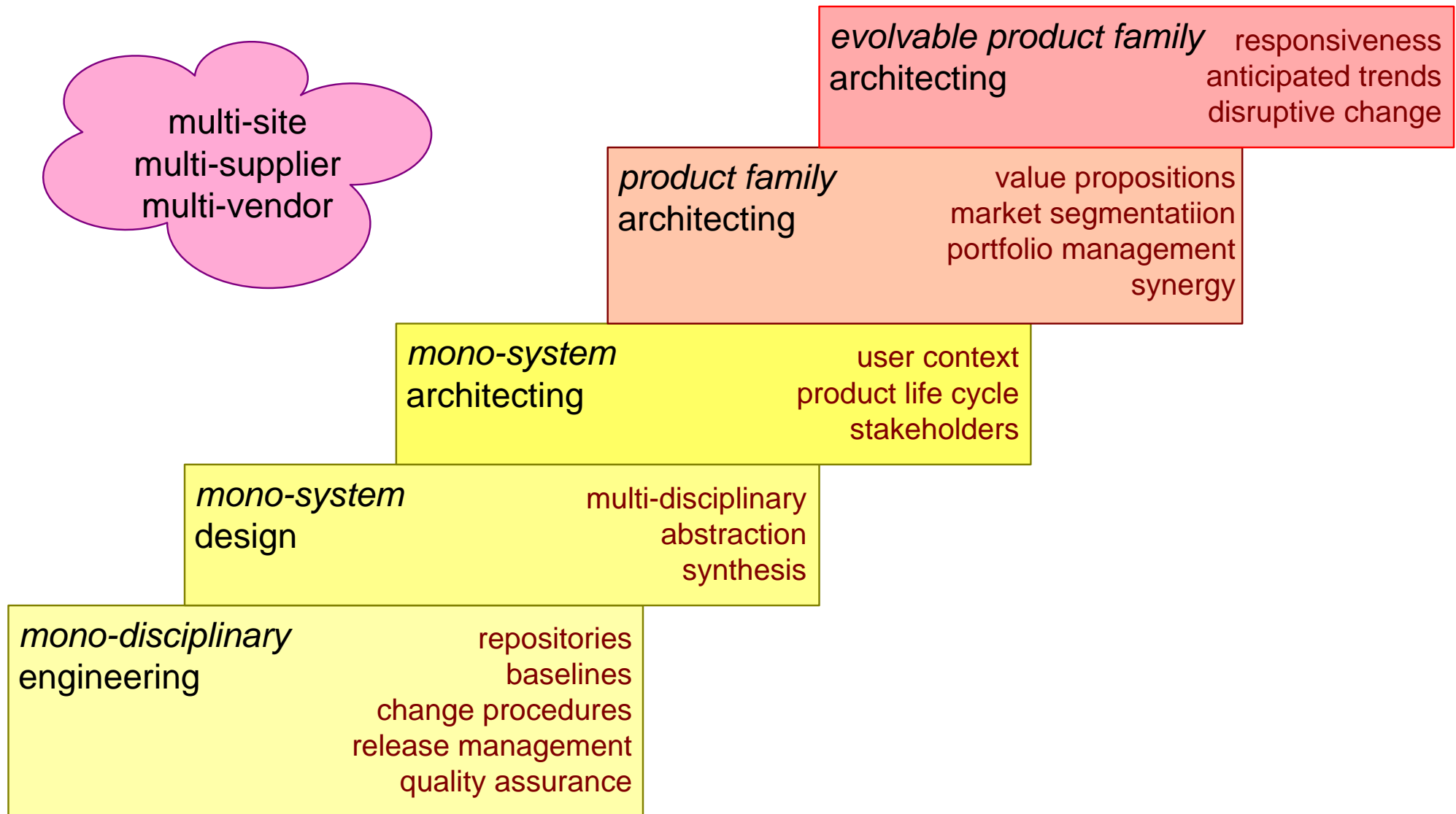


# Workshop Approach

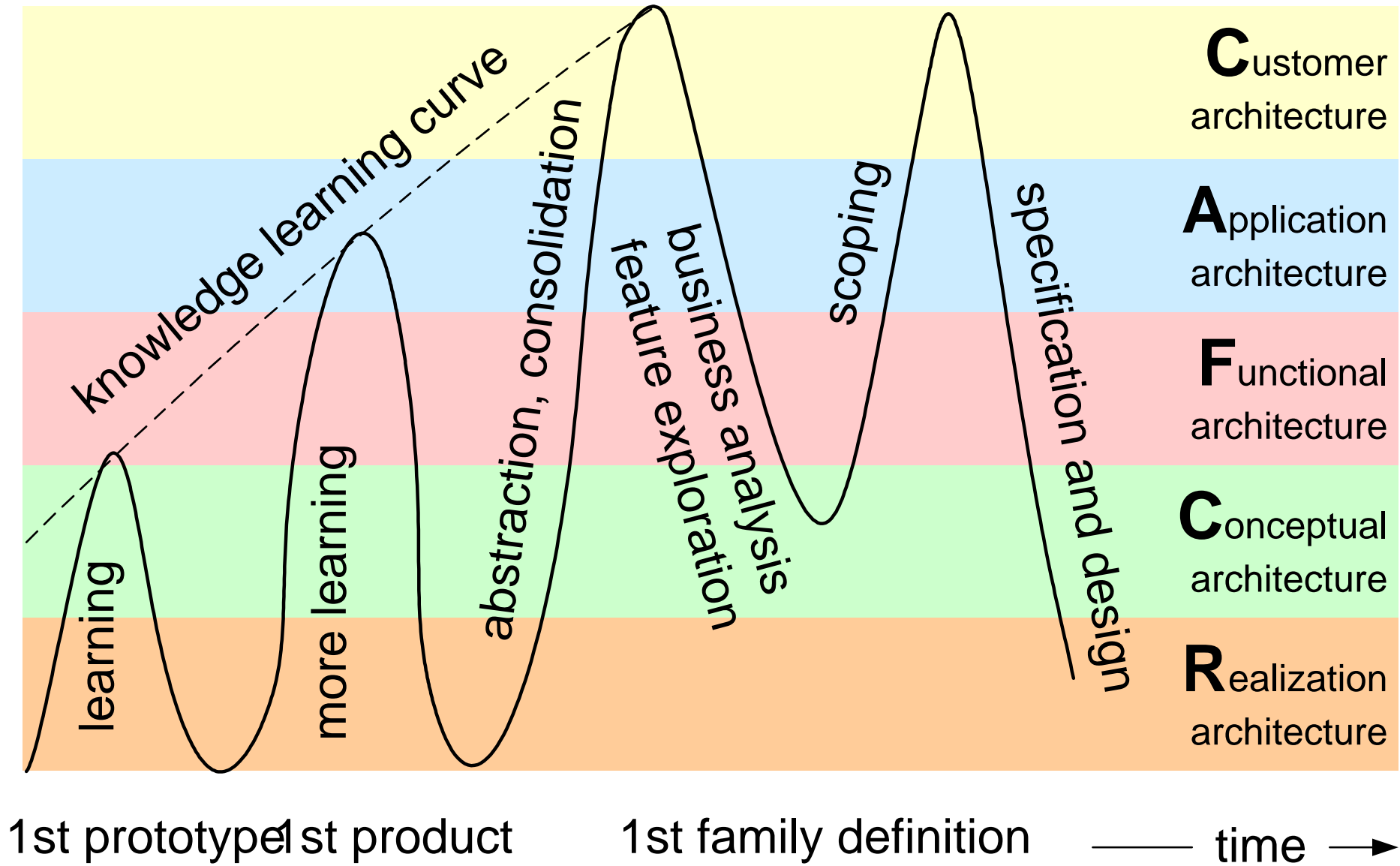
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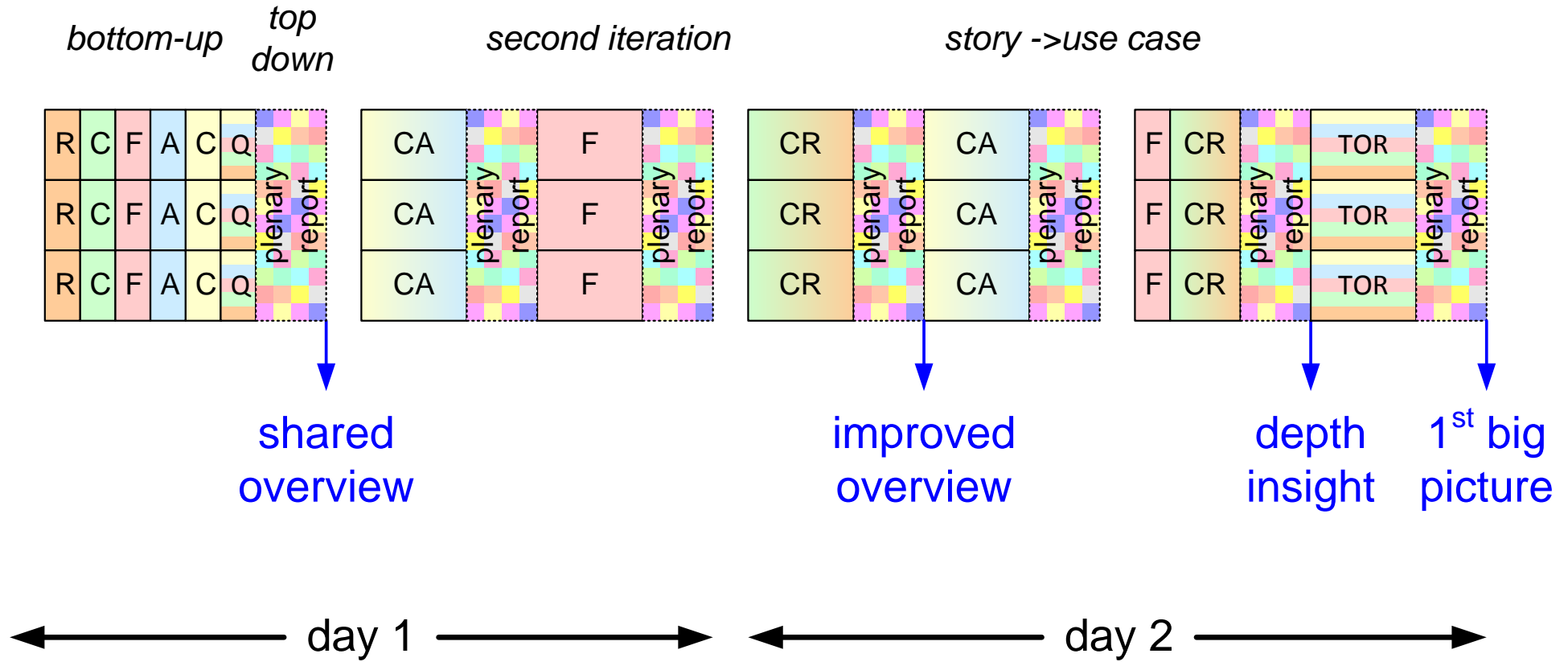
# Foundation must be in order



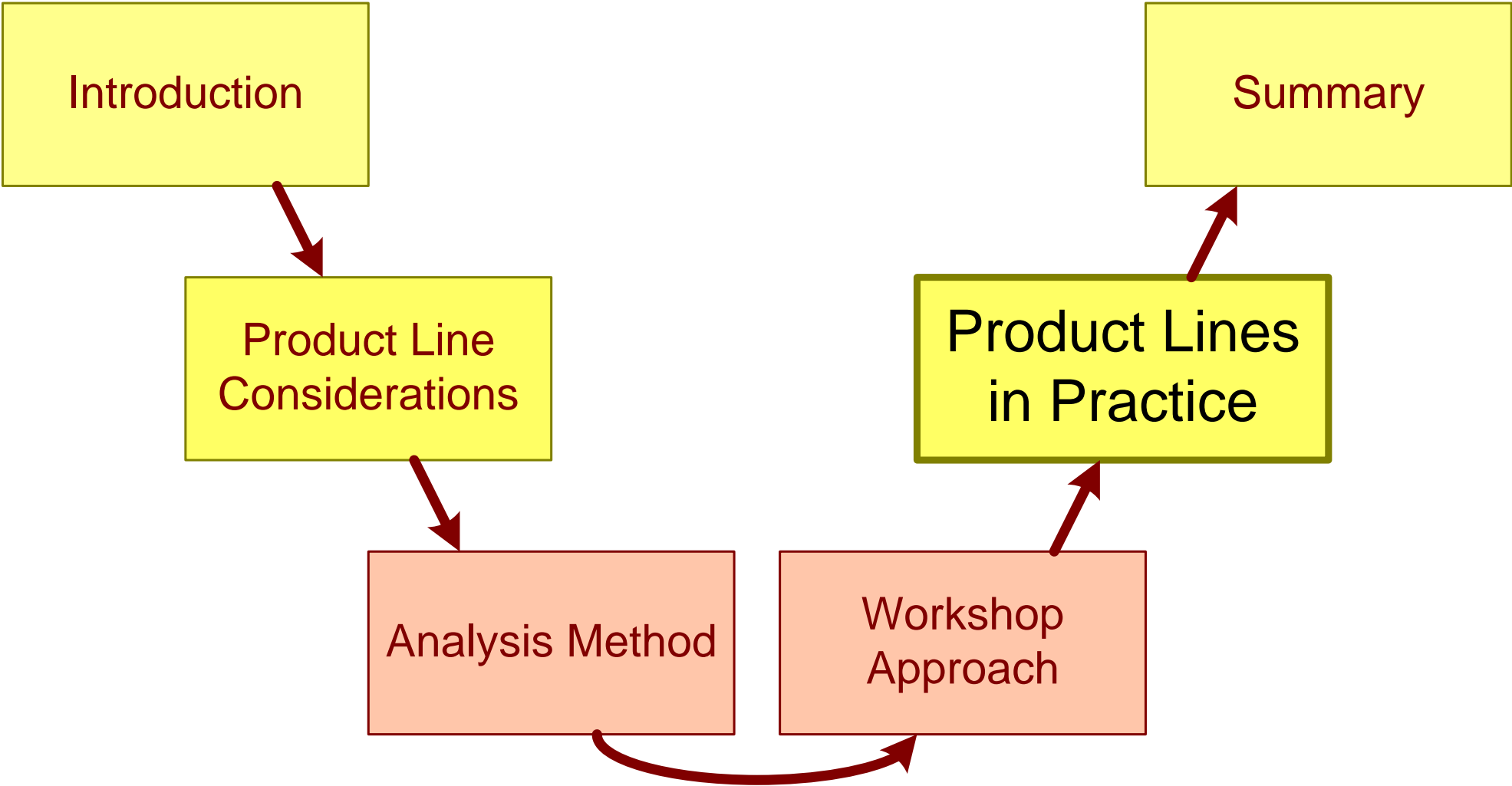
# Jojo over Views



# Iterations During M&A Course



# Product Lines in Practice



# Experiences with reuse, from counterproductive to effective

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## bad

longer time to market  
high investments  
lots of maintenance  
poor quality  
poor reliability  
diversity is opposed  
lot of know how required  
predictable too late  
dependability  
knowledge dilution  
lack of market focus  
interference  
but integration required

## good

reduced time to market  
reduced investment  
reduced (shared) maintenance cost  
improved quality  
improved reliability  
easier diversity management  
understanding of one base system  
improved predictability  
larger purchasing power  
means to consolidate knowledge  
increase added value  
enables parallel developments  
free feature propagation

# Successful examples of reuse

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homogeneous domain

cath lab  
MRI  
television  
waferstepper

hardware dominated

car  
airplane  
shaver  
television

limited scope

audio codec  
compression library  
streaming library

# Limits of successful reuse

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struggle with integration/convergence with other domains

TV: digital networks and media  
cath lab: US imaging, MRI

how to innovate?

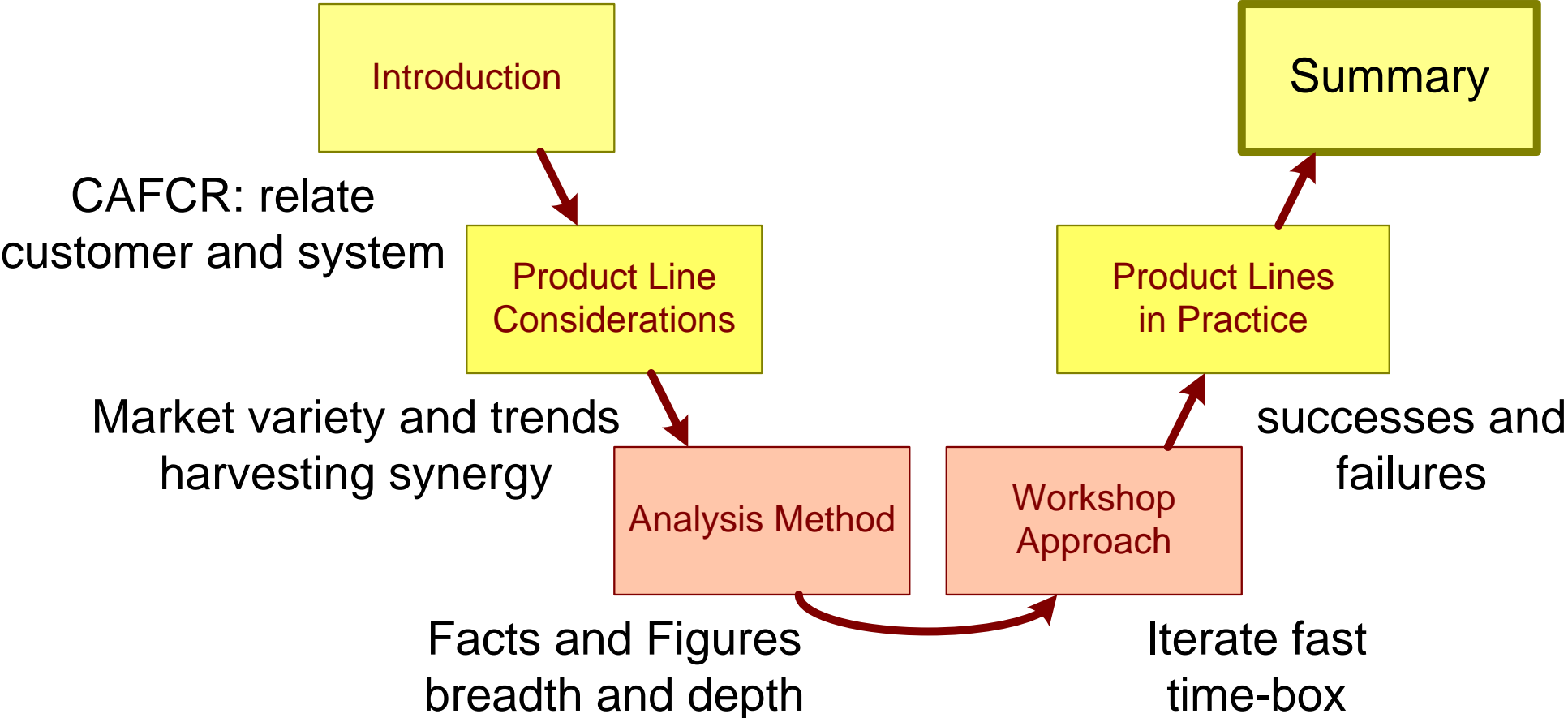
poor/slow response on paradigm shifts

TV: LCD screens  
cath lab: image based acquisition control

software maintenance, configurations, integration, release

MRI: integration and test  
wafersteppers: number of configurations

# Summary



## **CAFCR background**

[www.gaudisite.nl/ArchitecturalReasoning.html](http://www.gaudisite.nl/ArchitecturalReasoning.html)

## **key driver graph paper**

[www.gaudisite.nl/KeyDriversHowToPaper.pdf](http://www.gaudisite.nl/KeyDriversHowToPaper.pdf)

## **key driver graph slides**

[www.gaudisite.nl/KeyDriversHowToSlides.pdf](http://www.gaudisite.nl/KeyDriversHowToSlides.pdf)

## **roadmapping**

[www.gaudisite.nl/TutorialRoadmappingForStrategySupportPaper.pdf](http://www.gaudisite.nl/TutorialRoadmappingForStrategySupportPaper.pdf)

## **Gaudí site**

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