

# Agile Management What and Why

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# Murray Cantor

Murray Cantor has over 30 years experience applying leading edge ideas in the management of software and system development, in startups, government, and IBM. He has been a lead developer, software and systems architect, development manager, and principal consultant.

He recently retired from IBM where he was a Distinguished Engineer, a member of the Rational CTO Council, and the Rational lead for Analytics and Optimization for Software and Systems organizations. He has 15 patent filings and 5 patents granted.



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# This Webinar Series

## 1. Agile Management: What and Why

*This webinar provides insights to any manager who is either managing Agile software teams, desires to have a more agile organization, or both.*

## 2. Agile Management Best Practices

*This webinar drills a bit deeper into the principles introduced in webinar 1. This webinar introduces specific techniques that, when applied, enable organization agility.*

## 3. The Agile Management Solution

*The third webinar discusses how one builds a roadmap for based on your organization's attributes. These include your mix of work, your goals, size of your organization, and quality and availability of relevant data.*



# What is agility?

- 'Agility' is the ability to quickly react to change
  - In your environment
  - In your position, status
- Being agile requires the ability to
  - Detect the changes
  - Change direction quickly
  - Innovate when needed
- *Agile* is the opposite of *stable*.
  - Jet fighters are agile, but unstable
  - Commercial airlines are stable, but not agile



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# What can of organization do you want to run?

- When the world changed more slowly, management theory was that stability was good.
  - Find a working system and do what has always worked. (stable, not agile)
- Because world is now rapidly changing, modern management theory favors the ability to adapt.
  - Detect and react to change. (agile, not stable)



# Agile Management Overview

- Agile management is a:
  - Mindset
  - Set of principles
  - Wide set of practices.



There is much literature on the cultural aspects of building an agile organization, e.g. Angel Medinilla, *Agile Management*, Springer

We will instead focus on specific techniques and how to tailor them to your organization and its nature of work.

# The Agile management mindset

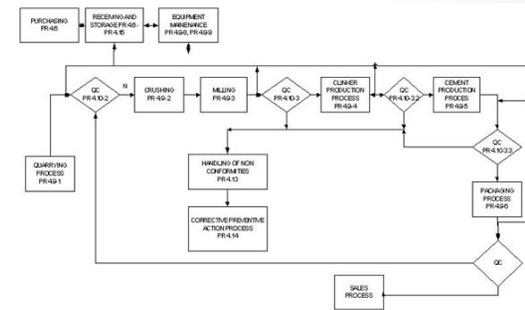
- Change is an opportunity, not a threat.
- Embrace, not ignore uncertainty.
- Flexibility over consistency
- Empower the teams with their processes and productivity.
  - Command and control is slow to react



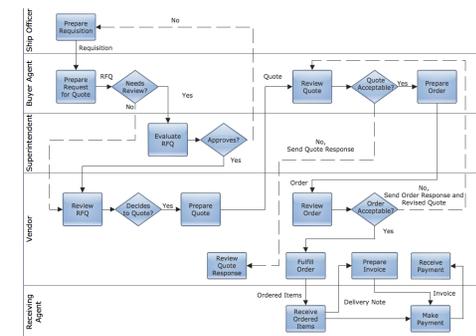
# Three Historical Management Disciplines

- **Factory management (Same product)**
  - Early 20th century dominated by Frederick Winslow Taylor's scientific management theory (1911): Managers assigned narrow set of repetitive tasks to workers
  - Time and motion studies led to assembly lines, workers as cogs in the machines (e.g. Ford)
  - Was and still is effective for some kinds of work (e.g. assembling iPhones)
- **Business Process Management (Same product)**
  - Applies factory principles to repetitive business operations
  - Lays out detailed steps to be followed
- **Project management (One offs)**
  - Described as a set of tasks with durations, resources. Dependencies in Gantt charts.
  - Features: critical path, work breakdowns, Earned Value
  - Command and Control: The managers tell the staff what to do and when.

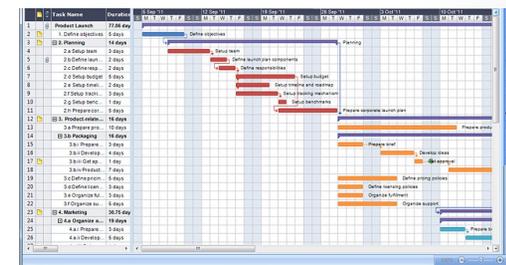
Cement Factory



Stock Trading



Waterfall Project





# Management Goals

## Factory and business processes

- Described by business process languages (e.g.. BPEL

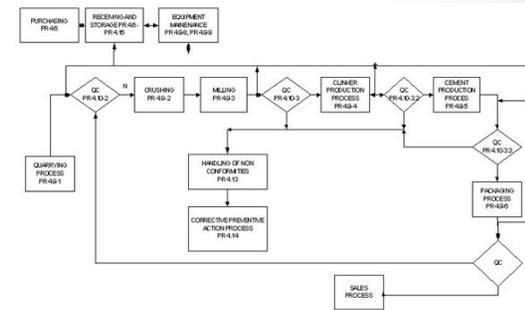
[https://en.wikipedia.org/wiki/Business\\_Process\\_Execution\\_Language](https://en.wikipedia.org/wiki/Business_Process_Execution_Language)

- Goals are:
  - Quality: Minimal variation: 6-sigma
  - Timeliness
  - Efficiency

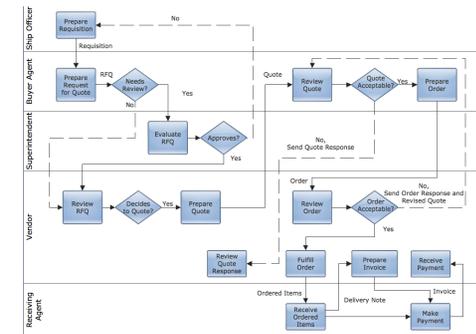
## Project management – Each artifact different

- Described as a set of tasks with durations, resources. Dependencies in Gantt charts - critical path, work breakdowns, Earned Value
- Goals are iron triangle
  - On time,
  - on budget
  - planned content

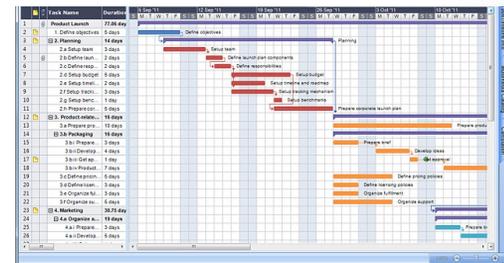
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# Management Goals

## Factory and business processes - Consistency of artifact

- Described by business process languages (e.g.

BPE

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Assumes 'consistency of artifact'

Exe

- Goals are:

- Quality: Minimal variation: 6-sigma
- Timeliness
- Efficiency

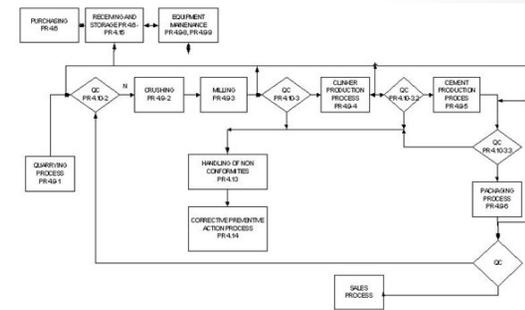
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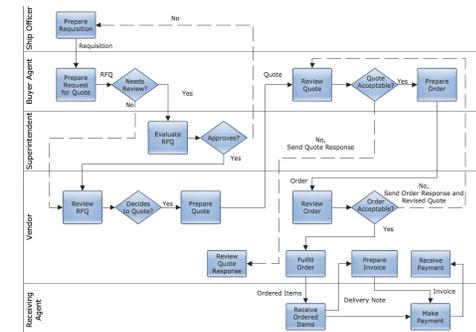
Assumes: Completeness of information

- on budget
- planned content

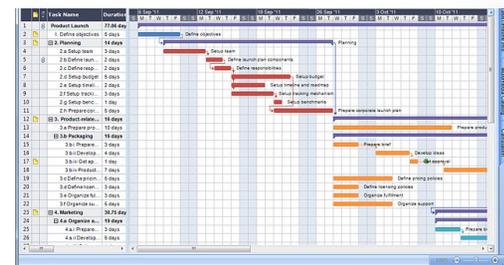
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# Management Goals

Factory and business processes - Consistency of artifact

- Described by business process languages (e.g. BPEL)

Neither assumption holds for some kinds of work:

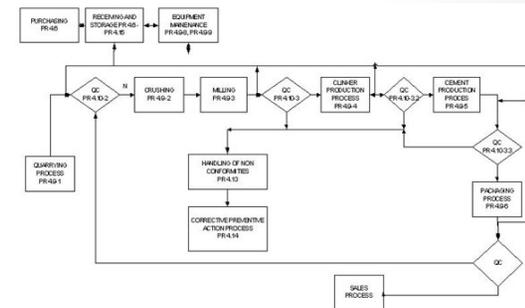
- Novel efforts (e.g. new software products)
- Flow of dissimilar items, (e.g. change requests, ad campaigns)

Both value stability over agility,

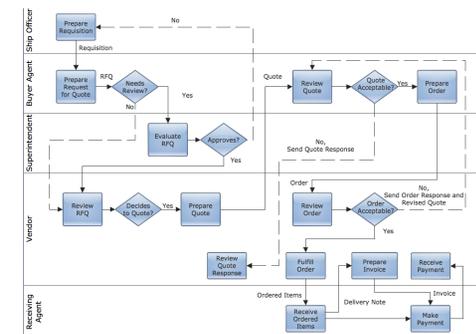
- Adherence to process (e.g. Maturity)
- Adherence to original plan

- on budget
- planned content

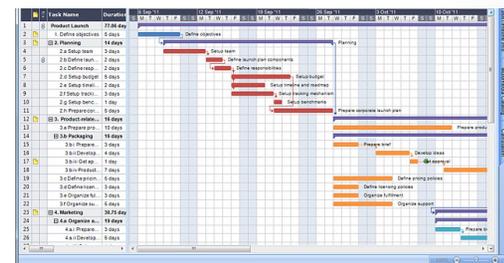
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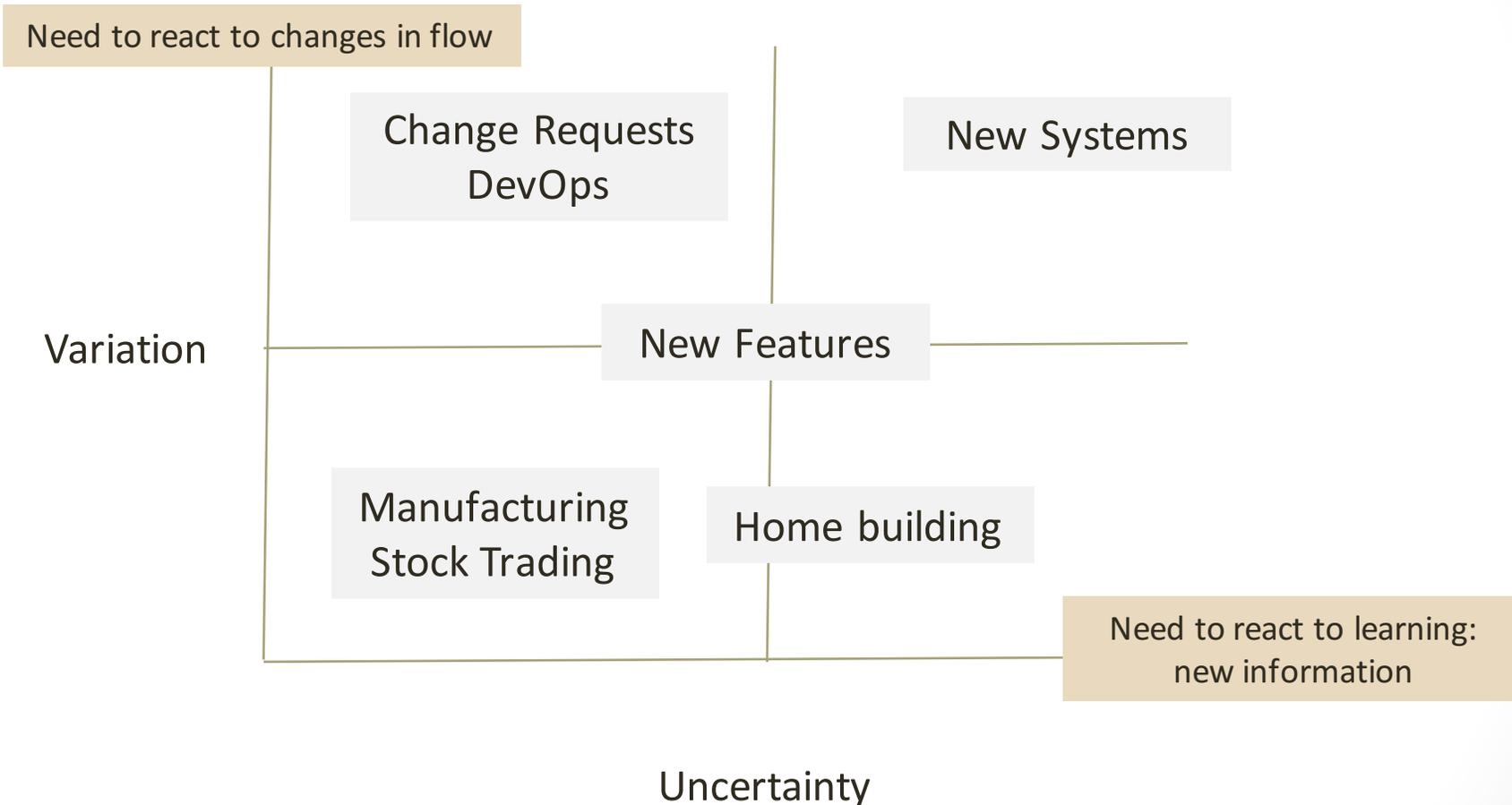
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# Two key process dimensions for Agile Management



# Two key process dimensions for Agile Management





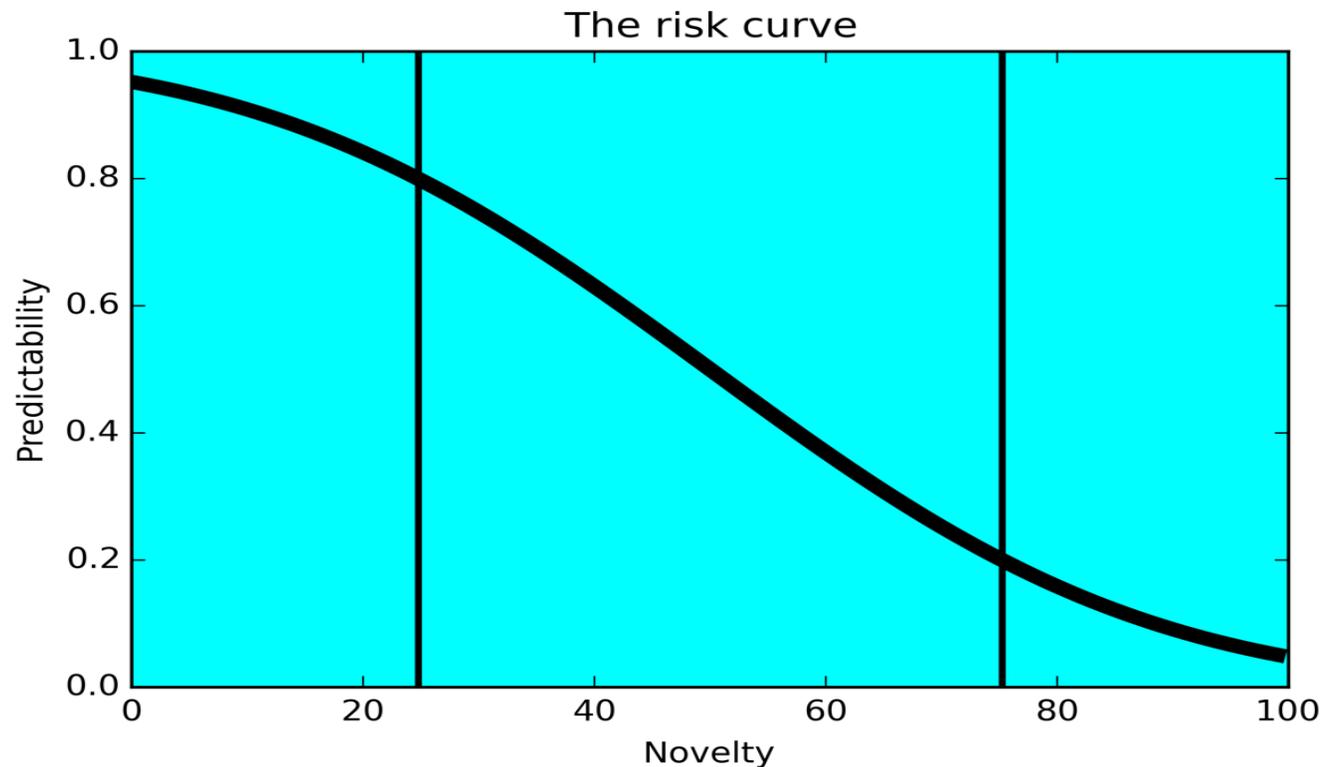
# Lets stop for questions



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# Novelty entails uncertainty and Risk:



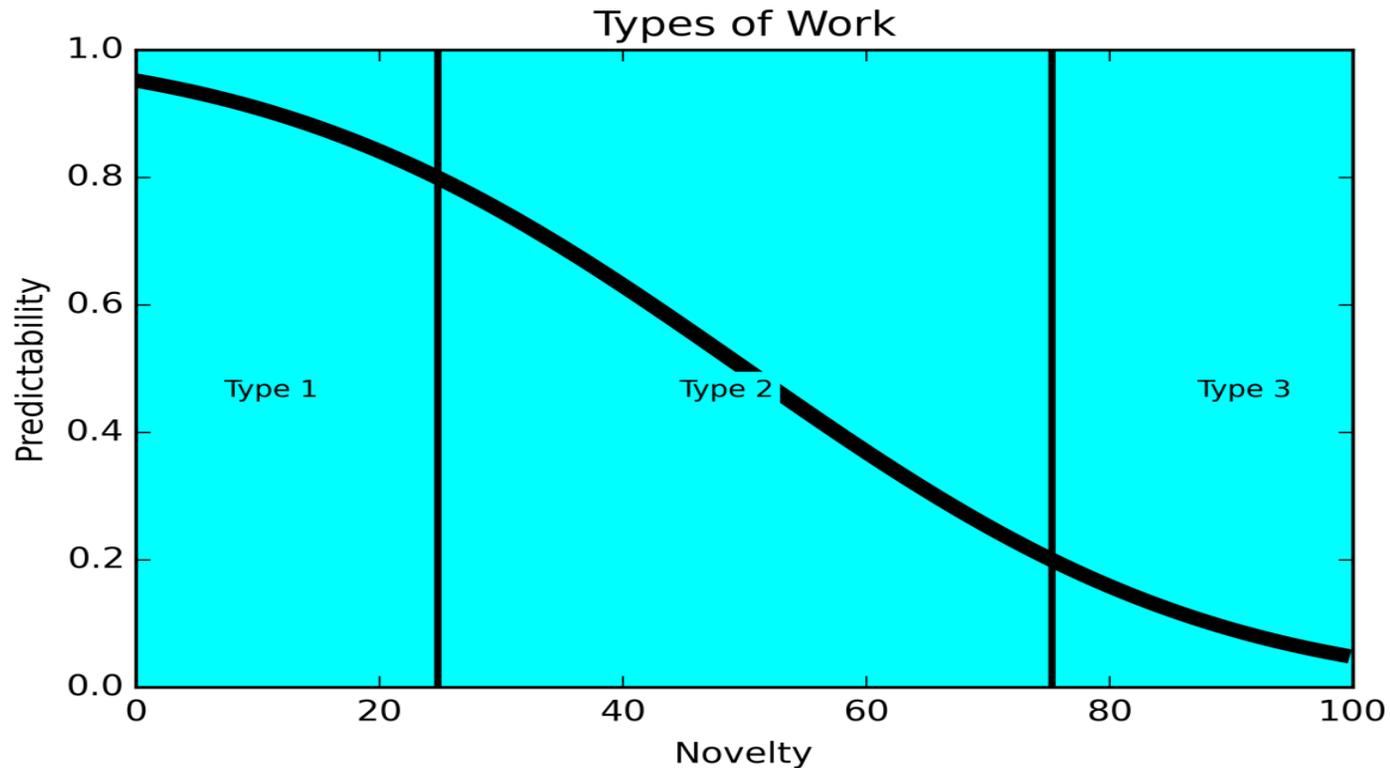
- During something new usually implies incomplete information
- To make precise predictions requires complete information

*“Risk is the uncertainty in quantities that matter to the business”*

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# The three types of work



1. Low innovation/high certainty
  - Like bug fixes
  - Detailed understanding of the requirements, technologies
  - Well understood practice

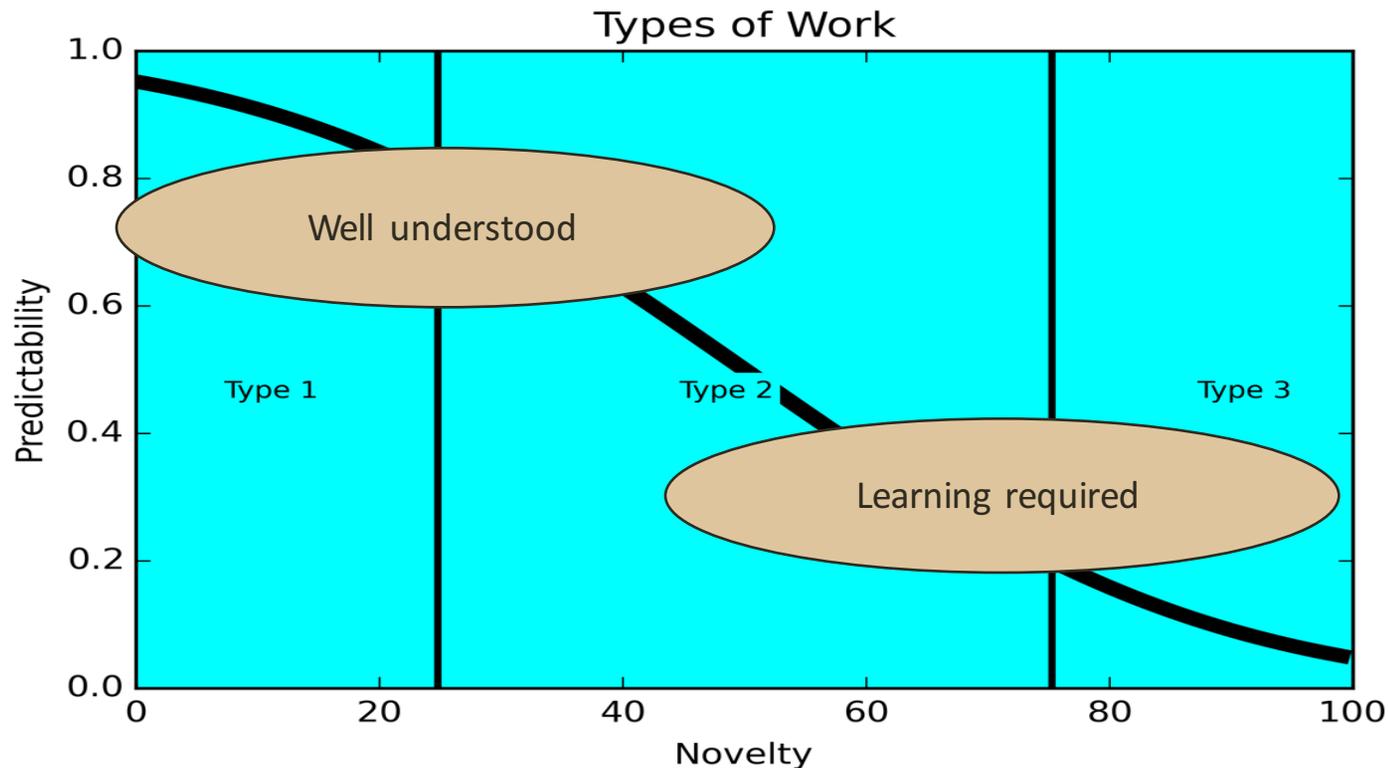
2. Some innovation/some uncertainty
  - Architecture/Design in place
  - Some discovery required to have confidence in requirements

3. High innovation/Low Uncertainty
  - First time for your team
  - Requirements not fully understood, some experimentation might be required
  - May be alternatives in choice of technology
  - No initial design/architecture

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# To start, be aware of your mix of work



## 1. Low innovation/high certainty

- Like bug fixes
- Detailed understanding of the requirements, technologies
- Well understood practice

## 2. Some innovation/ some uncertainty

- Architecture/Design in place
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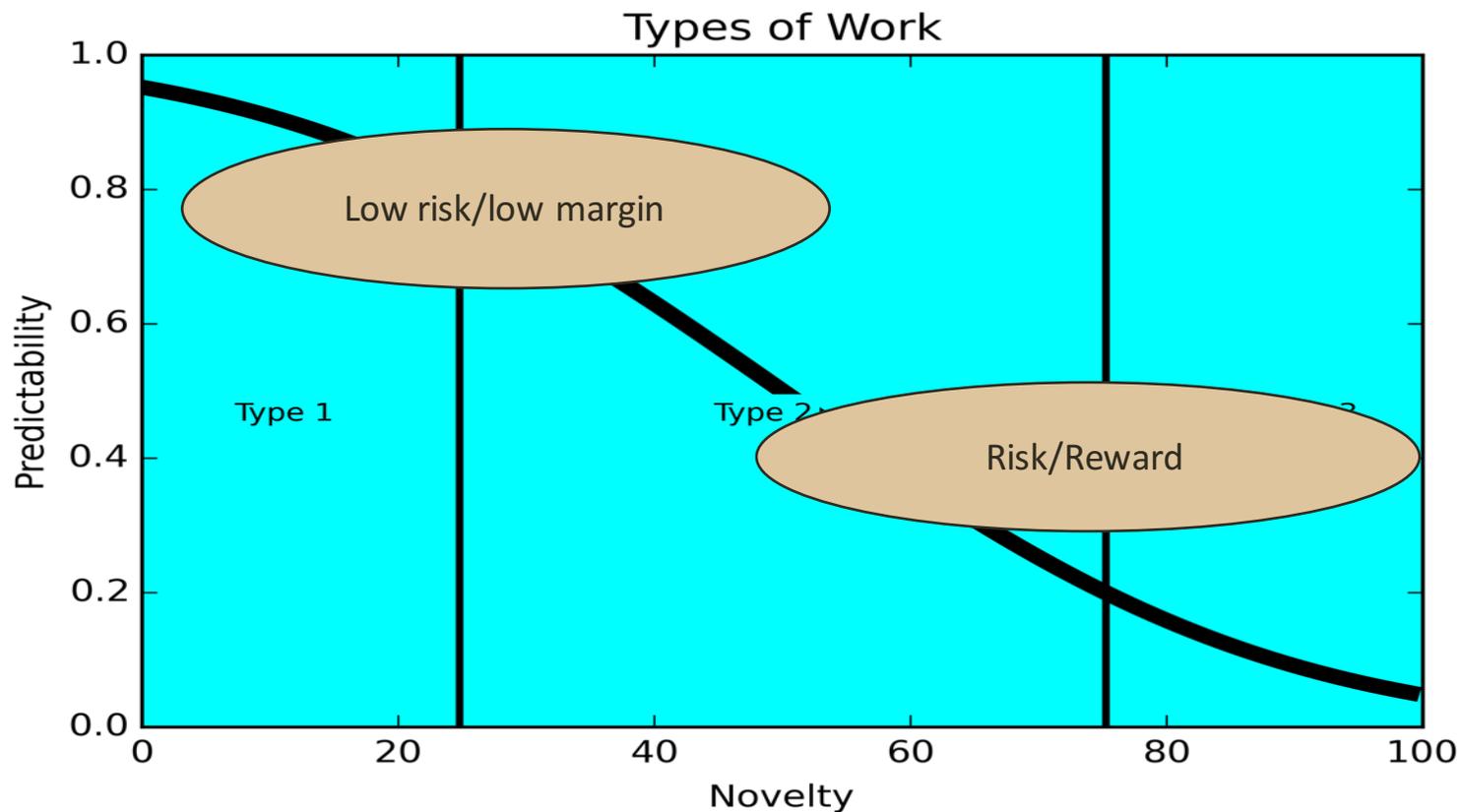
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# Economics of the work types:



Profit Depends on



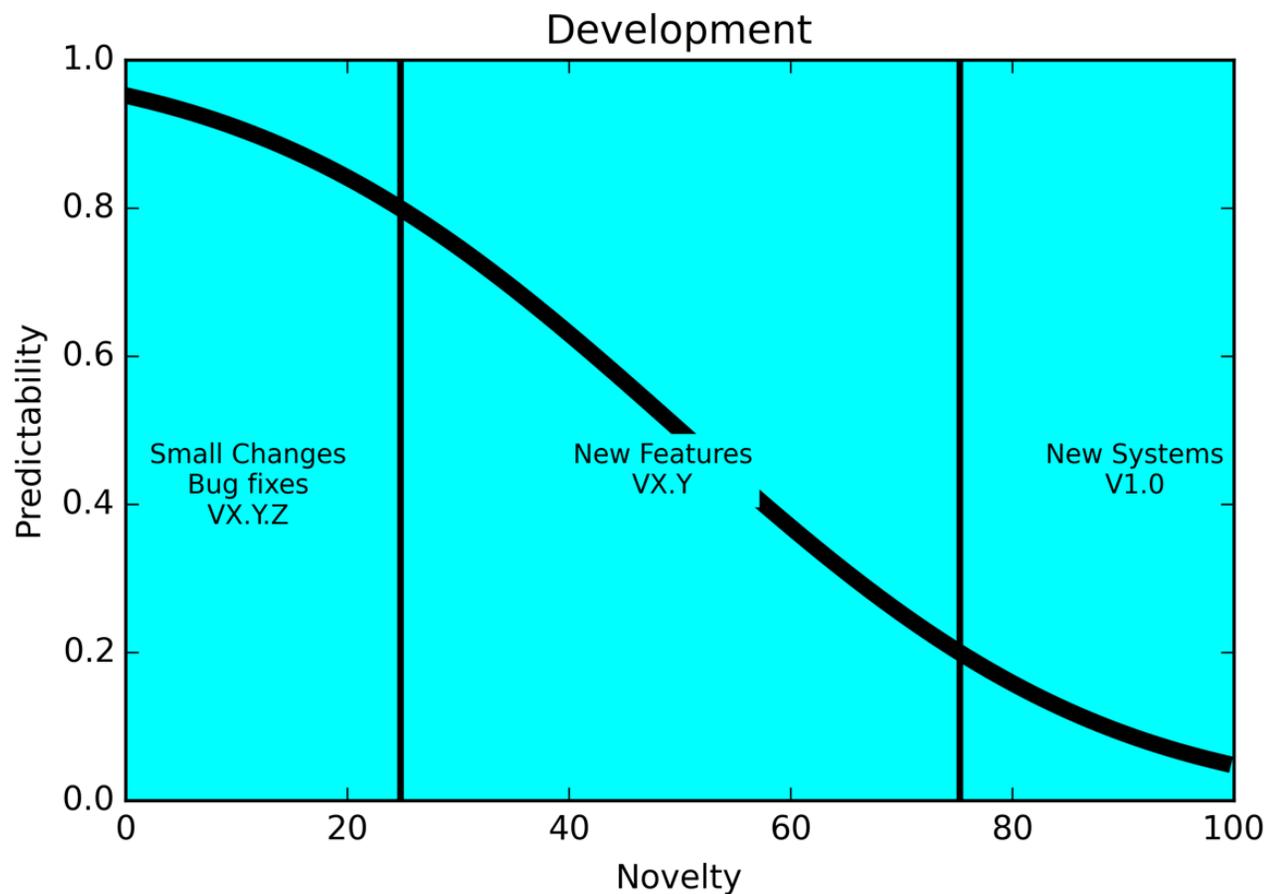
Lean execution

Making good bets

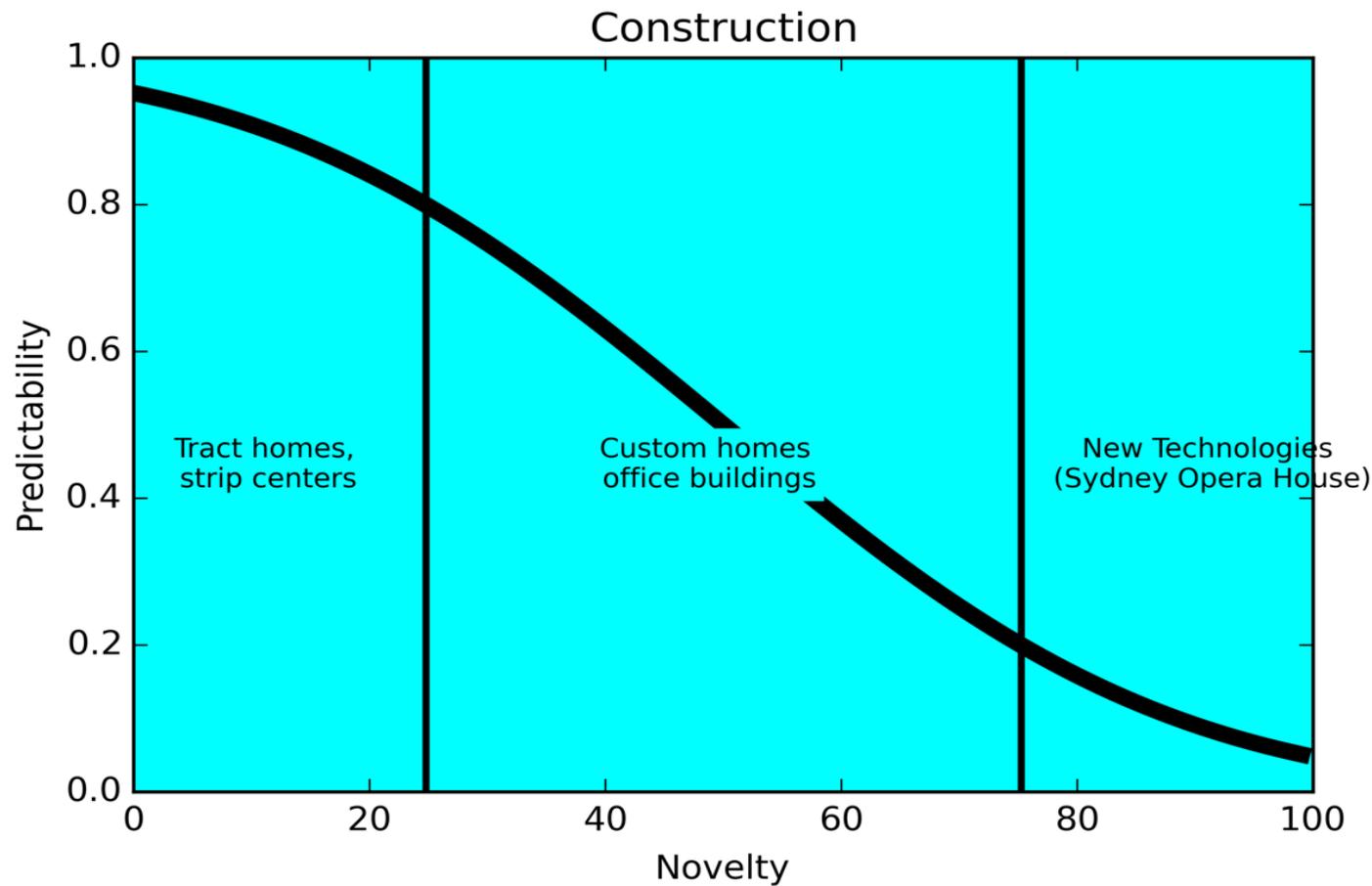
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# The mix for development



# The mix for construction



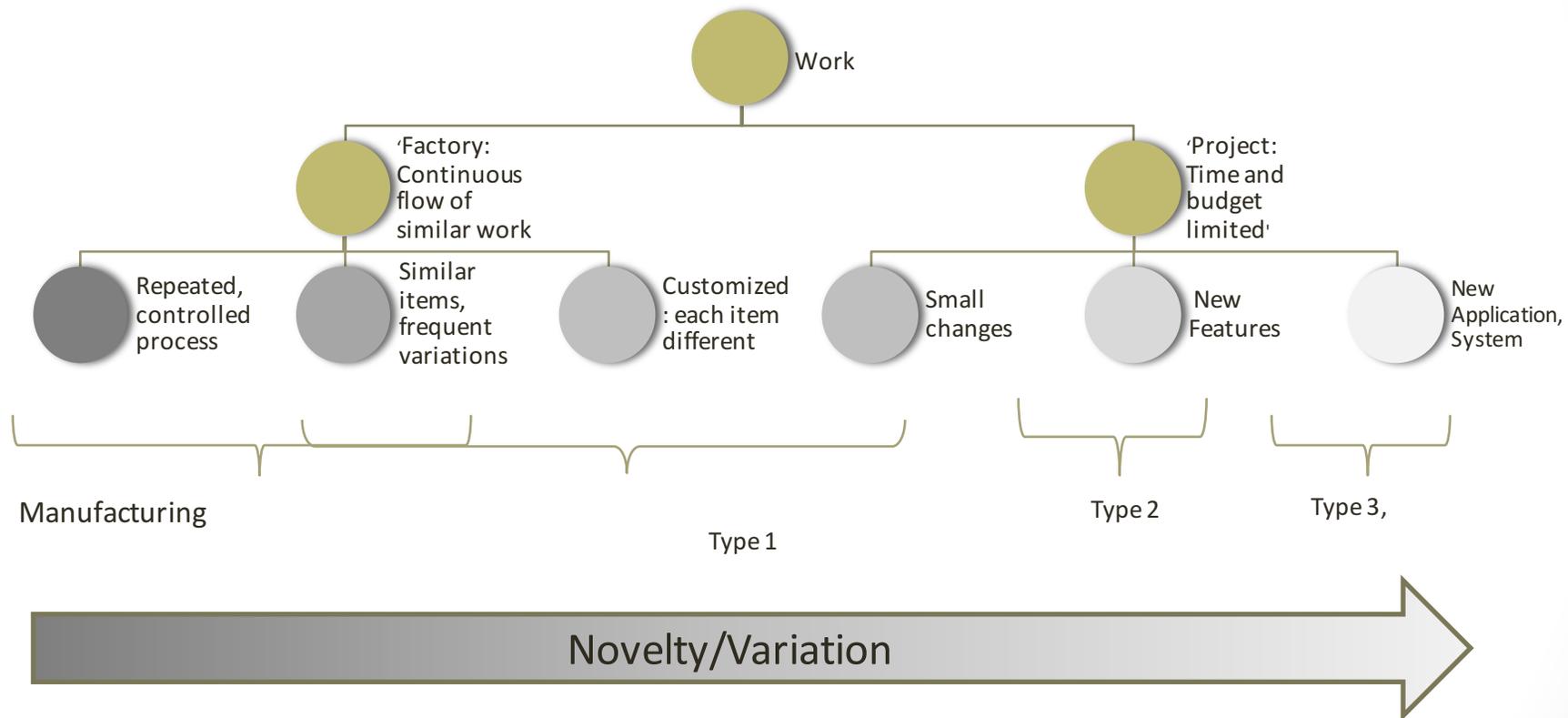
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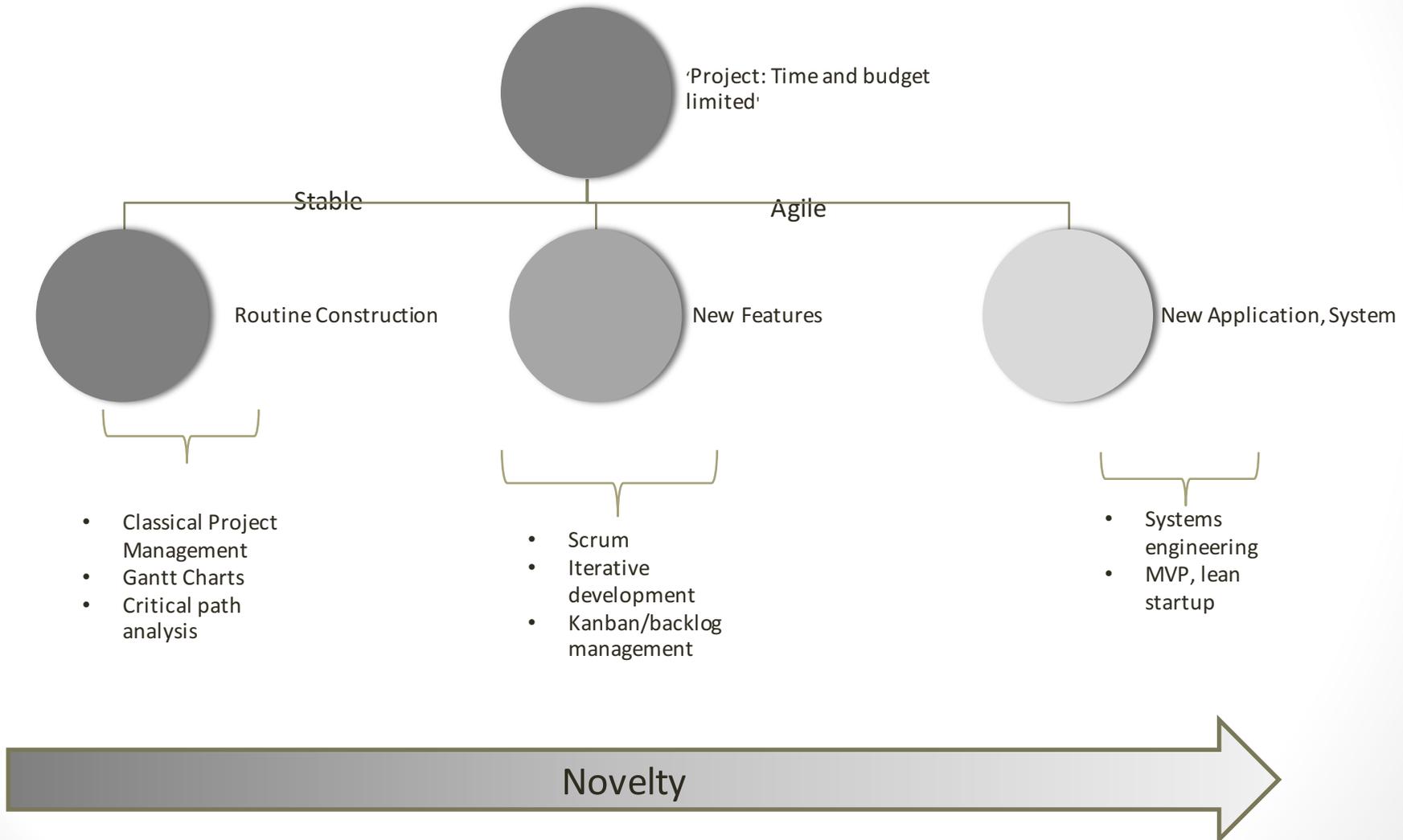
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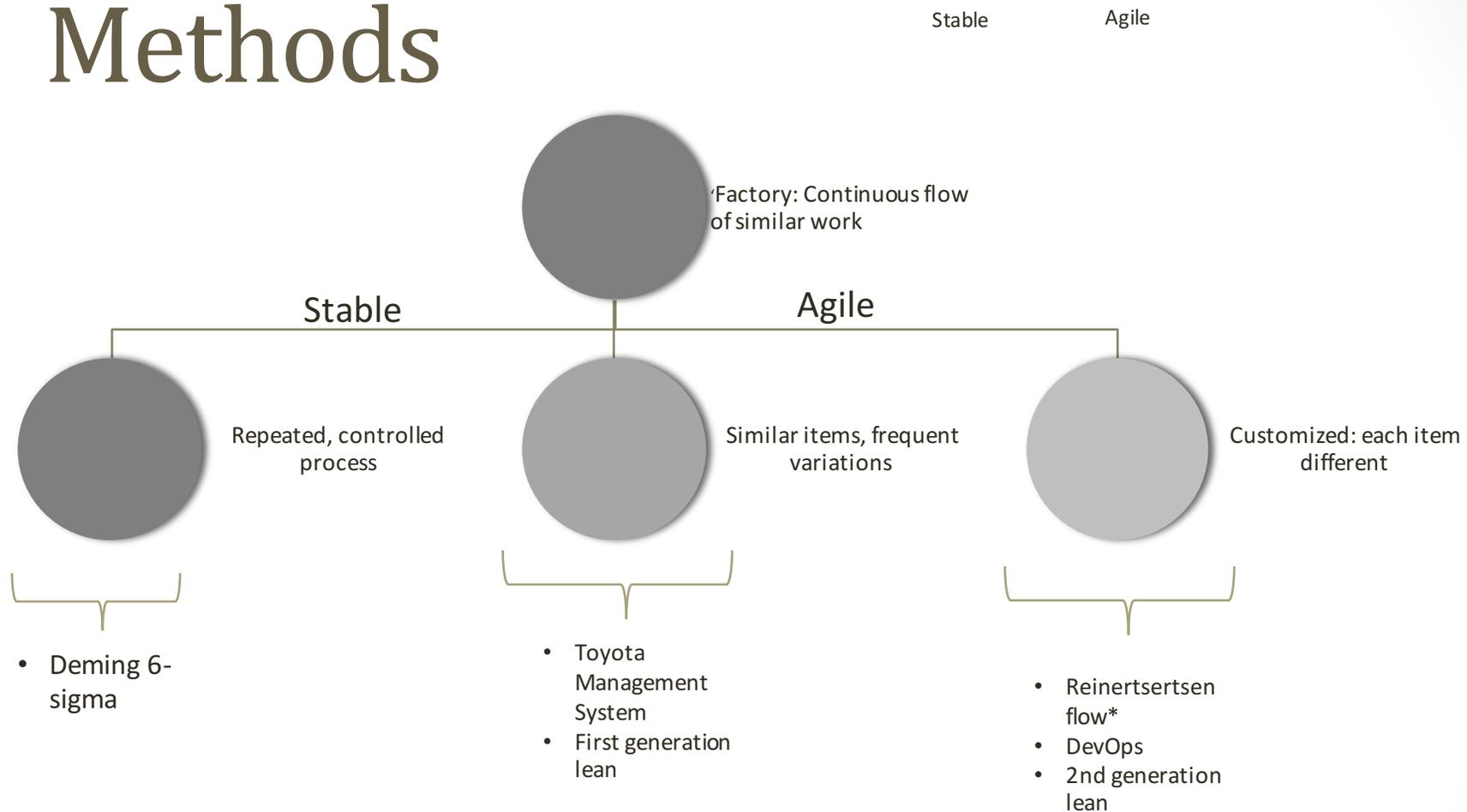
# Dealing with novelty and variation: factory, project, or mix?



# Different Paradigms: Different methods, projects



# Different Paradigms: Different Methods



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# Command and control versus empowerment

- Command and control:
  - You give them detailed instructions on how to do their job.
  - Workers not responsible for dealing with change
  - Very difficult to respond to change
- To empower, focus on the what, not the how?
  - Workers are responsible not for carrying out a task, but for delivering some outcome that adds value.
  - You assign what changes (state transitions) to what work products



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Measure process adherence  
(impedes agility)



Measure efficiency of delivering value  
(rewards agility)



# Agile Management Key Points

- Being agile is the ability to quickly respond
- Command and control organization are slow to respond to change, not agile
  - Even the modern military
- Agile managers are aware of and respond to:
  - Their mix of kinds of work
  - Their environment
  - Their organization's status, performance, ...
- Learning requires agility and agility requires learning
- Your job as manager/executive is not to be the point of control, but to build, and empower an Agile organization



# Webinar 2 - Agile Management Best Practices

## *Specific Techniques:*

- Organization design for empowerment
- Choosing analytics for alignment
- Dealing with uncertainty and learning

WHAT'S NEXT?





# Any last questions?

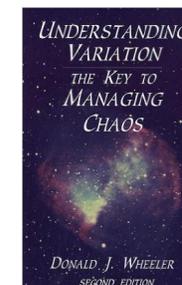
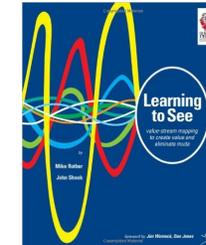
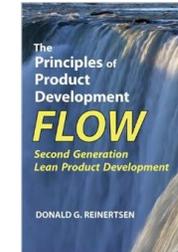
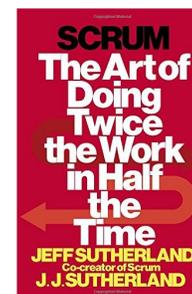
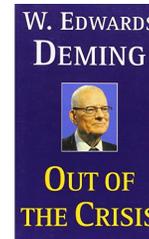


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