Chapter 2 – Measuring Performance

Developers should solve Business Problems with Minimal Code
- But that is understandable

Velocity is a Capability Planning Tool
- But its Relative
- If Pushed, it gets Gamed

Utilization only Works until it Doesn't
- Approach 100% -> Lead Time becomes Infinite

Measuring Software Delivery Performance
- Globally focused
- Focus on Outcome not Output

> ## Software Delivery Performance
> 1. Delivery Lead Time
> 2. Deployment Frequency
> 3. Time to Restore Service
> 4. Change Rate Failure

Lead Time
- From Lean Theory
- Time from Customer making Request to Request being Satisfied
- 2 Parts
    1. Time to Design and Validate (Hard to Measure)
    2. Time to Deliver Feature (Implement, Test and Deliver)
        - Delivery Lead Time = Code committed to Code in Production
- Timeframes: < 1 hr, < 1 day, < 1 wk, < 1 mo, < 6 mos, > 6 mos

Restore Service
- From Lean Theory
- Also Mean Time To Restore (MTTR)
- Similar to Time between Failures
- How quickly can a service be restored
    - Timeframes: < 1 hr, < 1 day, < 1 wk, < 1 mo, < 6 mos, > 6 mos

Deployment Frequency
- From Lean Theory
- Metric measured is Batch Size
- Reduce Batch Size
    - Reduces Cycle Times
    - Reduces Variability in Flow
    - Accelerates Feedback
    - Reduces Risk and Overhead
    - Improves Efficiency
    - Increases Motivation and Urgency
    - Reduces Cost and Schedule Growth
- How often is code deployed
    - Timeframes: On Demand, < 1 day, < 1 wk, < 1 mo, < 6 mos, > 6 mos

Change Failure Rate
- Percent of Changes in Production that Fail
- Includes
    - Degraded Service
    - Requires Remediation

Organizational Performance
- High Performers Twice as likely to exceed Organizational Goals
    - Including
        - Quality and Quantity
        - Efficiency
        - Customer Satisfaction
        - Mission Goals
    - Therefore a Competitive Advantage
- A/B Testing and Experimentation is Key
- Reason to NOT Outsource Software Development
- Keep Strategic Software
    - Wardley Mapping Method (2020)

	Cohort Results		
	High	Medium	Low
Leadtime to Change	< 1 hour	> 1 week < 1 month	> 1 month < 6 months
Deployment Frequency	On Demand	> 1 week < 1 month	> 1 month < 6 months
Restore Service	< 1 hour	< 1 day	> 1 day < 1 week
Change Failure Rate	0-15%	31-45%	31-45%