



Mobile Developer Productivity at Zalando

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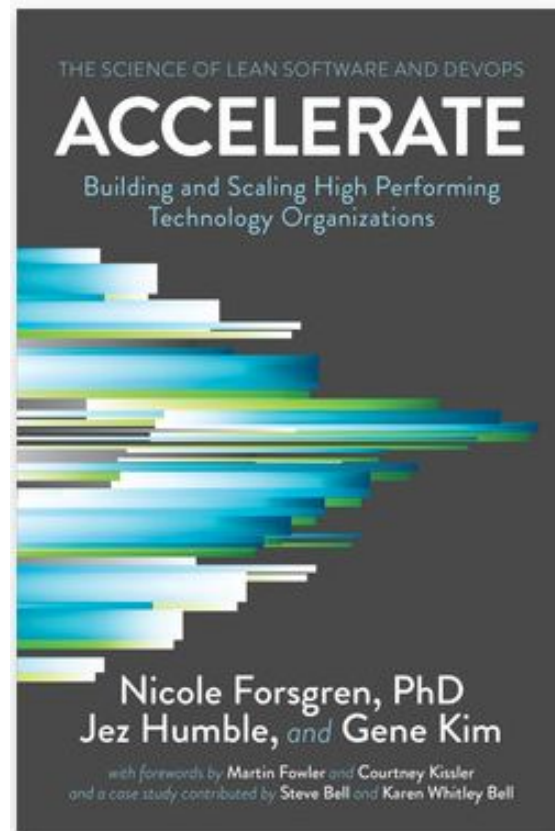
Developer Experience - The How

Canonical Theories & Models of Developer Productivity





Published 2014



Published 2018

DORA - 4 KPIs

Software delivery performance metric	Elite	High	Medium	Low
Deployment frequency For the primary application or service you work on, how often does your organization deploy code to production or release it to end users?	On-demand (multiple deploys per day)	Between once per week and once per month	Between once per month and once every 6 months	Fewer than once per six months
Lead time for changes For the primary application or service you work on, what is your lead time for changes (i.e., how long does it take to go from code committed to code successfully running in production)?	Less than one hour	Between one day and one week	Between one month and six months	More than six months
Time to restore service For the primary application or service you work on, how long does it generally take to restore service when a service incident or a defect that impacts users occurs (e.g., unplanned outage or service impairment)?	Less than one hour	Less than one day	Between one day and one week	More than six months
Change failure rate For the primary application or service you work on, what percentage of changes to production or released to users result in degraded service (e.g., lead to service impairment or service outage) and subsequently require remediation (e.g., require a hotfix, rollback, fix forward, patch)?	0%-15%	16%-30%	16%-30%	16%-30%

"DORA's research has consistently found that a team's software delivery capability reliably predicts the value that the team provides to their organization. Survey respondents who achieve high levels of software delivery performance report that their organizations perform better on business objectives. Performance can be assessed according to four software delivery metrics"

- DORA Website

SPACE (Jan/Feb 2021) - 35 KPIs

FIGURE 1: EXAMPLE METRICS

LEVEL	SATISFACTION & WELL-BEING How fulfilled, happy, and healthy one is	PERFORMANCE An outcome of a process	ACTIVITY The count of actions or outputs	COMMUNICATION & COLLABORATION How people talk and work together	EFFICIENCY & FLOW Doing work with minimal delays or interruptions
INDIVIDUAL One person	*Developer satisfaction *Retention! *Satisfaction with code reviews assigned *Perception of code reviews	*Code review velocity	*Number of code reviews completed *Coding time *# Commits *Lines of code!	*Code review score (quality or thoughtfulness) *PR merge times *Quality of meetings! *Knowledge sharing, discoverability (quality of documentation)	*Code review timing *Productivity perception *Lack of interruptions
TEAM OR GROUP People that work together	*Developer satisfaction *Retention!	*Code review velocity *Story points shipped!	*# Story points completed!	*PR merge times *Quality of meetings! *Knowledge sharing or discoverability (quality of documentation)	*Code review timing *Handoffs
SYSTEM End-to-end work through a system (like a development pipeline)	*Satisfaction with engineering system (e.g., CI/CD pipeline)	*Code review velocity *Code review (acceptance rate) *Customer satisfaction *Reliability (uptime)	*Frequency of deployments	*Knowledge sharing, discoverability (quality of documentation)	*Code review timing *Velocity/flow through the system

Delivery-oriented (DORA-like):

- Performance
- Activity

People-oriented:

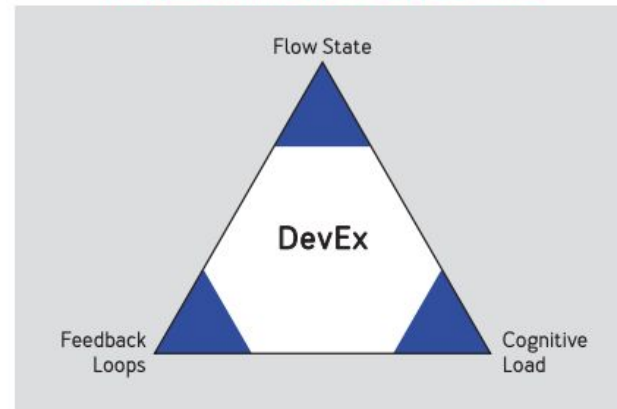
- Satisfaction and Well-being
- Communication and Collaboration
- Flow

Beyond DORA: 2. DevEx (Mar/Apr 2023) - 21 KPIs

TABLE 1: **EXAMPLE DEVEX METRICS**

	FEEDBACK LOOPS	COGNITIVE LOAD	FLOW STATE
PERCEPTIONS <i>Human attitudes and opinions</i>	• Satisfaction with automated test speed and output • Satisfaction with time it takes to validate a local change • Satisfaction with time it takes to deploy a change to production	• Perceived complexity of codebase • Ease of debugging production systems • Ease of understanding documentation	• Perceived ability to focus and avoid interruptions • Satisfaction with clarity of task or project goals • Perceived disruptiveness of being on-call
WORKFLOWS <i>System and process behaviors</i>	• Time it takes to generate CI results • Code review turnaround time • Deployment lead time (time it takes to get a change released to production)	• Time it takes to get answers to technical questions • Manual steps required to deploy a change • Frequency of documentation improvements	• Number of blocks of time without meetings or interruptions • Frequency of unplanned tasks or requests • Frequency of incidents requiring team attention
KPIs <i>North star metrics</i>	• Overall perceived ease of delivering software • Employee engagement or satisfaction • Perceived productivity		

FIGURE 1: **THREE CORE DIMENSIONS OF DEVELOPER EXPERIENCE**



A MECE DevEx Mental Model

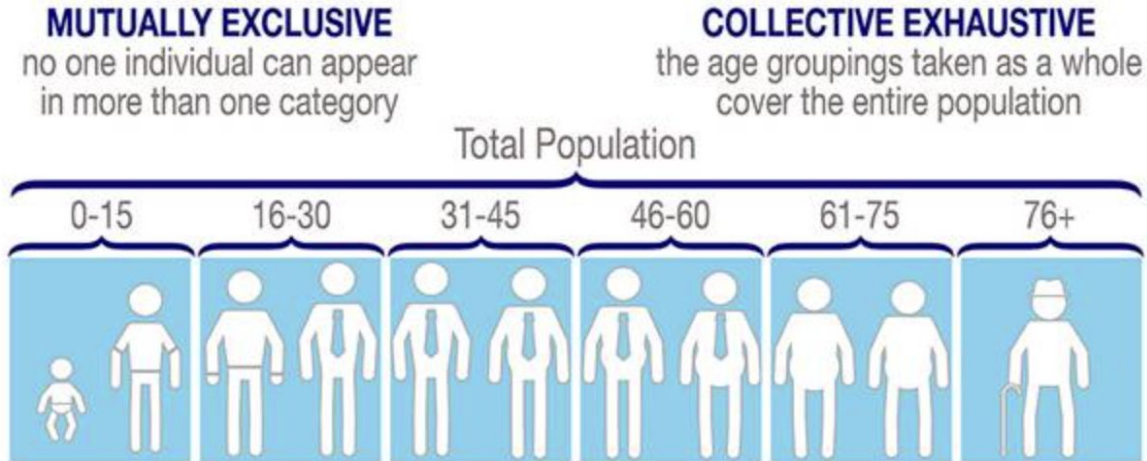
A Simple Perspective of DevEx Factors



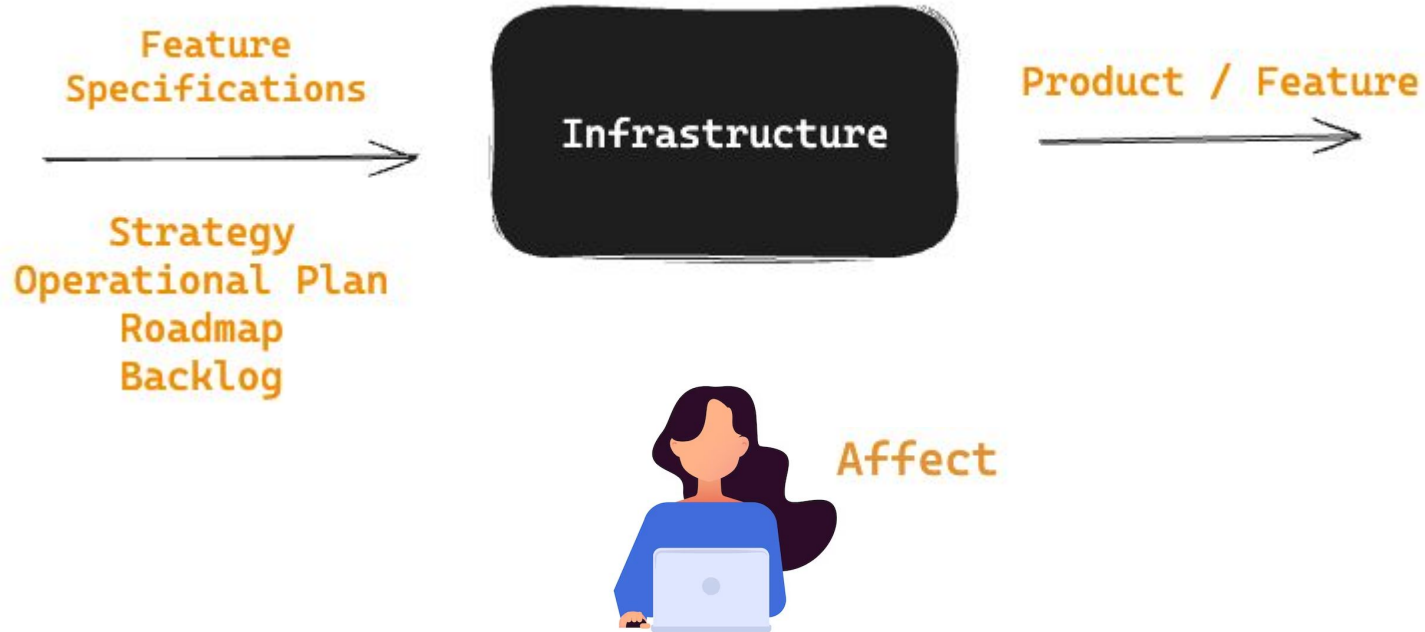
The MECE Principle

- **Mutually Exclusive** – An item or data record may not be in more than one category at a time
- **Collectively Exhaustive** – All items or data records must be included in one category (e.g., your categorization structure can not exclude an item or data record) at a time

Grouping customers by their ages is an example of
MECE



The Black Box Product Factory Mental Model



Components of developer experience



INFRASTRUCTURE

...

Development tools
Issue tracker
Programming language
Libraries
Processes
Methods
Working agreements

“Building things in the right way”



FEELINGS ABOUT WORK

...

Respect
Belonging
Attachment
Psychological safety
Workplace humor

“Building in the right culture”



VALUE OF WORK

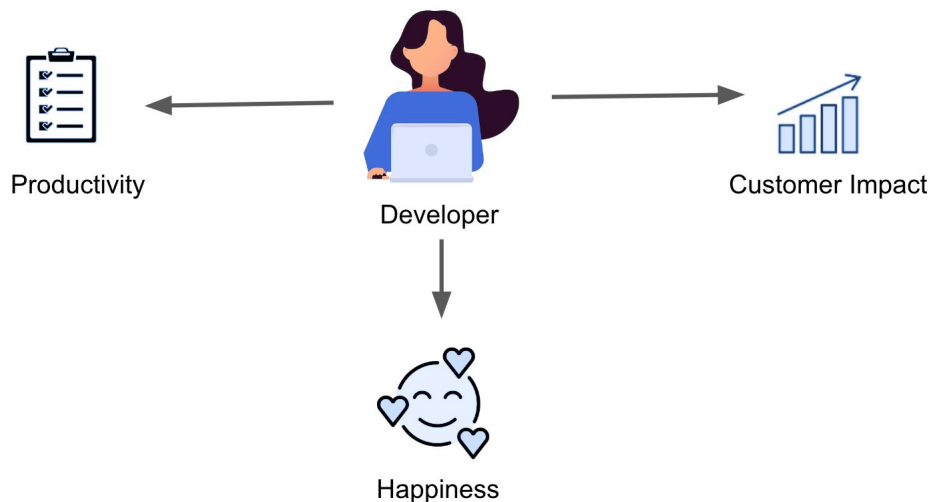
...

Motivation
Goals
Commitment
Alignment
Impact

“Building the right things”

Simple Approach to Getting Started: Prioritizing DPE Initiatives

- Identify your **Top 3 Pain Points** ...
through Developer Surveys.



Case Study: Zalando

Top 3 Pain Points @ Zalando App Foundations (2021)

1. Slow Builds (“Build things the right way”)
2. Lack of Strategic Alignment (“Build the right things”)
3. Work-Life Balance (“Build things in the right culture”)

Effectively Addressing Pain Points

Utilizing the Northstar KPI Framework

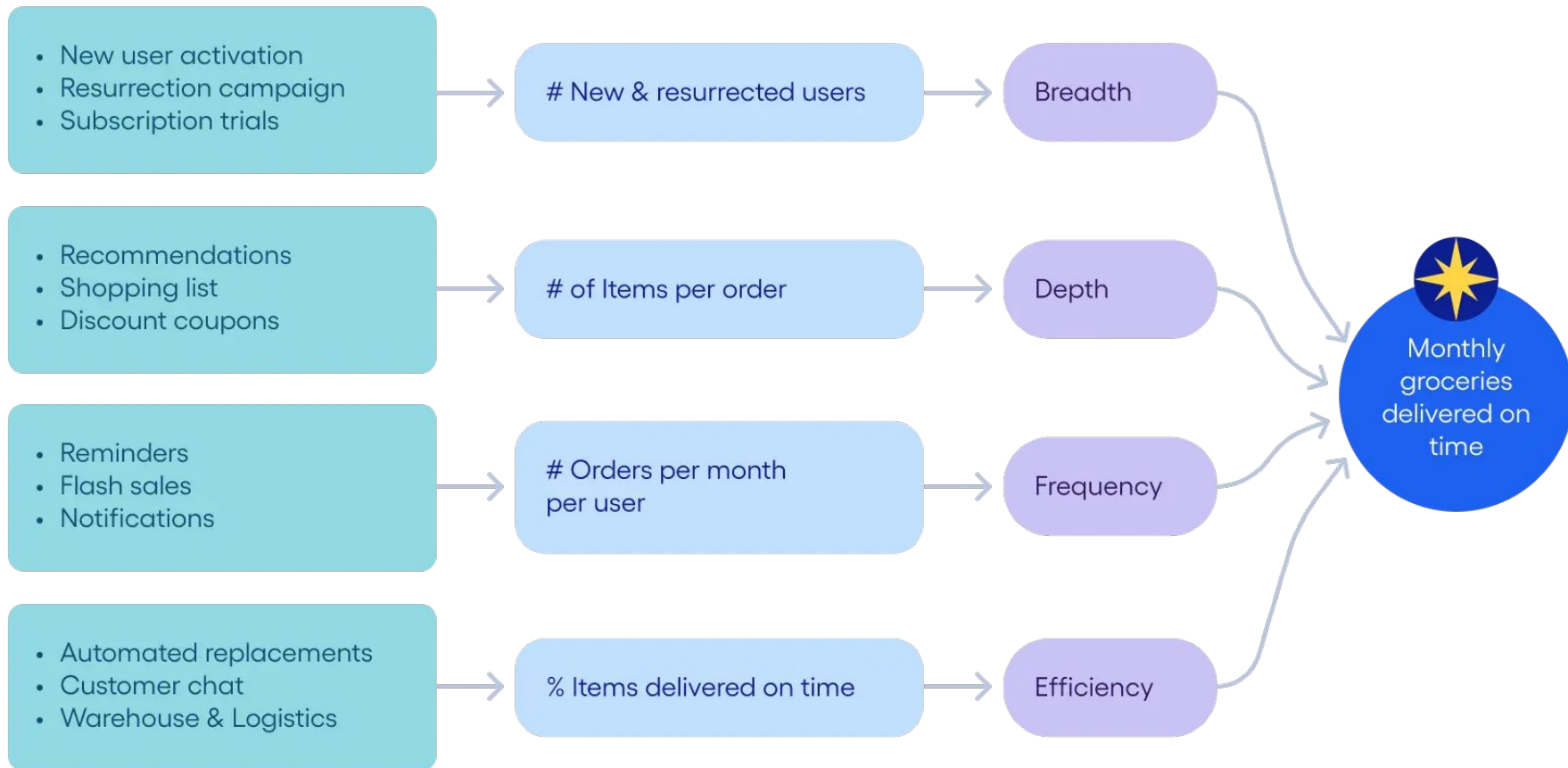


Product Initiatives

KPI

Dimension

North Star



North Star Framework

Worksheet

Team Name

Spotify

Input Metrics

Breadth - How many users are engaging?

- # of premium trial users
- # of premium subscriptions
- # of users listening on more than one device

Depth - What level of engagement are they reaching?

- Avg # of hours/session
- Avg # songs shared per user per month
- # of recommended songs/session

Frequency - How often does each user engage?

- # sessions/week
- median usage interval
- 2-day weekly stickiness of radio

Other - Add in your own leading metrics

North Star Metric

What's your Product's North Star?

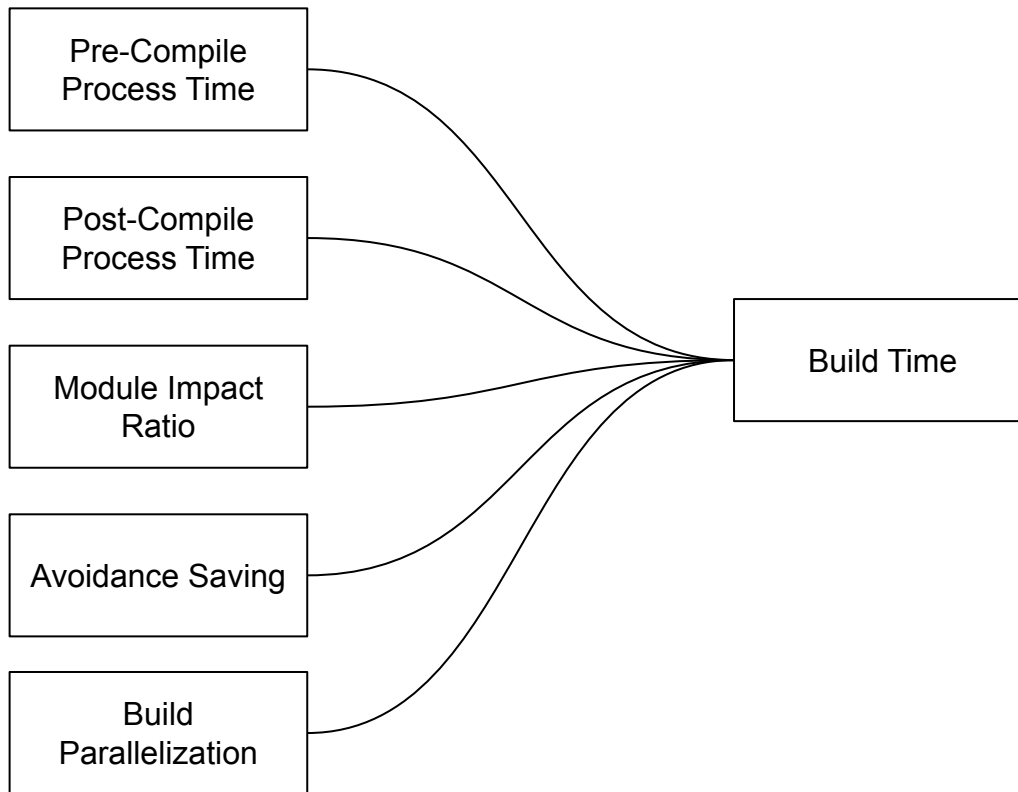
- Time spent
- listening to
- Music by
- Subscribers

Mid/Long-term Impacts

What will the impacts to the business be?

- monthly
- subscriptions from
- premium users

A Build Time Value Driver Tree



Tools for Stakeholder Negotiations

A Shared Language to Foster Understanding & Buy-in



1. Systematically Quantifying Impact of DPE Initiatives

 ScienceDirect®

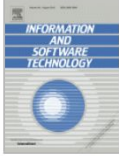
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 ELSEVIER

Information and Software Technology

Volume 64, August 2015, Pages 52-73



The financial aspect of managing technical debt: A systematic literature review

[Areti Ampatzoglou](#)^{a b} , [Apostolos Ampatzoglou](#)^a  ,

[Alexander Chatzigeorgiou](#)^b , [Paris Avgeriou](#)^a 

“Practitioners’ experience suggests that using economics-based terminology and approaches like real-options, cost/benefit analysis, and portfolio management, bridges the gap between software engineers and managers and facilitates the negotiation of trade-offs of quality for quicker product delivery”
- Ampatzoglou et al.

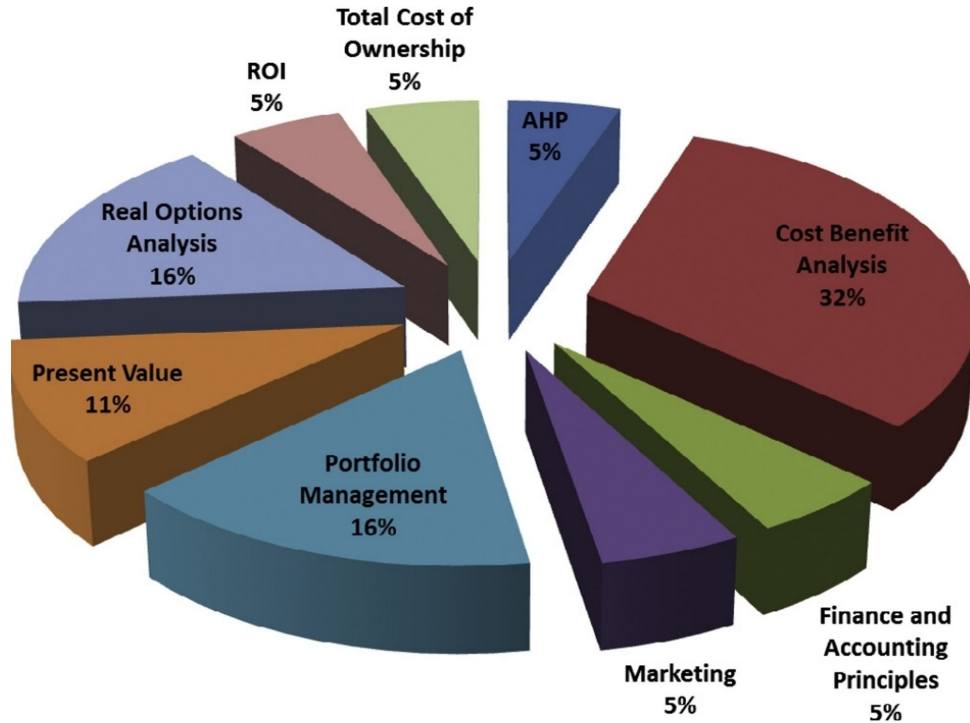
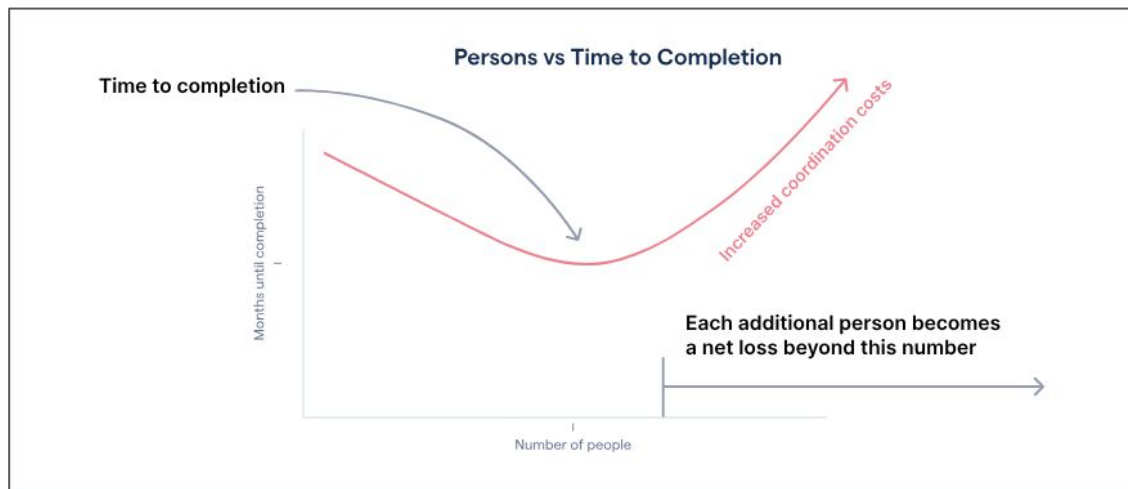


Fig. 1. Managing technical debt approaches.

2. Socializing Brook's Law



Brook's Law predicts that *generally* adding more people to a late project ***makes it later***:

- 'Ramp-up' time
- Communication links increase => Combinatorial problem
- Software work packages are often not easily divisible

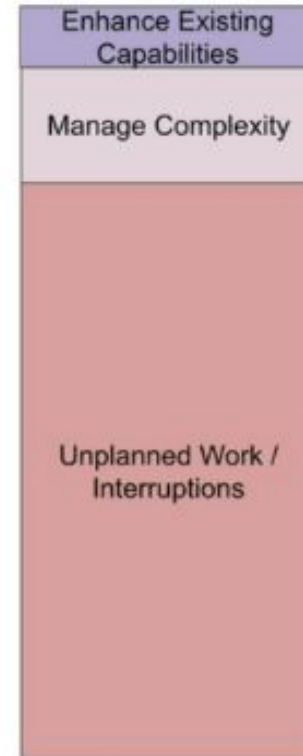
3. Create Customer Value Sustainably via Portfolios



Do this ...



Not this



... or this will happen

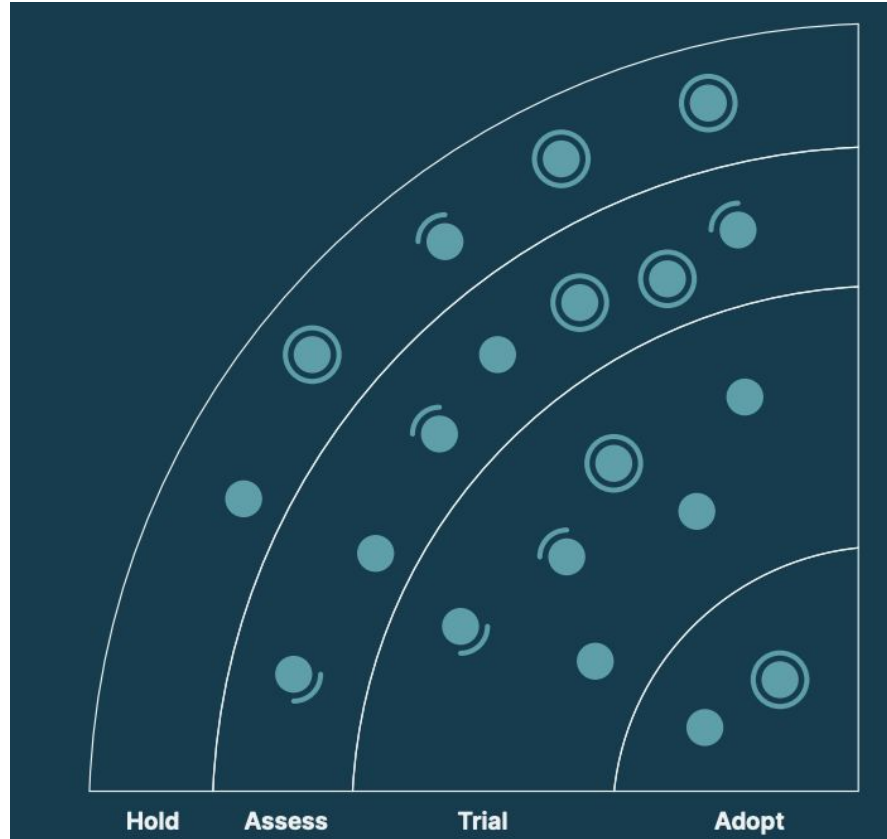
Mobile Developer Productivity at Europe's Largest Online Fashion Store

DevEx Radar

Curating and Championing Industry Practices.



DevEx Radar



Techniques

Platforms

Tools

Frameworks

Thank you!

