

# Scaling

# Understanding Scaling

In a team, department, or organization, it's not always easy to know when a change is needed or in which direction. Although receiving advice on these transitions in advance can be helpful, the change can still feel incredibly counterintuitive.

# Understanding Scaling

## **Growing or Shrinking the Organization Strategically with Devops**

Successful organizations must know how to scale—that is, to grow or shrink as needed.

Scale can mean different things to different people depending on context. In this way, scale is another example of a folk model, and in order to effectively discuss it within your organization or with others you will need to clarify what kind of scaling you are talking about. For example, scaling might mean:

- Expanding the customer base
- Growing revenue
- Expanding a project or team to meet demand
- Maintaining or improving a ratio of people to systems or money spent
- Growing faster than competitors

# Understanding Scaling

## **Planning for Scaling**

Recognizing how your system should behave, and what matters in the grand scheme of things right now, allows you to construct a set of prioritized systems for your current environment.

Understanding your goals is vital.

- Is this a learning exercise?
- Are you responding to an outage?
- Are you recovering from a security breach and trying to re- establish trust?

# Understanding Scaling

## Organizational Structure

Restructuring the way teams are organized may facilitate scaling.

- Small **cross-functional teams**, whose members comprise multiple skill sets (e.g., frontend and backend development, design, UX, and operations) for a single project or product, have everything needed to get their product off the ground, allowing for high bandwidth between people working on the same product.
- There are also benefits to **single-function teams**, however, such as greater knowledge sharing and specialization within a given team or department. If you find that single function teams are still communicating and working well with the rest of the organization, don't reorganize just for the sake of reorganization.
- No matter the overall team structure, it's still critical to have cross-team communication in order to have an effective organization overall.

# Understanding Scaling

## **Locality**

Having organizations or teams distributed across multiple locations will bring into sharp focus how effective your company's communication skills are as a whole.

At a more logistical level, having multiple locations will bring a new set of IT- and infrastructure-related considerations.

# Understanding Scaling

## Team Flexibility

A lot of research has been done on effective team size. Teams that are too small generally lack the resources to get everything done, usually in terms of person-hours or knowledge. Larger teams, especially over 9–10 people, with so many different interpersonal interactions and relationships, can find it much more difficult to make timely and effective decisions. Large teams can also fall prone to groupthink, suppressing individual dissenting opinions in the interest of overall group harmony, which can diminish their creativity and problem-solving abilities. Maintaining a **team size of 5–7** people rather than growing the team implies that hiring people means creating additional teams.

# Understanding Scaling

## Organizational Lifecycle

We can examine an organization's lifecycle through two primary lenses:

- Internal and external pressure
- Growth and decline of organizations

There is a fair amount of variety within organizational lifecycles, as new business models and funding methods offer ways for companies to change, grow, and pursue success.

### Internal pressure

- In a growth phase takes the form of an organization growing naturally, hiring employees in order to offer more products, develop more features, work faster, and serve more customers.
- In a decline phase, internal pressure may arise when a company realizes it is not doing as well as it wants and voluntarily starts to downsize or consolidate.



# Understanding Scaling

## Organizational Lifecycle

External pressure in the decline phase may arise due to national or global economics, changes in competitive advantage, or a company being acquired for reasons such as its product or patent portfolios or being split up and sold in pieces to other organizations.

How effectively it approaches this kind of change can have a great impact on its future prospects.

# Understanding Scaling

## **Elimination of Vampire and Zombie Projects**

Throughout an organization's lifecycle, it is important to consider whether or not current projects are still adding value to the organization.

In growth or decline, identifying vampire and zombie projects can help the organization wade through change successfully.

Vampire and zombie projects either hold back growth or speed the organization's decline.

- Zombie projects are projects that take up time and resources. Everyone knows that they are “walking dead” projects and yet nobody feels empowered to shut them down, in some cases due to concerns about job security or how the shutdown will impact people.
- Vampire projects are projects that feed off the resources and energy of other projects.

Either way, a time of change in the organization is a great time to clean house.

# Understanding Scaling

## **The Impact of Release Cycles**

Organizations looking to speed up their release cycle often move from a more waterfall-esque process, where changes take weeks or months, to smaller, more frequent releases. The faster changes can be made, the faster teams can respond to external and internal pressures, such as more rapidly fixing bugs and issues that are discovered.

- Understand and weigh the importance and complexity of projects and their releases in order to figure out what release cycle makes the most sense for each one.
- Different projects throughout the organization might work better with different release cadences.

# Understanding Scaling

## **Complexity and Change**

There are many ways in which the size, complexity, or inflection points of an organization's growth can affect how they approach devops.

The bigger or more complex the organization, the more existing constraints they will likely have to work around (or with); this is true both for large enterprise environments but also in the public sector. In these cases, long-standing bureaucracies limit the amount of collaboration and affinity between teams as well as organizations within governments.

# Scaling for Teams

With a shared sense of work, purpose, interdependence, and responsibility for success, the team collaborates effectively.

Organizational structures that lock people into roles or that are fear driven can lead to a focus on optimizing work for the me, not the we. Choosing processes and tools that favour an individual can lead to short-term gains that are not sustainable for the team or organization over the long term.

# Scaling for Teams

The different factors that go into helping teams be their best throughout the lifecycle of an organization.

## **Growing Your Teams: Hiring as Scaling**

One key element of scaling for teams involves growing those teams. Organizations will have to consider hiring throughout their lifecycle, but especially in growth phases. In this section, we will discuss various considerations around growing teams effectively within a devops environment.

More than hiring people who simply know about infrastructure automation or the cloud or containers, organizations and teams need to focus instead on assessing their specific needs and addressing the interpersonal and cultural aspects of hiring that are key to creating and maintaining a devops culture.

# Scaling for Teams

## **Growing Your Teams: Hiring as Scaling**

One concern that frequently arises when growing teams is the cost of training employees, both in terms of getting junior hires or recent college graduates up to a level where they can contribute independently as well as providing continuing support and growth opportunities for established employees.

New team members have a ramp-up time before they are productive, and even the most experienced or senior engineer will take some time to get used to a new project and a new code base. There is also the time that existing team members must spend helping the new people get up to speed, which is time that is taken away from other work they might be doing.

Communication overheads increase rapidly with team size, and not every task is easily divided into work that multiple people can share. When you are looking to add more people to an existing project, it is important to keep these constraints in mind and consider whether or not additional staffing will be necessary and beneficial.

# Scaling for Teams

## Growing Your Teams: Hiring as Scaling

### Subcontracted work

Especially in larger organizations, subcontracted work (often referred to as outsourcing) is another option that has to be considered. Historically, areas such as IT or operations that were viewed as cost centers were seen as prime targets for outsourcing by organizations looking to cut costs. One of the most important things to keep in mind is that while you might be saving in terms of dollars on a budget sheet, there are likely to be **increased costs in terms of decreased collaboration and affinity between individuals and teams**.

Having some teams or departments be outsourced while others remain in-house can be a big source of **conflict within an organization**, either directly or indirectly.

Here are some ways that this can manifest, and some solutions for dealing with that conflict:



# Scaling for Teams

## **Retention**

In the competitive tech industry, keeping employees is of increasing importance to employers. Employee retention affects not only team productivity, but morale as well. Frequently losing coworkers can cause additional stress to the remaining employees as well as hinting at larger problems with the team or the company. If many employees are leaving for reasons like increased salaries at a new position or because they're worried about the direction the company is heading, that often doesn't bode well for those who stay.

# Scaling for Teams

## **Retention :**

### Compensation

Money isn't everything, and more and more frequently people are choosing healthy work environments and companies they feel connected to over a larger paycheck. Even so, people want to feel like they're being paid competitively. A recent study found that employees who stay at companies longer than 2 years end up making significantly less money—50 percent less over only 10 years<sup>3</sup>—over the course of their careers. Conventional wisdom, especially among individual contributors, says that the best way to get a substantial raise is to change jobs and negotiate a higher starting salary from a new company. On average, employees staying at a company can expect around a 3 percent raise, which is effectively more like 1 percent when taking into account the 2 percent rate of inflation. Changing jobs, however, they can expect an increase of between 10 and 30 percent. Even at a company you love, over time that kind of disparity is hard to ignore.

# Scaling for Teams

## **Retention :**

### Compensation

Offering salaries and benefits that are in line with industry averages can help attract these candidates, many of whom have been significantly underpaid at previous positions. Transparency about the salary negotiation process, pay bands (if your company uses them), and other issues related to compensation can help with retention. People want to feel like they are being compensated competitively, but also that they are being treated fairly.

# Scaling for Teams

## **Retention :**

### Nonmonetary benefits

Being paid competitively and fairly is important, but once employees are compensated well enough that they are able to enjoy a good standard of living and save money for the future without having to worry about their rent check bouncing (especially in rental markets like New York and San Francisco), nonmonetary compensation can often be more valuable to them than additional salary increases. For smaller or less mature companies that might not be able to offer the same salaries that more heavily funded or more profitable ones can, these kinds of perks can be a good way to attract and retain talent, especially diverse talent that hasn't been afforded the opportunities to be able to pay rent in such expensive areas.

# Scaling for Teams

## **Retention :**

### Nonmonetary benefits:

Benefits you might consider include:

- Remote opportunities(to be near parents, or to have a cheaper cost of living etc.)
- Educational opportunities
- Flexible work hours
- Work–life balance
- Paid leave
- Retirement plans
- Health insurance
- Casual dress code
- Transportation benefits
- Gender-neutral facilities
- On-site daycare

# Scaling for Teams

## **Retention :**

### Growth opportunities

Beyond money and work–life balance, one of the biggest reasons that people leave jobs is a lack of opportunities for advancement.<sup>4</sup> Nobody goes into a job expecting or hoping that it will be a dead-end one. People want opportunities to grow their skills and to demonstrate that growth, whether that means more independence, more choice in the projects that they take on, being trusted with bigger projects, or leadership opportunities.

# Scaling for Teams

## **Retention :**

### Workload

In general, people are looking for workloads that are challenging but doable. Continuing our discussion of **growth opportunities**, challenging work that allows people to test themselves and grow their skills is important to their senses of satisfaction about their jobs.

It is important for managers to regularly check in with the team as a whole and with individual employees to make sure that they don't have an unrealistic amount of work they are trying to take on.

Burnout is a term that refers to long-term exhaustion and lack of interest in work and often in activities outside of work as well.

“Avoid burnout”

# Scaling for Teams

## Retention :

### Culture and “culture fit”

Culture is better defined as the ideas, customs, and social behavior of a people or society, and when we look deeper into those areas we can see how this definition can **make or break someone's desire** to stay with a company.

Because so much of devops involves culture and how people work together and relate with each other, it is important to define these terms in a way that is **productive, rather than exclusive**.

Ideas might also be interpreted to mean what is considered valuable in a given organization or team.



# Scaling for Teams

## **Retention :**

### Culture and “culture fit”

**Customs** are the traditional or widely accepted ways of behaving, speaking, or doing things. Many aspects of a workplace can be viewed as customs in this light, including:

- How work is assigned, and who is responsible for assigning it
- How members of a team or the same level within the company communicate with each other
- How managers communicate news to their reports
- When people arrive at and leave the office
- Technical processes for doing work
- How promotions, raises, and bonuses are awarded

# Scaling for Teams

## **Retention :**

### Culture and “culture fit”

**Social behaviors**, the last major part of culture, cover a wide range of factors in how people interact. Pay attention to the way people communicate:

- Do more “senior” employees talk down to or talk over those who are lower in the ranks
- Are all ideas treated with respect regardless of who they came from?
- Do people tend to interrupt each other in meetings, or do they wait until others have finished speaking?
- How do teams get to know each other or bond?

**There are many benefits to better knowing the people you work with, including greater empathy and more effective communication**

# Scaling for Organizations

Larger scaling challenges occur at the organizational level. Decisions need to be taken down to the level where the data is known within the appropriate teams and with individuals. This requires sufficient coordination and data transparency so that enough data flow is happening around these decision points.

# Scaling for Organizations

## Centralized Versus Ad Hoc Teams

**Centralizing teams** to provide support functions leads to burnout and one team trying to be everything to all other teams. Efficient support teams can make things seem to just work. If its value is not visualized and communicated across the organization, the support team can be perceived as lower value, especially in organizations where the prestige ladder is in effect. This can be disastrous for morale, and over time impact the whole company as the team loses effectiveness. **Ad hoc teams** that encourage the collaboration of individuals from cross-functional purposes to design, build out, and communicate decisions will allow for multiple perspectives, and ease change. It also allows individuals to transcend tribal boundaries.

# Scaling for Organizations

## **Build Out Leadership**

Build out a collaborative leadership team that can drive daily change, tackle emerging opportunities and challenges, and monitor critical paths. These different tasks need to be spread across the leadership team. Tools that enable collection of task metrics will assist in better quantification and qualification of people needed for this team.

# Scaling for Organizations

## **Build Out Leadership:**

### A culture of accountability

In general, accountability is acknowledgment and assumption of responsibility, and this is true at an organizational level as well as at the team and individual levels. We can consider accountability both from a team or individual perspective, which generally involves being responsible for project and individual results as well as learning and development activities. Finally, we can consider accountability from a leadership perspective, which tends to have additional financial and regulatory responsibilities.

A culture of accountability includes clear reasonable expectations, positive consequences that follow quality performance, and negative consequences following poor performance.

Moving from a blameful to a blameless organization: if people are used to getting punished for mistakes or lower quality, they will naturally be wary of coming forward with these sorts of issues.

# Scaling for Organizations

## **Build Out Leadership:**

### Organizational flexibility

Bigger organizations, especially ones that have been around for many years, are considered to be much slower to change and adapt. This is true in many cases; by necessity, it will take more time and effort to roll out changes to thousands or hundreds of thousands of people than it will to make the same changes to fewer than one hundred simply by virtue of how many people are impacted. One of the benefits of a more agile style of software development is the rate at which changes can be made, with shorter feedback cycles meaning that changes can be made sooner rather than later in response to new information, leading to less wasted time and effort. How flexible an organization can be depends a great deal on another factor: how teams are organized and the processes that affect their interactions.

# Scaling for Organizations

## **Build Out Leadership:**

### Organizational flexibility

Typical questions to ask when considering the flexibility of a large organization include:

- How do people communicate between teams?
- Does the decision-making process require a formal meeting?
- How far up the management hierarchy does someone need to go in order to make a change?