

DEVOPS TRANSFORMATION IN THE FINANCIAL SERVICE INDUSTRY

DO ORGANIZATIONS START OR EXPERIENCE THE DEVOPS TRANSFORMATION JOURNEY IN THE RIGHT WAY?



Many financial institutions are starting or undergoing DevOps transformation journeys. This article introduces DevOps and its key principles, the reasons to adopt DevOps from both business and technical perspectives, and finally it elaborates the starting points for properly adopting DevOps based on a concrete use case.

WHAT IS DEVOPS AND ITS KEY PRINCIPLES?

DevOps started in 2009, formed by joining the words, “IT Development” (Dev) and “Operations” (Ops), and is normally defined as **“An effective collaboration between various entities of an enterprise, to align and streamline cross-functional teams and encourage ‘A One Team’ culture, to produce and deploy reliable and repeatable solutions through automation in order to meet business needs.”**¹ DevOps reorganizes software development and operational departments in order to break down silos and remove the boundaries that generate inefficiencies in respect to time-to-market for new features and improved software quality.

The key principles of DevOps are not just software development and deployment automation: they entail driving businesses to **review their entire end-to-end value chain**. The key principles are based on people and culture, including collaboration across all stakeholders throughout the end-to-end delivery process, extreme automation across end-to-end delivery pipeline and leveraging Agile and Lean frameworks across cross-functional delivery team through delivery lifecycle and shared responsibilities. The organizations who have adopted DevOps or Agile in the form of features-team have observed that it significantly helps to deliver real business value-added with an increased velocity and higher quality of the software or new product being delivered.

More than anything, DevOps is about bringing a **positive change in the way we work** as individuals and as organizations: it creates a culture of effectiveness and seamless collaboration while breaking down silos that exist in the organization. It is all about one-team thinking and holistic thinking

¹ <https://theagileadmin.com/what-is-devops/>

of the whole system and entire lifecycle in terms of products and services, with a common goal of shipping source code into production as quickly and safely as possible.

WHY THE FINANCIAL INDUSTRY REQUIRES DEVOPS TRANSFORMATION

DevOps transformation has brought many benefits to technology organizations such as Google, Facebook, and Amazon. From the business point of view, DevOps contributes directly as an enabler for two powerful and strategic business qualities: **“business agility”** and **“IT alignment.”** DevOps helps to enable IT alignment by aligning Dev and Ops roles and processes in the context of shared business objectives. The **Puppet Labs State of DevOps Report** has shed more light on DevOps and IT performance, in terms of throughput of code and the stability of systems, based on responses from over 20,000 technical professionals worldwide. It reports the following:²



In today’s challenging environment, banks need to innovate quicker and bring new products and services to market sooner. **Traditional banks are currently facing massive competition from technology disruptors** and can no longer simply compare with other banks’ maturities in terms of IT organization: instead, they will need to compare with companies such as Amazon, Netflix and Google who are regarded as leaders in this field. DevOps practices enable banks – and indeed other players in the financial services industry – to roll out releases more quickly and with greater safety.

Many banks ask themselves, **“can we be as good as technology companies (Amazon, Google, Facebook...) in agility?”** The response to this question is simple: these technology companies are built by people and technology which have had

² Source: Puppet Lab: “state of DevOps report”: <https://puppet.com/resources/whitepaper/2017-state-of-devops-report>

agility and DevOps in their DNA since the first day; there's no magic ...

It is possible for banks to deploy code as fast as technology companies. Since many systems within banks don't change that often, it needs to be justified on a case by case basis for other reasons than velocity. **Deploying code frequently to deliver faster changes to external and internal customers** is not the only driver to adopt DevOps—there are much more important and basic technical reasons:

- (i) when system developers change the code, it introduces the chance of errors and creates the need for testing;
- (ii) when the changed code is deployed very frequently, only the smallest unit of change is released into production;
- (iii) if it fails testing or causes bugs, the bugs could be located within limited sources and more easily fixed. If it succeeds, it becomes the new working baseline for the next changes.

Therefore, **frequently deploying reduces the sources of errors** and evades the months of integration, testing and stabilization nightmare most of us have lived through too many times. If a bank is able to release quickly, frequently and safely, not only would it look a lot more like leading technology companies, but the delivery life would be easier and more effective for staff.

DEVOPS TRANSFORMATION IN THE FINANCIAL INDUSTRY: A CONCRETE USE CASE

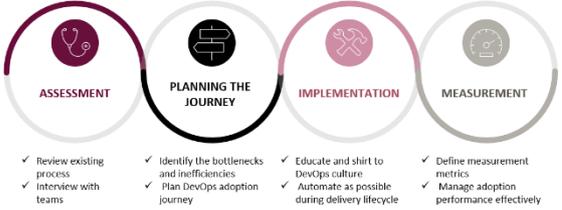
Sia Partners has recently worked on a DevOps transformation project for a **Tier-1 global bank**. The client aimed to transform the development and delivery methodology from the traditional water-fall model to the Agile approach, together with shifting to DevOps culture and building a DevOps environment to achieve several **KEY OBJECTIVES**:

- Define and implement Agile and DevOps processes into the delivery pipeline and lifecycle

- Build one team culture across cross-functional teams with shared responsibilities
- Automate where possible to speed up the release cycle and improve the quality of deliverables (including software configuration management, continuous integration, continuous testing and deployment automation)³
- Enable bi-directional traceability through the entire delivery lifecycle and built-in quality
- Define measurement metrics on DevOps adoption

Sia Partners' project team first performed the comprehensive review of the existing development and delivery lifecycle processes, and interviewed teams to identify the bottlenecks and inefficiencies.

THE DEVOPS ADOPTION JOURNEY



Second, we started to plan the DevOps adoption journey. We educated the organization staff and teams on Agile and DevOps culture and introduced and standardized the automation tools to reduce the inefficiencies across the delivery lifecycle. We defined the measurement metrics so that the DevOps adoption progress and performance could be managed in an effective way. The project was completed within 12 months and the **MAIN ACHIEVEMENTS** were the following:

- Built an Agile and DevOps culture within the organization
- Shortened the average production release cycle from 1-2 months to 1-2 weeks
- Reduced lead time for changes to production (from codes changed by developers to codes shipped to production) from 1 month to 1-2 days, mainly involving automation tools

³ <https://continuousdelivery.com/>

- Decreased change failures and sped up recovery via standardized and consistent delivery pipeline and automation

WHERE TO START FOR ADOPTING DEVOPS

It is time to know where to begin the DevOps transformation journey. Before engaging in the DevOps journey, it is important to be conscious that adopting DevOps is **not a “one size fits all” approach**. Since different teams will have different focus areas and pain points, the way in which they adopt DevOps cannot be the exactly same. Before embarking on the DevOps journey, organizations should first understand the goals for adopting DevOps, what DevOps, Agile and Lean are and how they are related, and the culture shift needed on a team and organizational level.

The **KEY SUCCESS FACTORS** of adopting DevOps are the following:



Understand where you stand

First and foremost, it is important to **identify the bottlenecks or major inefficiencies** in the delivery pipeline and understand the relative priority to address the identified focus areas. The “theory of constraints” can be used as an improvement method. Asking questions like, “where do we find a lot of hand-offs,” “where do I see a delay or people waiting to complete work,” and “which part of the process takes the longest time to complete?” could help to establish your as-is situation with a clear identification of bottlenecks.



Build a DevOps oriented culture

Shared accountability, transparency, openness, encouragement and collaboration, best practices and experience sharing, continuous improvement, etc. **DevOps is first and foremost about a culture and mindset shift** on a team and organizational level.



Push for automation and tooling

Choosing the right tools and automating the delivery cycle to the best possible extent can

reduce the time to market for a product and free up the time spent on manual repetitive tasks for creativity and innovation, thus resulting in an enhanced customer experience, continuous customer feedback and improved quality of products. Please be aware that simply adopting new tools where there isn’t a need in the first place will not put you on the path to adopt DevOps.

SIA PARTNERS’ CAPABILITY IN DEVOPS TRANSFORMATION

Sia Partners has built strong capabilities and experience around DevOps transformation and adoption. In the past 5 years, through our dedicated teams of specialized consultants, **we have helped many organizations shift to a Agile and DevOps culture and implement delivery lifecycle processes and automation tools to achieve their DevOps goals**. We have developed the DevOps Maturity Assessment Model and the DevOps Adoption Model, covering the entire delivery lifecycle, which have both been adopted by many financial institutions and could help ease your DevOps adoption and transformation journey.

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ABOUT SIA PARTNERS

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