DevOps: 3 skills needed to support its future in the enterprise

If you're aiming for continuous improvement with your DevOps effort, prioritize these skills. They're critical to helping teams conquer cultural and technology challenges

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It’s no longer a question of if organizations need DevOps, but rather when they should adopt it, according to the DevOps Institute Upskilling 2021 report. That report finds that global enterprise adoption of DevOps at the project or multiple-project level is at 20 percent and 36 percent, respectively – and the skills needed for a successful DevOps journey span the categories of automation, human, technical, functional, and process knowledge.

Whether you’re facing a skills gap in any of those key areas or you’re looking to expand your adoption of DevOps in the near future, keep the following considerations in mind:

The state of DevOps fluctuated slightly during the pandemic

The Upskilling report shows that the adoption of DevOps has varied in the last three years, but on average, 56 percent of organizations are deploying DevOps at either the project or enterprise level. During the pandemic, 38

percent of enterprises kept their current DevOps organization unchanged, and 23 percent expanded one or more of their DevOps teams.

[Need to explain key Agile and DevOps terms to others? Get our cheat sheet: DevOps Glossary.]

The future of DevOps is evolving – and individuals must evolve with it

DevOps engineer tops the list of in-demand job titles, with 57 percent of organizations recruiting, according to the report. According to Robert Half, the average U.S. DevOps engineer salary ranges from $97,000 to $160,000 USD, and 47 percent of organizations are either recruiting internally or externally.

While the future looks promising for DevOps experts, much will depend on how DevOps engineers are leveraged to transform how work gets done. For instance, DevOps engineers must continually strive to break down silos while also moving away from traditional development, deployment, and waterfall builds that inhibit the velocity of scalable, qualitative, and reliable software.

Complexity is increasing

In a pandemic and post-pandemic world, organizations are modifying their operating plans and must deal with a distributed workforce. IT teams must also consider automation and unbundling previously existing complexities such as siloed development and operations teams. Everything-as-code, hybrid cloud operating models, and automated workflows will be top priorities for every DevOps team.

Digital services must excel across all organizational functions in order to delight customers. Meanwhile, organizations will continue to focus on how to increase revenue while reducing costs. Experience, processes, effectiveness, utilization, quality, and speed are the levers for improvement.

Three key skills to support DevOps as an operating model

DevOps is shifting from simply bringing together Dev and Ops toward building an operating model of continuous improvement. Ongoing cultural challenges and the emphasis on automation work have introduced significant changes. The 2021 Upskilling report shows the following skills are critical:

1. Ability to work in a multi-disciplinary product team

As the pressure to sell products and services through e-commerce sites, apps, or SaaS solutions increases, the lines between product and engineering teams will blur, giving rise to cross-functional, multidisciplinary teams that must learn and grow together. Fifty-six percent of survey respondents selected functional skills and knowledge as the fourth-highest must-have skill domain. Multidisciplinary work involves appropriately utilizing knowledge, skills, and best practices from multiple disciplines and functional boundaries.

What this means: Multidisciplinary teams (MDTs) of professionals from different functions across IT and business must work together to achieve key goals, and their skillsets and organizational structures will vary. The skills needed depend on the existing technical environment and key goals of the business. The best way to understand your organization's needs is to determine the existing capabilities across the key domains of human, automation, technical environment, functional, and process and frameworks.

2. Ability to reduce toil while focusing on innovation

New operational models that work toward value alignment and continuous process improvements are becoming the norm. Forty-seven percent of survey respondents consider SRE, which allows IT operations teams to balance automation and troubleshooting to continuously improve across a wide area of topics, a must-have skill. Value stream management (VSM), which involves looking at an entire value stream to understand how to continually reduce waste and increase flow, received 39 percent of votes; DataOps and ModelOps also earned strong votes as must-have skills.

What this means: We are seeing new DevOps working models being adopted, all with three underpinning themes: system thinking, amplifying, and ensuring ongoing feedback loops across the value streams and focusing on changing the culture of individuals and teams through experimentation and learning.

While SRE, for example, focuses on enabling feedback from operations into development (and more), VSM is an example of the shift toward product and system thinking, providing a more holistic perspective that focuses on customer value and the flow between processes and teams.

3. Willingness to adopt continuous learning to adopt and stay skilled

It’s tempting to believe that massive success means massive change, but that’s not always true. As James Clear describes in his book Atomic Habits: An Easy & Proven Way to Build Good Habits & Break Bad Ones, changing one percent of something every day can achieve incredible results over time: His math shows that if you make something one percent better each day for one year, it will end up 37 times better at the end of that year.

While 70 percent of organizations surveyed stated that building a learning organization is fundamental to DevOps, a disappointing 32 percent reported actually offering an upskilling program. (Twenty-two percent reported that they are currently developing one and 39 percent either don’t have one or don’t know if they have one.)

What this means: Changes in how we work, transfer knowledge, and relate to others can have both a positive impact on any journey. Automating a manual task or adopting a new way of doing something will make a difference – and if it’s done in conjunction with others, it can have even more impact. Knowledge across key topic areas helps us apply and leverage different ways of thinking and performing work.

Sixty-six percent of survey respondents said that certifications are extremely valuable. The same is true for how we interact with our network of individuals and the help we offer. Improving our human skills helps create a stronger culture, which can positively impact new ways of working.

Any transformation causes fear and resistance, but when it includes a deliberate journey to develop skills and capabilities in a continuous way, new ways of working become possible.

Ultimately, DevOps success depends on the individuals who need skills to support their journey. As technology changes and new best practices and methodologies are developed and adopted, a fourth survey on Upskilling IT 2022 has just been launched. We’d love to get your input on which skills are essential for 2022 and beyond.