DevOps and the bottom line

Nicole Forsgren, Director of Organizational Performance and Analytics, Chef

DevOps is not just about making an impact on the IT function, but also on the bottom line—and that's revolutionary. That's the hypothesis proposed by Nicole Forsgren PhD, Assistant Professor at Utah State University and Director of Organizational Performance and Analytics at Chef, and she's got the data to back it up.

This, she argues, flies in the face of decades of research. "For the first time in several years, research shows a link between IT investment and organizational performance, but only if those investments exist with the right mix of IT, culture and practice, aka DevOps," she says.

"What's interesting is that for decades we've tried to find the value that technology can bring to a business and haven't been able to find it. Investment in IT doesn't impact the bottom line, any kind at all. We just don't see it. Studies fail to show a link, time and time again."

This is a manifestation of what Forsgren calls the Productivity Paradox. "Anyone can go out and buy a server and throw it in the closet," she explains. "But your competitors can do that as well. It's a low barrier to entry, so they can buy the same server or a similar server and so you don't get any real competitive differentiator.

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"If you do get any kind of competitive advantage, it's just not sustainable because technology advances. So technology never becomes a differentiator for you. What you need to do is find a way to leverage technology—or indeed anything you have—in such a way that you can really set yourself apart from your competitors. The ROI rarely pans out and if it does, you're looking at three, four or five years. It just doesn't work."

But DevOps is different, suggests Forsgren, stating that: "DevOps is not just a technology solution. It's not just a server, it's a major re-engineering shift. DevOps has ended up being a significant process change. Yes, it requires IT investment, but it also requires investment in culture and the re-engineering of processes.

"For change to happen, you have to include the right people and processes, the right culture, the right tools, the right technology. You need to have a culture in place that is open and generative and communicative. You need to have Dev and Ops talking. You have to re-engineer the entire process and you have to do it very mindfully. We don't talk about best practice, but you need to have good practices.

"It's like the lean and the Toyota way of manufacturing that we saw in the 1990s. Just as that revolutionized the way manufacturing was done, DevOps will revolutionize the way IT is done across all industries."

Riding the unicorns and horses

What's also remarkable about DevOps is that its potential reaches across both the 'unicorn' and 'horse' categories of company. "Unicorns are young and nimble. They are start-ups or they were start-ups. They're companies like NetFlix and the way that they do things is the DevOps way," explains Forsgren.

"Horses are major established companies which have been around for so long that they are set in their ways. It's like old dogs and new tricks. You have firms that just can't drastically change the way they do things or manage their IT processes—or so people believed."

Falling under the 'unicorn' banner would be a firm like accounting software provider Intuit, which used DevOps to experiment with new functionality. What was particularly bold was that this experimentation took place during the tax season, the busiest period for the company.

Again, this runs counter to accepted wisdom, but in reality what time is better to do experiments with functionality than the period during which customers are using your products most? In this case, following such a course of action had a business impact of delivering a 50 percent increase in conversion rates on the website.

Meanwhile at a 'horse' company, DevOps has resulted in the ability to deploy code quicker and deliver services to their customers much faster. "They can run experiments in real time so that they can understand what features are more valuable and decrease customer churn," says Forsgren. "They're deploying code hundreds or thousands of times a year rather than a couple of times."

More than just IT

DevOps isn't just IT, it's the practice of IT. High-performing IT organizations are twice as likely to exceed the business's profit, productivity and market share goals, notes Forsgren. "You see a change in the business view of IT. It's seen as a cost center at first, where you have to do IT just to keep up, but then it starts to be seen as a point of distinction that can deliver genuine value to customers. You can attract new customers and retain existing ones."

Forsgren observes that DevOps has really been a ground-up, rather than centrally driven, movement. What is now known as DevOps has existed inside companies that have been the best IT performing companies, but just not called DevOps.

"Once it had a name, it became a thing," says Forsgren. "But it wasn't something that came approved from the front page of the Harvard Business Review. It came about from people going to conferences and talking to one another about what they're doing. It's one of the interesting things about the movement: those involved in DevOps talk to each other, and they help each other. They call one another up on the phone and chat, or they go to meet-ups. They leverage one another. They make it happen and then they go public with what they've been able to accomplish.

"DevOps creeps into enterprises. You might not be able to use DevOps across the whole organization all at once, but it gets rolled out a piece at a time. Let's try it here, let's try it there, strategically. You might identify certain applications that are legacy and are always going to say legacy from a business point of view. But there are other bits of the business that can become points of distinction, so those can use DevOps practices and principles to deliver value to the business."

But DevOps is good for the IT function. According to data, high-performing DevOps teams are more agile, with reports of 30x increase in deployments and 8000x faster lead times than peers. They are also more reliable with 2x the change success rate and 12x faster mean time to recovery.

So are CIOs already highly excited by the promise of DevOps then? Not so much, according to Forsgren. "CIOs still need to be educated when it comes to DevOps," she suggests. "A lot of CIOs are still running IT as simply cost centers. They just aren't excited by DevOps and they just don't really care.

"It is changing though. I've had a few people ask me to write up a quick blurb on evidence that it can help with the contribution to the bottom line. Before it used to be 'why bother, why care?' So there is progress."

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Looking ahead, Forsgren reckons that effective use of DevOps will become a critical business differentiator. "I can see DevOps being part of the strategy for the enterprise," she says. "The smart way to do this is piece by piece. The best way to use it is to take a strategic application and deliver value all the way through the value chain."

But she concludes that there will be enterprises that will choose not to use DevOps in any way. "Some companies will survive because they are so big," she says. "Other companies that resist the DevOps change just won't be around. Right now, adopting DevOps is a point of distinction. For some companies it will be a point of parity. For others, they will just fail. Survival isn't mandatory."

Nicole Forsgren
Director of Organizational
Performance and Analytics, Chef

Nicole is the Director of Organizational Performance & Analytics at Chef and an Assistant Professor of MIS and Accounting at the Huntsman School of Business at Utah State University. She received her PhD in Management Information Systems and her Masters in Accounting from the University of Arizona. She is an expert in IT use, DevOps impacts, and communication and knowledge management practices, particularly among technical professionals. Her background spans analytics, enterprise storage (specializing in RAID performance), cost allocation, user experience, and systems design and development. She is a featured speaker at industry and academic events and is involved in women in technology initiatives.