

Gaining an Understanding of DevOps from its Enablers to Its Impact on Performance

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Abstract

Despite these efforts' merit, academics have had trouble keeping up with the radical shifts in how software is created and supplied to clients. DevOps has revolutionized the way IT businesses are intended to operate as the result of years of hard effort and improvement to software delivery methods, techniques, and philosophies. Despite its widespread use and the positive effects, it has had on IT businesses' bottom lines, few people outside of the industry really understand what it is, how it operates, or if it can genuinely lead to better IT performance. This study provides a methodology that bridges the gap between these macro-level elements and the actual results of IT departments by focusing on the enabling components of DevOps, such as technological and management skills, and IT culture. Moreover, this study suggests the values of a perfect DevOps organization, which have a profound impact on IT Outcomes when they are in harmony with the firm's Delivery Approach. Information technology (IT) experts with prior DevOps experience were used to compile the survey results. In all, 176 American respondents provided their information. This alignment, in turn, has a substantial impact on IT Outcomes. This study adds not only to the growing body of literature on DevOps and software delivery, which is essential to the success of any IT firm, but also to the development of important underlying theory in these areas.

Keywords: DevOps, IT businesses, Deployment

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1. Introduction

DevOps is a new method of software delivery that has been proposed by both practitioners and academics (Erich, Amrit, and Daneva, 2014) to help organizations deploy code more quickly, more reliably, and with fewer errors. While DevOps may be just another passing IT trend, early adopters are showing otherwise, with DevOps enterprises guaranteeing much higher performance than their competitors (Ravichandran et al., 2016). DevOps Return on Investment (ROI) is argued to be hard to quantify by Ravichandran et al. (2016) since there are no universally accepted metrics for gauging the success of an organization's use of DevOps.

Despite the current buzz, many professionals and academics remain confused about what DevOps really is and how it works. DevOps is an acronym that stands for "Development Operations" (Kim, Behr, and Stafford, 2014). DevOps is a movement that emphasizes collaboration between software development and operations, two traditionally distinct areas of a company's operations. However, DevOps entails far more organizational change than simply bringing these processes (traditionally in separate departments) closer together. In other words, as will be detailed in chapter 2, DevOps will be seen as more than simply another new technique in this study since the integration of development and operations includes major changes in the way IT works, and the company should build and distribute software.

to ignore other forms of culture, such as national culture, that could have a role in the adoption of DevOps. There is no need for national culture to have a role in the adoption of DevOps; nonetheless, companies with power-centric cultures (Weill & Ross, 2004) may experience greater friction as a result of embracing DevOps's open and transparent tenets.

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4. Conclusion

Although DevOps has gained increasing interest in the business world, it remains an understudied topic in the field of information systems. Few empirical studies have been conducted on DevOps, and those that have fallen short in their attempt to address organizational concerns. Furthermore, there has not been much IS study of the Software Delivery process that accounts for emerging trends in the industry. In order to better understand the new software delivery philosophy known as DevOps, this study's primary goal was to consolidate and relate existing knowledge about the Software Delivery Process, IT culture, and IT organizational capabilities (i.e., technological and managerial factors).

Because DevOps is supported by three distinct factors technology, management, and culture to offer a nomological model to evaluate the impact that its adoption has on IT's quantifiable Outcomes. In addition, I elaborate on the IT department's efficiency may be boosted by bringing it closer to the ideal DevOps and the Delivery Approach Factor. According to the results of this study, the DevOps mindset has to be taken into consideration while releasing software. Organizations that seek to improve their IT delivery efficiency might take advantage of the institutionalized environment provided by DevOps. The study theoretically proposes and experimentally confirms a nomological model that connects DevOps to its facilitators and results, providing businesses with a more complete picture of how DevOps affects them.

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