FinSoft Corporation's DevOps Transformation
DevOps has been widely adopted by global enterprises as a means to optimise business processes. As a governance paradigm within the DevOps framework, it extends beyond technology and solutions to prioritise communication and collaboration among development, testing, operations, and maintenance teams. Additionally, it emphasises cultural integration to enhance the efficiency, quality, and cohesion of software delivery processes (Niu et al., 2024).

In addition to the benefits of DevOps, several challenges arise when transitioning from local infrastructure to microservices. These include integrating tools from different domains, adopting new technologies, and managing distinct toolkits used by development and operations teams. Key obstacles to DevOps adoption in the software industry include poor communication, entrenched organisational culture, market constraints, scalability issues, and diverse ecosystems. To address the challenges faced by DevOps teams during continuous integration, deployment, and testing, Jenkins as a tool to assist in overcoming deployment-related issues could help solving this (Buttar et al., 2023).

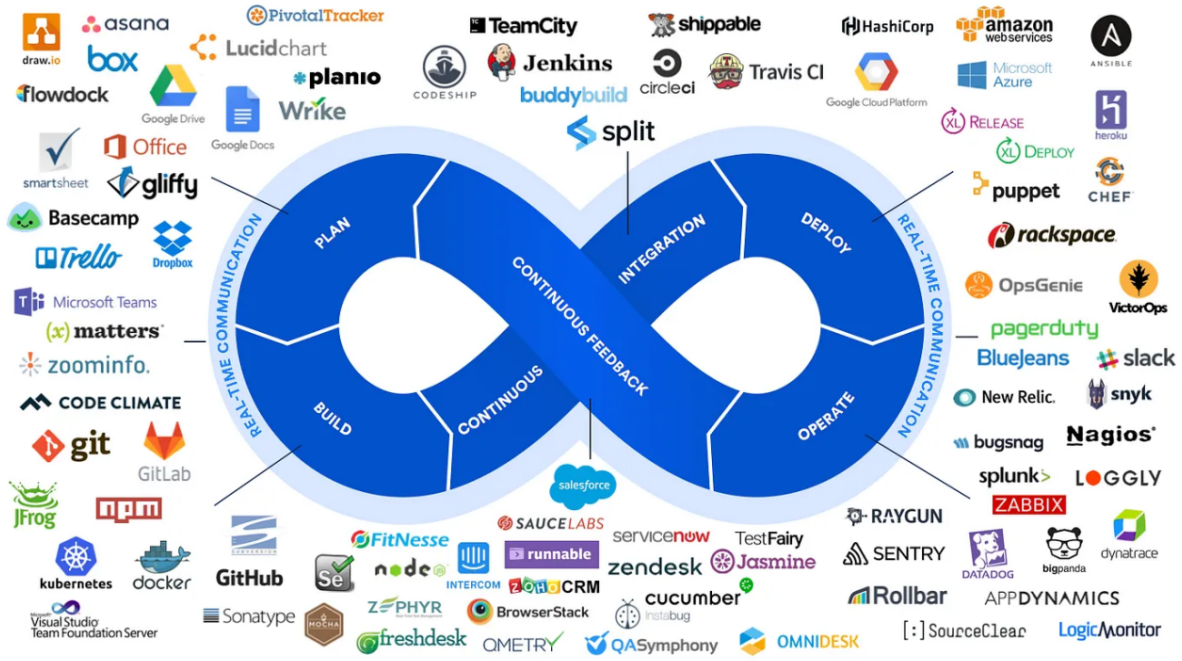

Figure 1: DevOps Tools (Tiwari, 2024)

As the graphic above suggests, there are a high number of tools which can be used to support DevOps principles. One of the key principles is to build pipleines and automate processes wherever possible. Tools such as Bitbucket, Jenkins, AWS CodePipeline, CircleCI, Azure Pipelines or GitLab can be used for that (Rehkopf, 2024). During the build phase it is highly recommended to use tools like SonarQube for static code analasys, Black Duck for 3rd party library scans, Selenium for test automation, Kubernetes to orchestrate containers and Splunk, Nagios, AppDynamics and Dynatrace to monitor environments (Nguyen, 2020).

The above mentioned tools can help to automate repetitive tasks which allows the organisation to improve not only their time to market but also their quality assurance

(QA). In addition to that, the integration of Industry 4.0 technologies can help to detect emerging incidents early. Paired with AI technologies which can be setup for automated repair of services, the IT service desk can be unburdened so that they can focus on essential problems.

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