

## ABSTRACT

Software development is one of the job practices found in startup companies and organizations. One widely used software development practice is Agile, which includes Test-Driven Development (TDD), Behavior-Driven Development (BDD), Domain-Driven Design (DDD), and Model-Driven Development (MDD). Each software development practice has different characteristics, and the variety of Agile development practices is a consideration for developers in choosing the appropriate development practice.

This master's thesis aims to identify the characteristics of Agile development practices, including TDD, BDD, DDD, and MDD, in relation to developers' considerations when choosing the appropriate development practice based on software impact in regards to its development. In addition, this research also aims to determine the effectiveness of implementing these four development practices and to develop a recommendation for the most effective Agile development practice for developers.

Through this research, the four effective development practices were identified, which have a positive influence on developers choices in determining the appropriate development practice. The most ideal development practice for developers is one that can combine the strengths of each of the four development practices.

**Keywords:** Software Development, Test-Driven Development (TDD), Behavior-Driven Development (BDD), Domain-Driven Design (DDD), Model-Driven Development (MDD)

## INTISARI

Pengembangan perangkat lunak merupakan salah satu praktik pekerjaan yang ada di perusahaan *startup* maupun organisasi. Praktik pengembangan perangkat lunak yang saat ini cukup banyak digunakan yakni *Agile* yakni *Test-Driven Development* (TDD), *Behavior-Driven Development* (BDD), *Domain-Driven Design* (DDD), dan *Model-Driven Development* (MDD). Setiap praktik pengembangan perangkat lunak tersebut memiliki karakteristik yang berbeda. Banyaknya ragam praktik pengembangan *Agile* menjadi pertimbangan pengembang dalam memilih praktik pengembangan yang sesuai.

Penelitian tesis magister ini bertujuan mengidentifikasi karakteristik praktik pengembangan *Agile* yang meliputi TDD, BDD, DDD dan MDD terhadap pertimbangan pengembang dalam memilih praktik pengembangan yang sesuai berdasarkan pengaruh perangkat lunak. Selain itu, penelitian ini juga bertujuan mengetahui efektivitas dari implementasi keempat praktik pengembangan tersebut serta menyusun rekomendasi praktik pengembangan *Agile* yang paling efektif bagi pengembang.

Melalui penelitian ini didapatkan keempat praktik pengembangan efektif serta memiliki pengaruh positif terhadap pilihan pengembang dalam pengembangan perangkat lunak dengan penentuan praktik pengembangan yang sesuai. Praktik pengembangan yang paling ideal bagi pengembang merupakan praktik pengembangan yang dapat mengkombinasikan masing-masing kelebihan dari keempat praktik pengembangan tersebut

**Kata kunci** – Pengembangan Perangkat Lunak, *Test-Driven Development* (TDD), *Behavior-Driven Development* (BDD), *Domain-Driven Design* (DDD), *Model-Driven Development* (MDD).