

PENGEMBANGAN SISTEM OTOMATISASI *QUALITY CHECK SHEET* BERBASIS *AGILE SCRUM* DI PT TOYOTA MOTOR MANUFACTURING INDONESIA

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ABSTRAK

PT Toyota Motor Manufacturing Indonesia menghadapi permasalahan inefisiensi dalam pengelolaan dokumen *Quality Check Sheet* yang masih dilakukan secara manual, sehingga menimbulkan risiko *human error* dan keterlambatan proses administrasi ekspor kendaraan. Penelitian ini bertujuan untuk mengembangkan sistem otomatisasi QCS menggunakan metode *Agile Scrum* serta menganalisis efektivitas dan efisiensinya berdasarkan standar ISO/IEC 25022. Pengumpulan data dilakukan melalui studi pustaka, observasi langsung, diskusi dengan kepala seksi administrasi ekspor, dan *usability testing* dengan tujuh skenario tugas. Pengembangan sistem dilaksanakan dalam dua *sprint*: *Sprint 1* berfokus pada otomatisasi perubahan *commercial name*, *curb weight*, *payload*, dan data *axle*; *Sprint 2* menambahkan antarmuka GUI berbasis *model code*, *timer* proses, serta pembaruan *major specification*. Hasil pengujian menunjukkan peningkatan signifikan pada aspek efektivitas, ditandai dengan kenaikan nilai *Task Completed* dari 0,542 menjadi 0,943, *Objectives Achieved* dari 0,828 menjadi 1, dan penurunan *Error in Task* dari 7,8 menjadi 0,6. Dari aspek efisiensi, *Task Time* berkurang dari 361,904 detik menjadi 54,034 detik dan *Time Efficiency* meningkat dari 0,020 menjadi 0,136. Sistem otomatisasi QCS terbukti mampu meningkatkan akurasi, mempercepat proses pengolahan dokumen, serta mengurangi potensi *human error* dalam administrasi ekspor kendaraan di PT TMMIN.

Kata Kunci: *Quality Check Sheet*, *Agile Scrum*, ISO/IEC 25022, Otomatisasi Dokumen, Administrasi Ekspor.

***DEVELOPMENT OF AN AGILE SCRUM-BASED QUALITY
CHECK SHEET AUTOMATION SYSTEM AT PT TOYOTA
MOTOR MANUFACTURING INDONESIA***

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ABSTRACT

PT Toyota Motor Manufacturing Indonesia faced inefficiencies in managing Quality Check Sheet documents through manual processes, leading to human error risks and delays in vehicle export administration. This study aims to develop a QCS automation system using the Agile Scrum methodology and evaluate its effectiveness and efficiency based on the ISO/IEC 25022 standard. Data were collected through literature review, direct observation, discussions with the Head of Export Administration, and usability testing comprising seven task scenarios. System development was conducted in two sprints: Sprint 1 focused on automating updates to commercial name, curb weight, payload, and axle data; Sprint 2 added a model code-based GUI, a process timer, and major specification updates. Testing results demonstrated significant improvements in effectiveness, with Task Completed increasing from 0.542 to 0.943, Objectives Achieved from 0.828 to 1.0, and Error in Task decreasing from 7.8 to 0.6. In terms of efficiency, Task Time was reduced from 361.904 seconds to 54.034 seconds and Time Efficiency improved from 0.020 to 0.136. The QCS automation system proved capable of improving accuracy, accelerating document processing, and reducing human error in vehicle export administration at PT TMMIN.

Keywords: *Quality Check Sheet, Agile Scrum, ISO/IEC 25022, Document Automation, Export Administration.*