ABSTRACT

In the digital era, application quality is crucial for attracting and maintaining user trust. The Empowr system, a web-based task outsourcing platform, requires thorough testing to ensure its quality. This Research aims to optimize the testing process by combining automated testing methods using Katalon Studio and black-box-based manual testing. This combination is designed to overcome testing challenges, such as the long time required for repetitive modules and the high precision needed for complex ones. The methodology involves the Scrum framework for iterative development, automated testing for repetitive modules, and manual testing for complex and financially sensitive modules. Results show that out of 105 test cases, 76 were successfully automated and 29 were tested manually. Although automated testing included separate login prerequisites, after adjusting calculations, the combined approach yielded a more efficient average test case execution time (7,9536 seconds/test case) compared to full manual testing (13,0095 seconds/test case). The pass rate reached 100% for both scenarios. This approach successfully optimized testing by reducing human error in repetitive tasks and ensuring in-depth validation in critical areas.

Keywords: *automated testing, black-box testing, Katalon Studio, efficiency, application quality, Scrum*