

**THE IMPACT OF FOLLOWING AUTOMATED
TESTING LIFE-CYCLE METHODOLOGY (ATLM) ON
THE SUCCESS OF FUNCTIONAL TEST AUTOMATION
- AN OVERVIEW OF THE SRI LANKAN SOFTWARE
INDUSTRY**

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Degree of Master of Business Administration in Information Technology

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Sri Lanka

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July 2021

DECLARATION

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ABSTRACT

Functional test automation is a very important and trending software testing technique which enables achieving improved efficiency, accuracy and coverage of testing. Automated Testing Life-cycle Methodology (ATLM) is the systematic process used in the test automation. As following a proper process is important to achieve success in any task, it should be applicable for test automation also. Hence it is crucial to follow ATLM in test automation in order to achieve a success in it.

Therefore, this research intended to identify the impact of following ATLM on the success of test automation in IT industry in Sri Lanka.

This study was conducted as a quantitative research by collecting data from Quality Assurance professionals in Sri Lankan IT industry as it was considered as the sample here. Data collection was done with an online survey with Voluntary Response Sampling technique by reaching out to the potential survey respondents. Data analysis was done with the IBM Statistical Package for the Social Sciences (SPSS) tool. The distribution of the sample was analyzed with the descriptive statistics techniques. The Analysis of Variance (ANNOVA), Pearson's Product-Moment Correlation and Multiple Regression analyses were done as inferential analysis.

As per the results of data analysis, 4 steps out of the 6 steps in ATLM namely "*Decision to Automate Tests*", "*Test Tool Acquisition*", "*Automation Testing Introduction Process*" and "*Test Planning, Design and Development*" are highly impacting on the success of test automation while the other 2 steps namely "*Execution and Management of Tests*" and "*Test Program Review and Assessment*" are having a medium level of impact.

Therefore, this study concludes that following ATLM has an impact on the level of success of test automation in the IT industry in Sri Lanka.

Keywords: Software Test Automation, Automated Testing Life-cycle Methodology (ATLM), Success of Test Automation, Software Testing in IT industry in Sri Lanka

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LIST OF ABBREVIATIONS

ATLM - Automated Software Testing Life-cycle Methodology

BPM - Business Process Management

CSF - Critical Success Factors

DV - Dependent Variable

ICT - Information and Communication Technology

ICTA - Information and Communication Technology Agency

IT - Information Technology

IV - Independent Variable

QA - Quality Assurance

ROI - Return on Investment

SQA - Software Quality Assurance

STLC - Software Testing Life-cycle Methodology

SUT - Software under Test