

**FACTORS AFFECTING THE ADOPTION OF SCRUM  
PRACTICES: AN ANALYSIS OF SRI LANKAN  
SOFTWARE DEVELOPMENT COMPANIES**

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May 2020

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The dissertation was submitted to the Department of Computer Science and Engineering of the University of Moratuwa in partial fulfilment of the requirement for the Degree of Master of Business Administration in Information Technology.

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The above candidate has carried out research for the Master's thesis under my supervision.

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## ABSTRACT

At the start of software development, the traditional models like Waterfall methodology were adopted successfully which later became challenged due to the rapid changes in requirements, design and the nature of fast delivery of software products etc. Thus, the software development industry started adapting different software development methodologies to cope with the rapidly changing requirements and to minimize huge losses incurred due to software failures by continuing traditional approaches. Agile is one of such widely adopted methodology, and Scrum is a subtype of Agile which became more popular.

Even though Scrum methodology is proven to be successful in the software design, development and delivery, and even though there are guidelines and frameworks illustrated about running Scrum, there is a scarcity of discussions and researches conducted providing best frameworks or approaches to follow, when adopting Scrum by an organization. Further, the author has observed that even though many software solution providers in Sri Lanka are trying to adopt Scrum, most of them seem to be struggling with the Scrum implementation. Therefore, the objective of this research is to identify the factors that affect Scrum adoption by Sri Lankan IT companies.

What is new in this research is, many researchers have only identified overall success and failure factors of Scrum adoption such as project complexity, organizational culture, management involvement, corporate size etc. whereas in this it is expected to identify Scrum related factors that affect Scrum adoption. Further, this research will identify answers to, “Why the local IT firms struggle in implementing Agile practices?”, “What are the related factors that will affect implementing Scrum Agile?”, and will also discuss the best practices that facilitate implementing Scrum practices without failing by introducing a framework considering the identified factors which affect Scrum implementations in the Sri Lankan IT firm context.

This research study was conducted using a quantitative approach; because the research study includes the variables (independent and dependent) and these variables will be measured statistically. Variables used in this research are People, Organization culture, Project and Technical knowledge. Not surprisingly, all the variables got a 0.7 or above Cronbach’s alpha value, emphasizing the factors used are affects Scrum adoption.

In conclusion, some of the Scrum factors that were identified as, factors affect Scrum adoption are, failing to use correct tools such as Jira, not following Scrum ceremonials such as Sprint Retrospective, not following efficient requirement gathering techniques, failing to identify requirement dependencies, no smooth shift to Scrum from Waterfall, no appropriate reward system to appraise the performance etc.

Among all the recommendations discussed, the most three vital recommendations are; define a clear product vision and as well as a DOD (Definition of Done) at the beginning of the project, as it will help the company to reduce most of the requirement related hassles. Secondly, in order to minimize challenges that arise due to not performing Scrum ceremonials, always schedule time-bound meetings and make the attendance of the required personal compulsory. Finally, focus on meetings more than documentation, if it is required to handle requirement dependencies more effectively.

## ACKNOWLEDGEMENT

It is a genuine pleasure to express my deep sense of thanks and gratitude to my supervisor, Dr Dulani Meedeniya of this work of mine **“Factors Affecting the Adoption of Scrum Practices: An Analysis of Sri Lankan Software Development Companies”**. The door to Dr Dulani’s office was always open whenever I ran into a trouble spot or had a question about my research or writing. She consistently allowed this paper to be my work but steered me in the right direction whenever she thought I needed it.

Besides my Supervisor, I would also like to thank and pay my deep sense of gratitude to my external supervisor, Mr Uditha Jayawardhane. Without their passionate participation and expertise inputs, this research work of mine would not be successful.

My sincere thanks and gratitude also go to our course coordinator Dr Dilum Bandara and Mrs Jeeva Padmini of the MBA in IT program, for the immense guidance, support and motivation provided throughout the two years of study and during the difficult times with my research work.

Finally, I must express my very profound gratitude to my parents and my friends and colleagues for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this thesis. This accomplishment would not have been possible without them. Thank you.

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