Challenges associated with the adoption of agile project management practices for software development

A study based on software development projects in Sri Lanka

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I certify that I have read this thesis and that in my opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Science.

Prof/Dr/Mr/Mrs Supervisor's name and surname

Approved for MSc. Research Project:

MSc. Research Project Co-ordinator, SLIIT

Approved for MSc:

MSc. Programme Co-ordinator, SLIIT

Declaration of originality

I certify that this dissertation does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any University; and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed N Graham

Date 10-January-2019

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Abstract

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While human dependence on software continues to rise at a rapid pace, the demand for software itself surpasses the human ability to produce it despite massive advancements in the software engineering discipline. The emergence of Agile methodologies: a modern version of the traditional methodologies, have proven to significantly contribute towards increased software project success rates. This study presents the results of a survey study for determining factors that challenge adoption of agile project management methodologies for software development within the context of Srilankan software development projects thus also presents recommendations to ensure successful agile adoption. The survey was conducted among professionals who practice agile methods and who had experience practicing traditional (plan-based) software development approaches in the past, or professionals who were currently working on the transformation from traditional to agile-based approaches. A web survey was employed to gather responses, collecting data from 59 Agile professionals in Sri Lanka. The findings support only 2 out of the 7 hypotheses, revealing two challenging factors for the adoption of agile methodologies in Srilankan software development projects. The findings of this research help professionals identify factors that challenge agile adoption in Srilankan software development projects, and urges them to address these challenges in order to ensure successful agile adoption. Agile adoption improves project success rates and leads to an increase in the growth rate of the Srilankan IT/BPM industry, ultimately contributing to the economic growth of the country. Limitations of this study are also discussed along with directions for future research in this domain.