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Strategic Factors in Agile Software Development Method Adaptation:  
A Study of Market-Driven Organisations

A thesis presented in partial of the requirements for the degree of

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Strategic Factors in Agile Software Development Method Adaptation:  
A Study of Market-Driven Organisations

Abstract

Agile methods now provide an alternative to the structured approach for software development. Since their early adoption in the mid-1990s, there has been a growing acceptance of agile methods as a legitimate development approach amongst the information systems development community. Amongst some of the talked about agile benefits in comparison to the structured approach are improvements in delivery and quality standards, productivity levels and knowledge transfer within the organisation, and customer satisfaction through collaboration and frequent delivery of implemented features. The agile philosophy of a team approach and ownership for product development creates a feel-good and motivational factor for engineers. Regardless, the inventors of the agile approach strongly emphasize adaptation to achieve continuous product development success. As a result, an understanding of the adoption of agile methods cannot be separated from an understanding of its adaptation by development teams.

Using a theoretical framework relating to software development process adaptation, developed by Fitzgerald (1998), and through two case studies (agile adopters) qualitative data in relation to agile adaptation was gathered and analysed to determine the nature of agile adaptation. This revealed that adaptation is a critical feature of agile approaches. These adaptations enhance the strategic nature of the organisational factors and the chosen agile approach to develop market differential products. The main contribution of the thesis is that it presents an adapted agile adaptation framework showing that at a conceptual level the main structures (the organisational and methodology factors) that influence software development remain consistent when moving to agile development. However, the underlying elements of these factors are comprehensively adapted, transforming an organisation into an agile organisation in a market-driven environment. Further, in this environment the organisational and development structures will keep evolving due to the emerging market factors and improvements in product development technologies.
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