

Name: David O’Keeffe
Degree: M.Sc. in Management of Information Systems
Dissertation Title: An Empirical Case Study of Technical Debt Management: A Software Services Provider Perspective
Supervisor: Diana Wilson
Year: 2017

Abstract

Financial debt plays an important and positive role in our economy under normal conditions. In software development, the “Technical Debt” (TD) metaphor is gaining traction amongst software practitioners and researchers in recent years. The objective of this study is to investigate how senior software practitioners with over ten years’ experience understand TD and explicitly conduct technical debt management (TDM) in the context of an Irish software services provider. In this qualitative study, one Irish software development provider is studied to gather empirical evidence on TD understanding and how TDM is conducted. An exploratory case study method is used for data collection and analysis of the case organisation by conducting interviews with 14 software practitioners and examining 34 case organisation documents. The main findings suggest that understanding and attitudes towards TD and TDM are generally positive. Organisational factors that influence TDM include risk appetite, culture, client relationship and management commitment. Six main TDM techniques are used for eight TDM activities. Finally, a framework for TDM is proposed based on the research findings. There is a requirement for identifying methods to overcome the identified TDM challenges. TD needs to be managed and controlled effectively to sustain software development and to ultimately achieve business objectives. Future studies should incorporate empirical studies to validate TDM techniques in genuine software development projects for specific industries.