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Adapting Project Management Practices from the Film Industry to the Software Development Industry

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TREO Talk Paper

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Abstract

Software development projects face the risk of budget overruns, schedule overruns, and benefit shortfalls. Although extreme failures may be rare, one study found that software projects were, on average, 66% over budget, 33% over schedule, and delivered 17% less value than expected. Another study of public-sector IT projects found that 18% of custom software development projects, 26% of software implementation projects, and 41% of data management projects finished more than 25% over budget.

Traditional software project management began by relying on predictive methodologies, such as waterfall or "big bang" techniques. For many projects, this proved to be a poor fit; in response, adaptive techniques such as Agile Scrum were developed. These methodologies call for simplified planning processes, shorter planning horizons, and iterative delivery. Despite these changes, the software industry has found there may be no one-size-fits-all project management methodology and the Project Management Institute now provides guidance on both hybridizing predictive and adaptive methodologies and on tailoring standard practices to better fit individual projects.

Unfortunately, it is unclear whether this gradual evolution of software project management techniques has helped to improve project outcomes. For example, one study found that the size of IT project cost overruns did not vary significantly between 2002 and 2014. A later study found that the use of adaptive methodologies such as Agile Scrum may reduce the risk of schedule overruns, but did not reduce the risk of either cost overruns or benefit shortfalls. Because project cost and schedule overruns and benefit shortfalls have been persistent throughout the software development industry's methodological changes to date, it may be illuminative to look outside of the software development setting.

The film industry is a candidate target for such inter-industry learning, as film projects share many characteristics with software development projects. Film projects and software development projects both deliver intangible and experiential products. Designers of both film and software must convey pragmatic, utilitarian requirements together with hedonic requirements involving images, sound, and the intended emotional responses of the user or viewer. The subjective nature of hedonic requirements makes them inherently challenging to identify and communicate, regardless of industry. Projects in both industries also often experience a high degree of change to requirements during the production phase, encouraging the use of formal change management processes. Finally, both filmmaking and software development require a high degree of technical expertise, and production processes in both industries require collaboration between and the integration of work from specialized teams.

This research seeks to identify project management practices used in the film industry that might improve project success rates when used in software development projects. We will review the film industry literature for project management practices that may be beneficial if adopted or adapted for use in software development projects. We will then survey software development project managers about their recently completed projects, the project management practices used, and the outcomes of those projects. Cases in which respondents used practices similar to any of the identified film project management practices will be examined using Qualitative Comparative Analysis (QCA). QCA is an analytic method that will represent each project case as a configuration of project management practices, and seek to link these configurations with project success. This method will allow us to identify combinations of the identified film project management practices that are associated with software development project success.