

# 13th Pre-ICIS International Research Workshop on Information Technology Project Management (IRWITPM 2018)

Workshop Program

12/13/2018

AIS Special Interest Group on Information Technology Project Management



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## About the AIS Special Interest Group on IT Project Management



This Special Interest Group (SIG) of the Association for Information Systems is comprised of a passionate group of individuals that are interested in IT project management. We sponsor tracks at various AIS conferences as well as host our own pre-ICIS workshop devoted to IT project management.

The *mission* of SIGITProjMgmt is to promote the vital role that project management brings to IT and to create an educational and rewarding experience for researchers, students, and practitioners interested in this field of study. For more information, visit: <https://communities.aisnet.org/sigitprojmgmt/>

## Workshop Welcome

I would like to personally welcome each of you to San Francisco for the 13<sup>th</sup> International Research Workshop on IT Project Management (IRWITPM 2018) sponsored by the AIS Special Interest Group for Information Technology Project Management (SIGITProjMgmt). This is our thirteenth consecutive annual workshop and I am so excited that we can continue our tradition of excellence as we promote, encourage, and discuss research in the domain of IT project management.

I hope that you enjoy the workshop proceedings that cover a wide range of topics relating to IT project management. Technology continues to evolve and provides both opportunities and challenges in relation to our work practices, thus providing many opportunities for research. Although technology changes, one thing stays constant and that is people and processes. People are a critical component to ensuring processes are in place to support work practices.

I would like to thank each of you for attending our workshop and bringing your expertise. I also want to send my gratitude to the workshop authors, reviewers, organizers, and sponsors (Project Management Institute) - your effort makes this event possible. My sincere thanks to all for your efforts and engaging with this AIS Special Interest Group.

*Dawn Owens*, University of Texas at Dallas, SIGITProjMgmt President

## Workshop Committee

*Dawn Owens*, University of Texas at Dallas (Workshop Program Co-Chair)

*Alanah Mitchell*, Drake University (Workshop Program Co-Chair)

## SIG ITProjMgmt Officers

*Dawn Owens*, University of Texas at Dallas (President)

*Gaurav Shekhar*, University of Texas at Dallas (Secretary)

*Radu Vlas*, University of Massachusetts Amherst (Treasurer)

*Mohammad Moeini Aghkariz*, University of Sussex (Communications and Publicity Chair)

*Cecil Chua*, The University of Auckland (Membership and Community Relations Chair)

*Deepak Khazanchi*, University of Nebraska at Omaha (Founder)

## Workshop Schedule

Date and Time	Activity
December 13, 2018 8:30 – 8:45 AM	<i>Opening Remarks and Workshop Logistics</i> Dawn Owens, University of Texas at Dallas
8:45 – 10:00 AM	<i>Agile Project Management: Completed Research Session 1:</i> (Session Chair: Tim Dreesen)  <i>Toward a Model of Managing Interruptions in Agile IT Projects</i> Manuel Wiesche, Technical University of Munich  <i>Putting the “Socio” into the Development of Socio-Technical Systems – The Case for Psychological Safety in Agile Information Systems Development</i> Phil Diegmann, University of Cologne; Christoph Rosenkranz, University of Cologne  <i>How Team Cognition and Cognitive Artifact Use Change During Agile Software Development Project Management</i> Meghann L. Drury-Grogan, Fordham University
10:00 – 10:30 AM	<i>Networking Break</i> Refreshments
10:30 – 11:00 AM	<i>Project Management Journal, IT Department Co-Editor</i> Fred Niederman, Ph.D., Shaughnessy Endowed Professor, Saint Louis University
11:00 – 12:00 PM	<i>Seeking IT Project Success: Research in Progress Session 1:</i> (Session Chair: Maheshwar Boodraj)  <i>Evaluating the Success of IS/IT Projects: How Companies are Doing It?</i> João Varajão, University of Minho, Centro ALGORITMI; João Álvaro Carvalho, University of Minho, Centro ALGORITMI  <i>(Un)pleasant Updates: Discussing Project Performance with Executives</i> Ali Vedadi, Middle Tennessee State University; Michael A. Erskine, Middle Tennessee State University; Melinda Korzaan, Middle Tennessee State University  <i>Exploring the Influence of Job Characteristics: Comparison between Open Source and Proprietary IS Development</i> Saifur (Saif) Rahman Bhuiyan, University of Arkansas; Pankaj Setia, University of Arkansas
12:00 – 1:15 PM	<i>Lunch - PMI PMBOK 6th Edition and PMI Academic Programs</i> Ashley Dalton Forsyth, Ed. D., Academic Programs Specialist, Project Management Institute

Date and Time	Activity
1:15 – 1:30 PM	<p><b><i>Business Meeting</i></b>  <i>Dawn Owens, University of Texas at Dallas</i></p>
1:30 – 2:00 PM	<p><b><i>The Future of Project Management: Some Musings about how AI/ML and similar IT capabilities will impact the field from the SIGITProjMgmt Founder</i></b>  <i>Deepak Khazanchi, University of Nebraska at Omaha</i></p>
2:00 – 3:15 PM	<p><b><i>Agility in Project Management: Research in Progress Session 2:</i></b> (Session Chair: Phil Diegmann)</p> <p><b><i>Building Agility in Software Development—a Leadership Perspective</i></b>  <i>Peng Xu, University of Massachusetts Boston; Yide Shen, Rowan University</i></p> <p><b><i>Antecedents of Project Agility in Analytics Projects</i></b>  <i>Mikhail Tsoy, Queen’s University; D. Sandy Staples, Queen’s University</i></p> <p><b><i>Leveraging the Planning Fallacy to Manage Technical Debt in Agile Software Development Projects</i></b>  <i>Maheshwar Boodraj, Georgia State University</i></p> <p><b><i>Shared leadership and technology tools in ISD process</i></b>  <i>Yuzhu (Julia) Li, University of Massachusetts Dartmouth; Hua Sun, Shandong University; Sheng-Pao Shih, Tamkang University; Jack Shih-Chieh Hsu, National Sun Yat-Sen University</i></p>
3:15 – 3:45 PM	<p><b><i>Networking Break</i></b>  Refreshments</p>
3:45 – 5:00 PM	<p><b><i>Project Management Foundations: Completed Research Session 2:</i></b> (Session Chair: Christoph Rosenkranz)</p> <p><b><i>A Review of Factors Promoting IS Project Escalation</i></b>  <i>Knut Kjetil Holgeid, University of Oslo; Viktoria Stray, University of Oslo</i></p> <p><b><i>Achieving ISD Agility: Routines and Microfoundations</i></b>  <i>Yi-Te Chiu, Victoria University of Wellington; Zheng-Tang Guo, National Taiwan University; Yu-Qian Zhu, National Taiwan University of Science and Technology; Houn-Gee Chen, National Taiwan University</i></p> <p><b><i>Strategizing for IT project success in the digital era</i></b>  <i>Knut Kjetil Holgeid, University of Oslo; John Krogstie, NTNU Norwegian University of Science and Technology; Viktoria Stray, University of Oslo; Mark Thompson, University of Cambridge</i></p>
Post Workshop	<p><b><i>Networking Dinner</i></b>  Enjoy an evening with your fellow IRWITPM participants.</p>

## Paper Abstracts

### Completed Research Papers

#### *A Review of Factors Promoting IS Project Escalation*

*Knut Kjetil Holgeid, University of Oslo; Viktoria Stray, University of Oslo*

The objective of this paper is to investigate the tendency to continue a project even when it is obvious that it will not provide the planned benefits, often referred to as “project escalation” or “escalation of commitment.” The investigation aims to identify factors that empirically have been found to promote IS project escalation. We examined 1163 papers related to the phenomenon of IS project and commitment escalation and found 42 of them to include relevant empirical research. We provide a comprehensive overview of 43 factors that can have important implications for practice, especially for organizations trying to avoid escalation in the first place or uncover already escalated projects.

#### *Achieving ISD Agility: Routines and Microfoundations*

*Yi-Te Chiu, Victoria University of Wellington; Zheng-Tang Guo, National Taiwan University; Yu-Qian Zhu, National Taiwan University of Science and Technology; Houn-Gee Chen, National Taiwan University*

Much attention is paid to information systems development (ISD) agility, which has positive consequences for ISD projects, teams, and their organizations. ISD agility enables organizations to react to ISD-related changes with speed and flexibility while constantly contributing to the delivery of value via IS. This article investigates how IS departments maintain their continual readiness for ISD agility. Drawing on a dynamic capability perspective, we suggest that routines underlie ISD agility. The analysis of three high-performing IS departments identifies six aspects of routines conducive to ISD agility: continuous discovery and validation of customer needs, continuous evolution of IS-enabled products and services, resource optimization, continuous integration and deployment, continuous management of risk, and continuous learning. In light of microfoundations, individual competence and mindset, constructive dialogue, and structural arrangements are essential components of routines and ISD agility. Theoretical and practical insights are discussed.

#### *Putting the “Socio” into the Development of Socio-Technical Systems – The Case for Psychological How Team Cognition and Cognitive Artifact Use Change During Agile Software Development Project Management*

*Meghann L. Drury-Grogan, Fordham University*

This study examines how team cognition and use of cognitive artifacts change during the course of an agile software development (ASD) iteration to better understand team member interactions. Four case studies of four different agile teams were conducted. Results demonstrate a team cognition change from planning, managing, developing, and concluding tasks in an iteration in preparation for delivering working functionality. We see the cognitive artifacts used throughout the iteration change. This supports ASD tenets of frequent, short, continuous communication and interaction on ASD teams. The contribution to project management and ASD is a clearer understanding of how and when team cognition changes and the cognitive artifact interaction changes during an iteration as ASD teams use artifacts to manage their project. The interactions that ensue with these artifacts move from individual to social interactions as the iteration progresses.

### *Safety in Agile Information Systems Development*

*Phil Diegmann*, University of Cologne; *Christoph Rosenkranz*, University of Cologne

Information system development is largely dependent on social interaction and team work. Team processes and behavior among, as well as agile practices used by, team members play an important part for the success of information system development projects. To reap benefits from the highly interactive and social practices of agile information systems development, team members need to feel safe to interact and speak freely with one another. In this paper, we propose a model that conceptualizes the effects of psychological safety and agile practices on performance in agile information systems development. The proposed model combines recent research in the field of organizational psychology with agile information system research to provide a better understanding of the team-level effects at play in agile information systems development and is preliminary supported by case studies conducted in two large insurance companies and a small-to-medium sized software development company.

### *Strategizing for IT project success in the digital era*

*Knut Kjetil Holgeid*, University of Oslo; *John Krogstie*, NTNU Norwegian University of Science and Technology; *Viktoria Stray*, University of Oslo; *Mark Thompson*, University of Cambridge

The objective of this paper is to increase our understanding of how organizations strategize with a view to making their digital investments successful and the impact such digital strategies actually have on business outcomes. We examined 2940 papers related to digital business strategies, of which 31 were included in relevant empirical research. These papers were reviewed and subjected to thematic synthesis. Many organizations appear to initiate scattered digital initiatives without a clear idea of where they are going. Companies can benefit from a deliberate digital strategy that enhances the ability of businesses to quickly adjust to new trends, possibilities, and threats, as well as a constant balancing of new possibilities with the exploitation of current assets.

### *Toward a Model of Managing Interruptions in Agile IT Projects*

*Manuel Wiesche*, Technical University of Munich

Working in uncertain environments fundamentally changes how we organize work. Using agile methodologies for IT projects helps teams to better meet user needs and ensure flexibility in uncertain environments. But using agile methods increases interactions with fellow team members and external stakeholders such as customers. These interactions are either embedded in agile practices or occur unplanned in the work context, which both cause interruptions in the workplace. While those can be helpful in terms of task completion, meeting user needs, and increased process flexibility, interruptions hinder employees in being efficient and productive. We thus conducted a Grounded Theory study analyzing four cases to understand the nature and consequences of interruptions in agile ISD teams and how the team manages these interruptions. We find that IT project teams formalize interruptions to reduce negative consequence, channel interruptions during their daily routines based on expertise and workload, and use digital tools both to reduce the number of interruptions and also to prioritize incoming interruptions. Our analysis suggests that IT project teams use practices embedded in the agile method to exploit the positive aspects of interruptions and find ways to reduce the negative.

## Research in Progress Papers

### *Antecedents of Project Agility in Analytics Projects*

*Mikhail Tsoy, Queen's University; D. Sandy Staples, Queen's University*

Agile project management methods have been widely adopted since the publication of the Agile manifesto. However, the nature of project agility needs further theoretical development and empirical support. Consequently, this study defines project agility and then explores the factors that influence project teams' achievement of agility. Complex Adaptive Systems (CAS) theory is adopted as a theoretical lens suitable to address the emerging, co-evolving nature of projects. A case-based research methodology is used to examine several analytics projects, the activities and interactions associated with each project, and the outcomes. Overall, the proposed study is designed to contribute to the project agility literature by applying CAS theory in the context of business analytics.

### *Building Agility in Software Development—a Leadership Perspective*

*Peng Xu, University of Massachusetts Boston; Yide Shen, Rowan University*

Agility is crucial in modern software development. Leadership is crucial for team effectiveness. Little research has been conducted to understand the role of leadership in agility in software development. In this study, we investigate the role leadership plays in achieving better performance in software development. Adopting a case study approach, we collected qualitative data to build a theoretical model that describes leadership roles in achieving team agility and improving performance. In our preliminary findings, we identified five leader roles and their leader activities. These leader functions affect two learning processes – experiential learning and vicarious learning which in turn help leaders adjust their behaviors. Such learning processes help achieve better performance by leading to a more mature, agile mentality and team capability to collectively collaborate and respond to changes in a timely manner, improving team performance.

### *Evaluating the Success of IS/IT Projects: How Companies are Doing It?*

*João Varajão, University of Minho, Centro ALGORITMI; João Álvaro Carvalho, University of Minho, Centro ALGORITMI*

The article aims to contribute to a better understanding of project management practices concerned with the evaluation of the success of Information Systems (IS)/Information Technology (IT) projects. It describes an exploratory study that inquired ten companies regarding their practices of projects success valuation. Results show that regardless of company size, sector or adopted project management methodology, the evaluation of projects success is currently an informal and rudimentary process mainly focused on the success of project management and not on the success of the projects' deliverables. Given the importance and complexity of the evaluation of projects' success, companies should define and implement systematic processes for success management aiming to improve project performance and expected benefits, and this seems not to be happening in practice.



### *Exploring the Influence of Job Characteristics: Comparison between Open Source and Proprietary IS Development*

*Saifur (Saif) Rahman Bhuiyan*, University of Arkansas; *Pankaj Setia*, University of Arkansas

Open source development (OSD) of software is becoming increasingly desirable for individuals and organizations alike. Organizations that heavily resisted this new way of developing software are now actively participating in this process. Participation of developers in the OSD environment has been a focal point of research in the information systems (IS) domain that has examined various reasons developers participate in project development. Our study goes beyond participation and looks at engagement of developers in the OSD environment. Using the job characteristics model (JCM), we conduct a comparative analysis of how job characteristics influence engagement of IS developers in open source and proprietary environment. Job characteristics have been found to play a very important role in driving individual work outcomes such as engagement and job satisfaction. Our study is expected to enrich the open source literature, extend JCM. The study will also provide new insight to organizations that are currently investing in OSD or planning to do so in the near future.

### *Leveraging the Planning Fallacy to Manage Technical Debt in Agile Software Development Projects*

*Maheshwar Boodraj*, Georgia State University

One of the primary reasons for using agile software development (ASD) methods is to be agile – to deliver working software quickly. Unfortunately, this pressure often encourages ASD practitioners to make long-term trade-offs for short-term gains (i.e., to accumulate technical debt). Technical debt is a real and significant business challenge. Indeed, a recent study provides a conservative estimate of \$361,000 of technical debt for every 100,000 lines of code. In this study, I examine the impact of the planning fallacy – people’s tendency to underestimate the time required to complete a project, even when they have considerable experience of past failures to live up to planned schedules – on the accumulation of technical debt in ASD projects. Using an experiment, I seek to establish a causal relationship between the planning fallacy and technical debt and to demonstrate that solutions to the planning fallacy can be leveraged to manage technical debt in ASD projects.

### *Shared leadership and technology tools in ISD process*

*Yuzhu (Julia) Li*, University of Massachusetts Dartmouth; *Hua Sun*, Shandong University; *Sheng-Pao Shih*, Tamkang University; *Jack Shih-Chieh Hsu*, National Sun Yat-Sen University

Shared leadership has been found to have positive impacts on project outcomes. ISD project teams adopt shared leadership in practice such as in agile methodology. At the same time, ISD teams rely heavily on technology tools to support collaboration because of its inherent knowledge-intensive nature and task complexity. This study addresses the question, how can ISD teams that heavily use information and communication technologies (ICT) technologies be effective in shared leadership process? The task-technology fit theory is used as a theoretical basis for the proposed research model. This study proposes that how ISD teams can match available technology tools with shared leadership behaviors to generate positive impacts on project outcomes. This study outlines two technological functionalities of ICT, empowerment and decentralization, with the needs of shared leadership process in ISD teams. A future empirical study plan is provided, and the potential contribution is discussed at the end.

### *(Un)pleasant Updates: Discussing Project Performance with Executives*

*Ali Vedadi*, Middle Tennessee State University; *Michael A. Erskine*, Middle Tennessee State University; *Melinda Korzaan*, Middle Tennessee State University

Project managers often have early indications that a project is performing poorly and potentially headed for failure. In such cases, reporting these warnings could prompt executives to provide essential support to mitigate and even prevent problems. However, project managers are frequently reluctant to share such information with executives. This research-in-progress aims to develop a model establishing antecedents that drive accurate status reporting between project managers and executives as well as identifying moderating variables impacting such reporting. The theory of planned behavior and information systems (IS) whistleblowing theory provide the theoretical lenses facilitating the identification of probable antecedents to such reporting intentions. A theoretical model including propositions has been developed.

## Best Paper and Reviewer Awards

### Best Paper Award

*Putting the “Socio” into the Development of Socio-Technical Systems – The Case for Psychological How Team Cognition and Cognitive Artifact Use Change During Agile Software Development Project Management*

*Meghann L. Drury-Grogan*, Fordham University

### Best Reviewer Awards

*Yi-Te Chiu*, Victoria University of Wellington

*Phil Diegmann*, University of Cologne

*Meghann L. Drury-Grogan*, Fordham University

*Manuel Wiesche*, Technical University of Munich

## Upcoming SIGITProjMgmt Events

### AMCIS 2019

SIGITProjMgmt is sponsoring the track on IT Project Management (ITProjMgmt) at AMCIS 2019 in Cancún, Mexico. For more information visit the AMCIS 2019 website: <https://amcis2019.aisconferences.org/>

There will be minitracks on Agile Project Management, Innovation and Project Management, Project Management Education, and General Topics in IT Project Management. If you have questions about the track, please email one of the track chairs: Alanah Mitchell ([alanah.mitchell@drake.edu](mailto:alanah.mitchell@drake.edu)) and Dawn Owens ([dawn.owens@utdallas.edu](mailto:dawn.owens@utdallas.edu)).

## IRWITPM 2019

Our 14<sup>th</sup> International Research Workshop on IT Project Management (IRWITPM) will be held next year, December 2019, in coordination with ICIS 2019 in Munich, Germany ( <https://icis2019.aisconferences.org/> ). Submissions will begin in August 2019. If you have questions about the workshop, please contact the workshop chairs at ([UNOIRWITPM@mail.unomaha.edu](mailto:UNOIRWITPM@mail.unomaha.edu)).

## Reviewer Thanks

We would like to give a special thank you to our reviewers this year whose developmental reviews are critical to the success of this workshop. These reviewers include:

*Vernon Bachor*, Winona State University  
*Maheshwar Boodraj*, Georgia State University  
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*Phil Diegmann*, University of Cologne  
*Andreas Drechsler*, Victoria University of Wellington  
*Meghann L. Drury-Grogan*, Fordham University  
*Gary Hackbarth*, Valdosta State University  
*Kjetil Holgeid*, University of Oslo  
*John Huang*, Drake University  
*Melinda Korzaan*, Middle Tennessee State University  
*Julia Li*, University of Massachusetts Dartmouth  
*Bernard Lichvar*, iConsult4U  
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*Martha (Marti) Snyder*, Nova Southeastern University  
*Mikhail Tsoy*, Queen's University  
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*Paul Witman*, California Lutheran University  
*Peng Xu*, University of Massachusetts Boston

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