

Scientific Dissertation Summary

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Title: Escalation of Commitment in Information Systems Projects: A Cognitive-Affective Perspective

While information systems (IS) projects are pivotal in guiding organizational strategies and sustaining competitive advantages, they frequently overrun budgets, extend beyond timelines, and experience high failure rates. This dissertation delves into the psychological micro-foundations of human behavior – specifically cognition and emotion – in relation to a prevalent issue in IS project management: the tendency to persist with failing courses of action, also called escalation of commitment (EoC).

Through a mixed-methods research approach, this study investigates the emotional and cognitive bases of decision-making during IS project escalation and its evolution over time. The results of a psychophysiological laboratory experiment provide evidence for the predictions on the role of negative and complex situational integral emotions of Cognitive Dissonance over Coping Theory and add to a better understanding of how escalation tendencies change during sequential decision-making due to cognitive learning effects. Using psychophysiological measures, including data triangulation between electrodermal and cardiovascular activity and AI-based analysis of facial micro-expressions, this research reveals physiological markers of behavioral escalation tendencies. Complementing the experiment, a qualitative analysis using free-form narration during decision-making simulations shows that decision-makers employ varied cognitive reasoning patterns to justify escalating behaviors, suggesting a sequence of four distinct cognitive phases.

By integrating both qualitative and quantitative findings, this dissertation offers a comprehensive theoretical framework of how cognition and emotion shape behavioral EoC over time. I propose that escalation is a cyclical adaptation of mental models, distinguished by shifts in cognitive reasoning patterns, temporal cognition mode variations, and interactions with situational emotions and their anticipation. The primary contribution of this dissertation lies in disentangling the emotional and cognitive mechanisms that drive IS project escalation. The findings provide the basis for developing de-escalation strategies, thereby helping to improve decision-making under uncertainty. Stakeholders involved in IS projects that get “off track” should be aware of the tendency to persist with failing courses of action and the importance of the underlying emotional and cognitive dynamics.