

# MISQ Archivist

## Achieving Effective Use When Digitalizing Work: The Role of Representational Complexity

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### Abstract

In times of accelerated digital transformation, many organizations still struggle to put enterprise systems to effective use quickly. While prior work suggests either system or task complexity as a source for these difficulties, this case study of a major system implementation at a European bank reveals the most important source to be the complexity arising from codependency between the system and the task. We conceptualize this codependency as inherent in system-enabled tasks by proposing *system dependency* (the extent to which a task is supported by a system) and *semantic dependency* (the degree to which semantic understanding is required for task completion). Together, these dependencies create *representational complexity*, which constrains users from achieving effective use in system-enabled tasks and can explain differences in achieving effective use through variations in learning effort. The concepts and insights emerging from this study provide researchers and practitioners with a deeper understanding of what complexity means and why, in some contexts, learning how to use systems effectively takes longer.

**Keywords:** Effective use, complexity, representation theory, system dependency, semantic dependency, exerting representational complexity, case study, critical realism, representation analysis