# An Interdisciplinary Software Engineering Process for the Development of IT Scheduling Decision Support Systems

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**Abstract–** This paper builds on research work conducted by Riezebos et al. (2010) and van Wezel et al. (2010), and provides the theoretical foundations of an interdisciplinary software engineering process for the development of IT scheduling Decision Support Systems. The introduction of the proposed process is based on the imbalance that exists between the vast academic research scheduling output and the limited use of scheduling algorithms in industrial environments. It is also based on the reported preference of human schedulers to the use of ad-hoc methodologies, rather than IT scheduling systems' support, for the implementation of day-to-day scheduling tasks. The proposed process employs well-established software engineering principles, similar to the ones used for any complex software entity of non-trivial size. However, specific phases of the software lifecycle are suitably modified in order to explicitly consider human and organizational characteristics of the scheduling environment.

**Keywords**: Software engineering, scheduling, interdisciplinary, human and organizational considerations, Decision Support Systems