Introduction to Advances in Design Research for Information Systems Minitrack

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The first paper of this two session, seven paper minitrack - "Logic for Design Science Research Theory Accumulation" by Holmström, Tuunanen & Kauremaa - introduces a structured logic approach for accumulating design theory during a research program. The goal is to aid researchers in understanding the link between parallel design search spaces and theoretical knowledge from previous searches. The approach builds on a CIMO (Context, Intervention, Mechanism, Outcome) framework.

In "Using Entropy as Justificatory Knowledge for a Business Process Design Theory" De Bruyn, Huysmans, Oorts, Mannaert & Verelst argue that using the entropy concept as a kernel theory can fill a gap in design research and lead to prescriptive guidelines for creating less complex business processes.

"Towards a Design Theory for Trustworthy Information Systems" by Waguespack, Yates & Schiano offers Thriving Systems Theory (TST), a concept based on the fusion of objective and subjective stakeholder intentions, as a starting point for a quality-based information systems security design theory.

"An Information System Design Product Theory for the Abstract Class of Integrated Requirements and Delivery Management Systems" by Lu and Käkölä defines eSourcing as technology enabled sourcing of software-intensive systems and services. It presents a design theory for the abstract class of systems that eSourcing providers can use to establish domain-specific design product theories and to instantiate them as IS that support design, service provisioning, and breakdown recovery within the eSourcing life-cycle.

In "Activity-Based Costing as a Design Science Artifact" Huysmans and De Bruyn again apply the entropy concept (and modularity) to propose a theory for increasing the rigor of Activity-Based Costing system design.

"Introducing a Game Approach towards IS Requirements Specification" by Yasuoka reports findings from a case where requirements specification for a project management system were gathered through stakeholder involvement using game elements. The resulting requirements reflected perspectives different from conventional analysis.

In "A Prototype for Information-Dense IT Project Risk Reporting: An Action Design Research Approach" Beer, Meier, Mosig & Probst propose a report design that provides precise, concise, and unambiguous communication of risks to IT project managers. Drawing on design principles derived from both academic literature and practical experience, the authors show the advantages of their design compared to traditional IT project risk reports.

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