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Managing Positive and Negative Complexity.
Design and Validation of an IT Project Complexity Management Framework

Introduction / Objective

The project aims to contribute to the understanding and management of complex IT projects, through the design, validation, and evaluation of a set of tools for the identification, analysis, and management of IT project complexity.

Research Methodology

A pragmatic approach, based on design science: the project forms a full engineering cycle, with 2 iterative design-cycles (design-and-validation), and a practical evaluation of the designed tools in actual live projects.

Results & Conclusions

- Design, validation & evaluation of a set of practical management tools
- Positive, Negative & Appropriate Complexity model
- The IT-PCM IT Project Complexity Management framework
- Complexity Effect Scale (CES) tool
- Complexity Source/Effect Segmentation Matrix COSM
- Mitigation Strategies Matrix (MSM) tool
- Complexity Register (CoRe)

The proposed tools support:
- recognizing, analyzing, managing complexity
- dealing with IT project complexity in a structured way
- understanding and prioritizing projects & resources
- reducing risks
- increasing project success rates

*Positive complexity
is the complexity that adds value.*

*Positive & Appropriate complexity can act as
catalysts for opportunities.*

Complexity is a ubiquitous reality in modern IT engineering & management; generating risk, and also creating opportunities.

Complexity works.
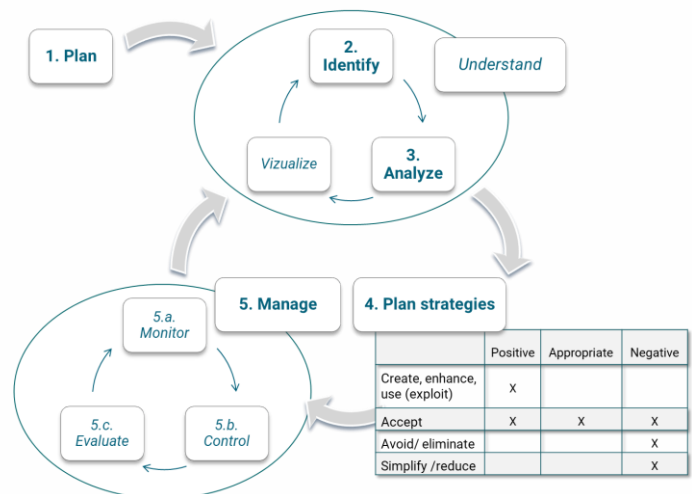*Modern IT engineering delivers value through complexity*

Major publications

Morcov, S., Pintelon, L., & Kusters, R. J. (2021). *A Practical Assessment of Modern IT Project Complexity Management Tools.* International Journal of Information Technology Project Management, 12(3), 90-108
Morcov, S., Pintelon, L., & Kusters, R. J. (2021). *A Framework for IT Project Complexity Management.* IADIS IS 2021 (pp. 61-68)
Morcov, S., Pintelon, L., & Kusters, R. J. (2020). *IT Project Complexity Management Based on Sources and Effects: Positive, Appropriate and Negative.* Proceedings of the Romanian Academy - Series A, 21(4), 329-336
Morcov, S., Pintelon, L., & Kusters, R. J. (2020). *Definitions, characteristics and measures of IT Project Complexity - a Systematic Literature Review.* International Journal of Information Systems and Project Management, 8(2), 5-21