

## Motivation

Project management is an important part of the today's business world, in view of the fact, that it has a significant impact on the firm's productivity, especially in project oriented organizations.

The potential of using the Blockchain technology in the field of project management is not fully recognized up until now. What if the new revolutionary technology can offer several advantages over existing traditional solutions and somehow change the project management paradigm for the better?

## Aim

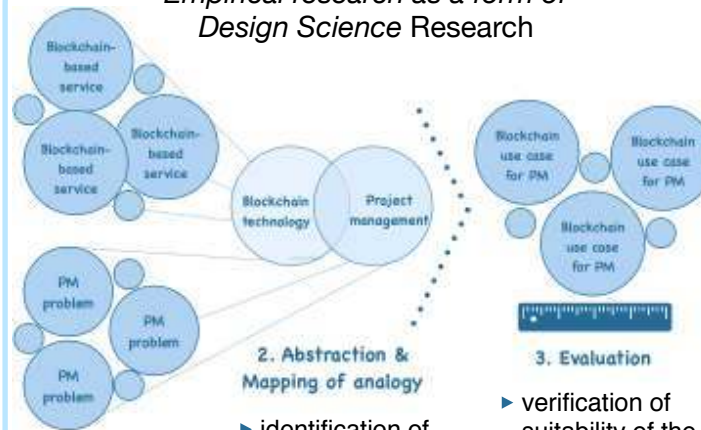
Thesis aims to explore and analyse the potential of using Blockchain technology in the field of project management and its potential in other areas.

## Benefits

- ✓ Actual state of Blockchain technology for 2019 by 4 dimensions:
  - ▶ countries,
  - ▶ industries,
  - ▶ organizations,
  - ▶ existing challenges;
- ✓ Overview of currently available blockchain-based services across various industries;
- ✓ A new insight into how things can be done differently within the Blockchain advantages in the area of project management;
- ✓ This thesis is supposed as the first comprehensive work performed on this matter.

## Used methodology

*Empirical research as a form of Design Science Research*



### 1. Data collection & Classification

- ▶ research for existing blockchain-based services implemented across various areas,
- ▶ classification of blockchain-powered services under categories,
- ▶ research for actual project management problems.

- ▶ identification of the blockchain-based services categories applicable to project management needs,
- ▶ detailed formulation of the 8 use cases for Blockchain technology in project management domain.

- ▶ verification of suitability of the proposed use cases through traceability matrix with PMBOK areas,
- ▶ definition of the evaluation criteria,
- ▶ questionnaire survey addressed to experts from analysed domain,
- ▶ interpretation of the obtained results.

*Innovative knowledge in the form of the conceptually designed solution*

## Main outcomes

**Proposal of the 8 potential use cases** of Blockchain technology application for project management purposes:

1. Scheduling & milestone tracking,
2. Requirements management,
3. Quality management,
4. Issue & Change management with flexible problem-solving,
5. Cost management,
6. Project closing,
7. Base for lessons learned,
8. Rewarding system.

**Evaluated relevance, business viability and technical feasibility of the each proposed use case** with the aid of questionnaire survey addressed to experts from project management domain.

**Concept model of the Project Cost Management solution** designed on the basis of Blockchain network. The designed solution is presented with the aid of UML diagrams.

Execution layer - Use Case diagram



Semantic layer - Class diagram



Propagation layer - Deployment diagram



Consensus layer - Sequence diagram

