

Design

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|----|----------------------|---|
| 2. | Design | (a) Identify whether single case or multiple case and embedded or holistic designs will be used, and show the logical links between these and the research questions.
(b) Describe the object of study (e.g., a new testing procedure; a new feature in a browser).
(c) Identify any propositions or subquestions derived from each research question and the measures to be used to investigate the propositions. |
| 3. | Selection | (a) Criteria for case selection. |
| 4. | Procedures and roles | (a) Procedures governing field procedures.
(b) Roles of case study research team members. |

Design

- Embedded, single case study with two units of analysis
 - Research focus is the management of technical debt and other maintenance tasks in the case company
 - Especially processes for incurring, preventing and processing these tasks.
- Comparative case study
 - Comparison unit
 - with smaller number of unit members
 - Same company, same unit director => same organization
- Flexible design?
 - Development of treatment => major change in processes
- Improving case study?
 - But "treatment" developed by practitioners
- Inductive approach
 - Researcher observes the treatment-development and treatment-impact
 - Researcher analyzes the effects of the treatment by correlation analysis
 - Hypotheses regarding the framework effects are deduced

Context

- software development
- agile processes
 - scrum
- Company
 - large publishing house
 - Germany
 - publishes content in magazines, websites and mobile apps
 - established company (no start-up)
- dealing with legacy code

Case

- effects the framework has on agile IT units?

Unit of Analysis (= observed unit)

- develops the IT systems for the department responsible for selling advertisements
- main competitors: facebook, google, etc.
- big systems, chain of systems
- often changing systems
 - new advertising formats

- merging of companies for better market share
- time sensitive
 - to be first to market and
 - merging's to business year

Comparison Unit of Analysis

- develops the IT systems for the operational departments like human resources, canteen, janitor services
- many small systems
- encouraged to try out new technologies
- => TD = lots of legacy code

Structure of Case Unit and Comparison Unit

	Observed Unit			Comparison Unit
Group	MSS			SBS
Group Manager	A			A
Scrum-Teams		X	Y	Z
Teams	AQM	BUK	AE	SBS
Team Manager	A	B	B	C

MSS - Media Sales Services

SBS - Smart Business Solutions

A - group manager of MSS + SBS, is also team manager of team BUK

B - team manager is responsible for two teams AQM+ AE

C - team manager of SBS

BUK - business analysts, also responsible for project management and acting as product owners

AQM - operations and incident management

AE - developers

X - Scrum team focus on .Net (C#) development

Y - Scrum team focus on middleware + data warehouse

X + Y - Scrum teams consist of permanently assigned members of BUK (product owner) + AE (developer) teams

Z - Scrum team focus on Java and legacy .Net (C#) development

Z = SBS with

Object of Study = Treatment

A framework for managing technical debt developed by the observed it unit.

The framework comprises four types of tickets in addition to the functional tickets:

- Maintenance tickets
- Tickets of maintenance projects
- Technical debt tickets
- Deconstruction tickets

For every type rules are developed for

- recording and
- Processing.

For every type responsibility are defined

- on who records the tickets and
- who is responsible to select tickets for processing

Research Questions and used measures

To avoid redundancy this information is added to the table in Section "Analysis".