

What did we find out?

There are central benefits and risks agile digital service designs come along with in Germany and Estonia. For the successful implementation of such designs it is important to focus on the benefits, handle and mitigate the risks and create an open culture for agile methods. It is crucial to be said that agility is no “magical formula” that solves all existing problems but can create important benefits for the public sectors in both Germany and Estonia. As agility is still a vague further research and practical implementation is recommended. The concept of agility is multifaceted and requires consideration of multiple factors.

BACKGROUND

Two general approaches of software development:

- Waterfall approach: “Doing one piece of development after another” (Sumrell, 2007)
- Agile approach: “constant evaluation through flexible working on everything with everyone”

Due to changing environments and citizens’ needs the agile approach of software development gets more and more embedded into the process redesigns, project management and software development of both German and Estonian public administrations.

GOALS

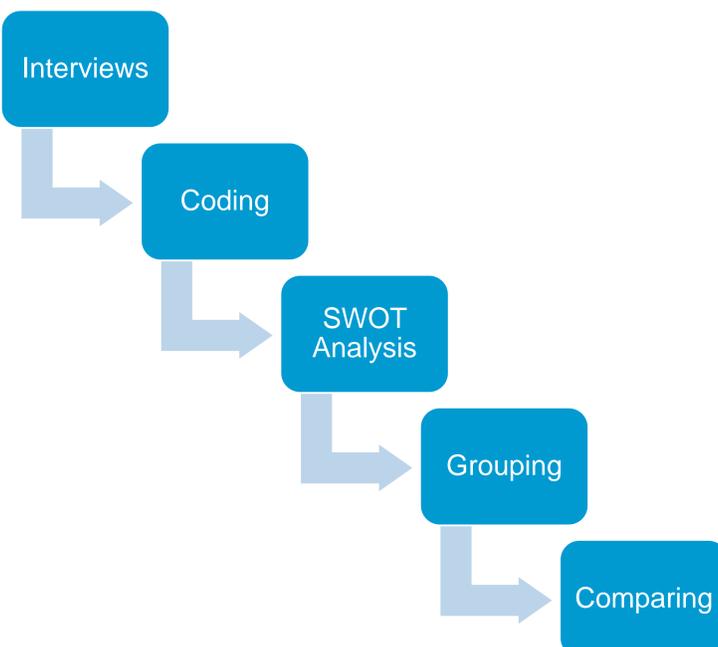
Research Question:

What benefits and risks are associated with agile digital service design in Germany and Estonia and what should be done to implement these designs?

Aims:

The theoretical aim of the research is to provide an overview of the main effects (strengths, weaknesses, opportunities, and threats) of implementation of agility in digital service designs. The main practical aim is to formulate recommendations about how to make implementation of agility efficient (maximize strengths, opportunities and minimize weaknesses, threats).

CODING



DATA AND METHODS

Interview Partners:

- Hochschule der Medien Stuttgart
- City of Karlsruhe
- Forum Agile Verwaltung
- Federal Office for Migration and Refugees
- Digital Team of Estonia
- Governmental Risk Management Tallinn
- Vocational Education Department of the Ministry of Education and Research in Estonia

Interview questions:

- How would you define agility?
- What possible opportunities do you identify when it comes to agile service designs ?
- What possible risks do you identify when it comes to agile service designs ?

Method:

- SWOT-Analysis of German and Estonian Interviews
 - Strengths
 - Weaknesses
 - Opportunities
 - Threats

RESULTS

- **Benefits of agile digital service designs:**
User-centricity and Stakeholder dialogue (both Germany and Estonia)
Time optimization (both)
Crack silo-mentality (Germany)
Increase of change manageability (Estonia)

- **Risks of agile digital service designs:**
Requires transformation of organizational approach & mindset
Unclear responsibilities

- **Implementation of agile digital education services designs:**

In sense of research:

- Ensure research of (1) the implementation environment with special attention to needs of all groups of customers (2) organizational aspects of digital education implementation; (3) managing change processes; (4) complementary opportunities linked with implementation of agility; (5) the availability of all elements required for agile development.

In sense of development process:

- Improvement of cooperation (including ideation, idea sharing etc.) with developers of digital services: communication, interaction conditions (including legal framework etc.), Introduction of cooperation frameworks with specification of service parameters.

In sense of leadership:

- Introduction of a new approach to digital education service development: (1) transcending borders of public sector agencies, (2) building horizontal, non-hierarchical leadership; (3) combining agility with the organization’s strategic vision; (4) ensuring responsiveness in allocation resources.

In sense of new approaches to contracting and outsourcing:

- Development of new forms of more inclusive, but simultaneously highly integrated development.

CODING

Open Coding

Identification and formulation of the main strengths, weaknesses, opportunities and threats

Axial Coding

Identification of possible interconnections between identified strengths, weaknesses, opportunities and threats

Selective Coding

Identification of additional circumstances linked with identified factors

Strengths

- Questioning existing structures and procedures (G)
- Cost optimization by constant evaluation (G)
- Increase of creativity and variety of ideas (G)
- **Optimization of development process (2x G)**
- Improvement of communication (2x G)
- Crack silo-mentality (2x G)
- **Time optimization (G) (E)**
- Increase of scope manageability (G) (E)
- **Increase of change manageability (2x E)**
- Higher goal orientation (E)
- Easy modification of service (E)
- Facilitation of services integration (E)
- Increase of information availability (E)

Weaknesses

- Higher Requirements for everybody involved (G)
- Time-issues (G)
- Unclear responsibilities (G)
- Overestimation of the role of agility (G)
- **Requires prepared and qualified Human Resources (G) (2x E)**
- Bureaucratic risks (G)
- **Requires transformation of organizational approach/mindset (2x G) (2x E)**
- **Requires additional factors to be implemented (G) (2x E)**
- **Lack of clear strategic vision (incl. leadership) (2x E)**
- Potential cost overrun (2x E)
- Potential increase of complexity of service (E)
- Low compatibility with legacy/previous generation systems (E)
- Requires comprehensive planning (E)

Opportunities

- Increase of service quality (G)
- **Reacting and adjusting to environment (3x G)**
- **User Centricity & Stakeholder Dialogue (3x G) (2x E)**
- **Usage of failures for improvement of service (2x G) (E3)**
- Real problem solving (2x E)
- Result orientation (E)
- Potential increase of situational awareness (E)

Threats

- Stakeholder-Bias; neglect of important target groups (G)
- Agility in education - freedom of research and teaching (G)
- **Agile Principles vs. Bureaucratic Barriers (G)**
- Need to adapt Recruitment and training of the employees (G)
- Requires comprehensive assessment of external factors (E)
- High degree of influence of external factors (E)
- Requires appropriate conditions for implementation (2x E)
- Increase of complexity of interaction with stakeholders, partners (E)
- Lacks clear strategic vision (E)

IMPLICATIONS

→ **Focus on User-centricity and the resulting stakeholder dialogue that comes up through agile software development!**

→ **The implementation of agile approaches can result in time and resources optimization!**

→ **Usage of failures for improvement of services → “Fehlerkultur”**

→ **Apply the concept now – do not wait for external shocks!**

→ **Clear uncertainties within the organization! – especially in German context!**

→ **Agility is no “magical formula” that solves all existing problems within the organization! Requires additional factors to be implemented!**