The Open Social e-Services Project

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Objectives

1. Design an open social e-service for assisted living.

2. Develop a method for benefits evaluation of government information systems with integrated services.
Open Government

• Transparency, i.e. being exposed to public scrutiny
• Accessibility to anyone, anytime and anywhere
• Responsiveness to new ideas and demands
E-Government

• The use of ICT in public administrations combined with organizational change and new skills in order to improve public services and democratic processes.
Design Science Research Method
Case Description

- 65,000 inhabitants
- 2,500 elderly and disabled citizens
- Emergency help telephone
- 4,000 children in day nurseries
- Child care administration
Objectives

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2. Develop a method for benefits evaluation of government information systems with integrated services.
Contribution

• Proof-of-concept and a foundation for future development
• The potential benefits will serve as variables for measuring costs and benefits of open e-services for assisted living
• Paves the way for e-government initiatives in the social services area
• Experienced challenges provide valuable input to make future development of e-services more effective.
Social Services: Assisted Living

Part-time successor

Emergency help telephone

Companion

To provide services for elderly and disabled people to continue to live at home and stay integrated in social life.
Design Objectives

• Move decision control closer to the citizen
• To increase service access and transparency
• To decrease service administration
Design Alternatives

- Open for anyone
- Open with eligibility criteria
- Open after general approval
# Comparison of Design Alternatives

<table>
<thead>
<tr>
<th>Area</th>
<th>Eligibility criteria</th>
<th>Electronic form</th>
<th>Process improvement</th>
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<tbody>
<tr>
<td>Legal</td>
<td>GO</td>
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<td>Process</td>
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Control re-location and instant feedback and decision
Decreased administration due to clear eligibility criteria and digital archiving
More efficient workflow due to integration and automation
Eligibility Criteria

• A citizen is eligible for the emergency help telephone service if at least one of these criteria is met:
  – Perceived insecurity
  – Perceived risk of falling
Interface design

Application for Emergency Telephone According to Social Services Act 4 kap. 1§

Prerequisites and eligibility criteria

Eligibility criteria
- I feel insecure
- Describe how it affects your daily life

- I feel the risk of falling
- Describe how it affects your daily life

General prerequisites
- I am older than 18 years
- I live within the municipality
- I live in ordinary housing
- I can call for help on my own

Prerequisites for the service
- I accept that an emergency telephone is installed in my home
- At the installation, I will hand over keys to my home
- I accept to pay the monthly fee determined by the municipality

Information om din telefon
- I have a fixed telephone line
  Provider
- I have Internet
  Provider

Instructions

Allmänna förutsättningar

To apply for the service you need to be over 18 years. You need to live in the municipality. You must be accommodated in ordinary housing and able to call for help on your own.
## Applied re-design heuristics

<table>
<thead>
<tr>
<th>Task</th>
<th>To-be</th>
<th>Applied process redesign heuristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fill in and submit application</td>
<td>• Control relocation, Control addition, Contact reduction, • Integrative technology</td>
</tr>
<tr>
<td>2</td>
<td>Make individual decision based on criteria</td>
<td>• Integrative technology, Task elimination, Task automation, • Exception</td>
</tr>
<tr>
<td>3</td>
<td>Assign alarm number</td>
<td>• Task automation, Control relocation, Integrative technology</td>
</tr>
<tr>
<td>4</td>
<td>Install help telephone</td>
<td>• Integrative technology</td>
</tr>
<tr>
<td>5</td>
<td>Handle citizen keys</td>
<td>• Task automation, Integrative technology</td>
</tr>
<tr>
<td>6</td>
<td>Set start payment date and register in billing system</td>
<td>• Task automation, Case type, • Integrative technology</td>
</tr>
<tr>
<td>7</td>
<td>Send decision to citizen and archive</td>
<td>• Task automation, Integrative technology</td>
</tr>
</tbody>
</table>
Benefit Evaluation

**Total work time**
48,5 – 68,5 minuter

**Total lead time**
5 arbetstider

**Total work time**
10–11 minuter (15-23%)
Usability Analysis

- Most of the goals with open social e-services are met by the design.
- E-services is a good way to increase inclusion of elderly and disabled.
- People with hearing disabilities favor e-services to telephone.
- A big benefit is the availability around the clock which means that you can choose when to contact the municipality.
- Immediate decisions is a clear improvement of citizen service.
- Automation of simple decision is an improvement of officials professionality.
- The process for authentication and signature is a great challenge for the e-service.
Experienced challenges

• Conflict of interests
• Technological incompatibility
• Lock-in relationship with suppliers
Conclusion

• The administrative process for the emergency help telephone in the municipality of Järfälla was analyzed and redesigned.
  – Several best practices for process innovation was applied
• Design demonstrated in prototype (YAWL), currently being implemented in Järfälla’s IT environment
• Potential benefits analyzed
• Challenges identified and reported
• Future research (second round of design): general process model with eligibility criteria separated from application logic
Publications


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Contribution

• A wellgrounded and easily understandable valuation of an e-government initiative that takes into consideration the benefits, costs, and interrelationships of all actors concerned.

• Increase the understanding of how economic value, process changes, and information technology are interrelated.

• The prime beneficiaries of the method are public decision makers, managers in the involved organizations, as well as IS-developers and users.
Case Study

- Municipality of Järfälla
- Child Care Administration
- 16400 cases handled annually
- Four e-services implemented in 2008 and integrated with back-end system
Three Actors in Public Administration

- Citizen
- Municipal Service Provider
- Municipal Service

The diagram illustrates the relationships between the citizens and the municipal service providers.
Slow Pace of E-Government Implementation

• Multitude of actors
  – Several government levels and autonomy defined by law
  – A mix of publicly and privately owned service providers
  – Models for funding and reimbursement change constantly

• Lack of understanding of how benefits and costs are distributed among actors
  – Available cost/benefit analysis methods tend to focus on single actors
Proposition

- A combination of the popular Peng method and more formalized Value Modeling techniques.

- Bottom-up
- Identification of benefits and costs
- Shared understanding among different personnel categories

- Top-down
- Scoping of the network of actors
- Rationale for value creation in the network as a whole
Sample Objectives Structure

Requires:

- Parental benefit
  - Increased flexibility
  - Improved information

Provides:

- Service availability 24-7
- Digital form
- E-Service for schedule change

Total benefit:

Municipal benefit

Decreased costs:

- No manual internal mail
- No manual diary entry
- No manual archiving
- Less questions, contacts
- No data entry
- Less updates
Value Aware Method for Evaluating Inclusive e-Government Initiatives

<table>
<thead>
<tr>
<th>Phases</th>
<th>Activities</th>
<th>Output</th>
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<tbody>
<tr>
<td>1. Motivate</td>
<td>Involve participants → Set goals for actors</td>
<td>Formulated goals</td>
</tr>
<tr>
<td></td>
<td>→ Initial design of value network</td>
<td>Communicated commitment</td>
</tr>
<tr>
<td>2. Investigate</td>
<td>Analyze benefits and cost → Synthesize value network</td>
<td>Calculated net value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Syntesized and visualized value network</td>
</tr>
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Fig. 3. The phases and activities of the VAMEE Method
Case Study Results

![Diagram showing benefits and costs per actor (KSEK)]
Case Study Results

Benefits per e-Service (KSEK)

- Apply: 1347
- Change Schedule: 1889
- Change Income: 1006
- Terminate: 196
Case Study Results

Benefits per case (SEK)

- Apply: 133
- Change Schedule: 58
- Change Income: 50
- Terminate: 49
Conclusions

• We propose a combined approach for increasing the understanding of benefits and costs in e-government initiatives

• We have demonstrated through a case study that the combined approach can aid in:
  – Scoping the network of actors
  – Identifying and visualizing the distribution of benefits and costs among actors and e-services
Publications


Summary

• Open Social E-Services
• Value Aware Method for Evaluating Inclusive e-Government Initiatives

Next Step

• Generalization
• Cloud delivery and mobile services
• Rule based management