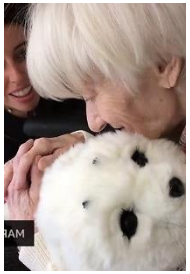
Procurement of Welfare Technology in Swedish municipalities

Sanna Kuoppamäki, Assistant Professor, Biomedical Engineering and Health Systems

Welfare technology in municipal elderly care



1) Safety: Alarm systems for monitoring of activity, sensors at different locations in the user's home, and location tracking devices in case of a critical event.

2) Assistance: Technological solutions that promotes activities of daily living such as taking a walk, cleaning, cooking, and taking a shower

3) Rehabilitation and disease management: Technologies such as exercise apps and self-care aiming to shorten the stay at hospital

4) Robotics and automation: Technologies aiming to reduce the time that care givers spend on routine tasks, such as are medical dispenser systems, intelligent shower systems, and telepresence robots enabling the older adults to connect with friends and family

5) Digital solutions and platforms: Technologies that enable decentralized care; e-visits, which allows for digital monitoring of the older adults instead of a care giver having to physically visit the patient

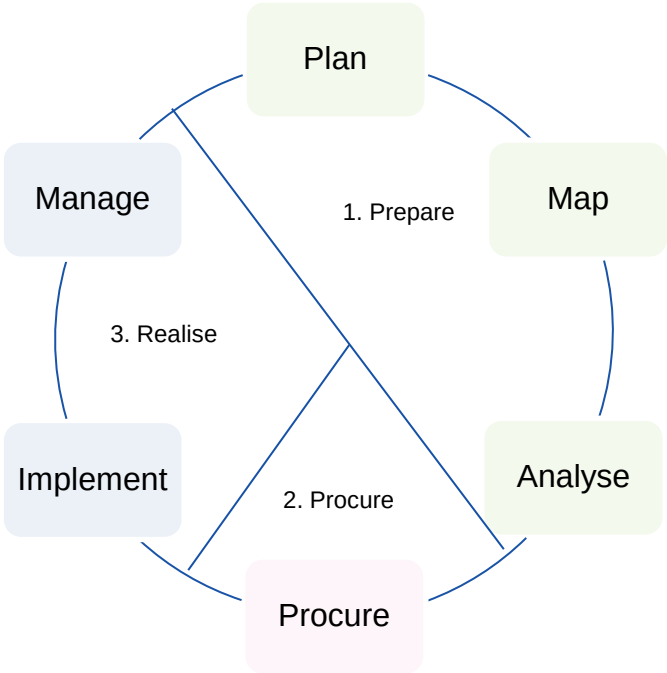
Procurement process (Swedish Procurement Authority's Model)

1. Prepare : planning the technology to be procured, mapping the need and the market for the technology

Plan: Deciding the demands for technology to be procured (safety/welfare/home care/nursing homes)
Map: Identifying user needs. Deciding how a certain welfare technology can solve it in a better way. Mapping out the different welfare technology on the market through dialogs with suppliers.
Analyze: Forming the financial and technical demands on both the welfare solution and the supplier. Formulating functional requirements for the solution.

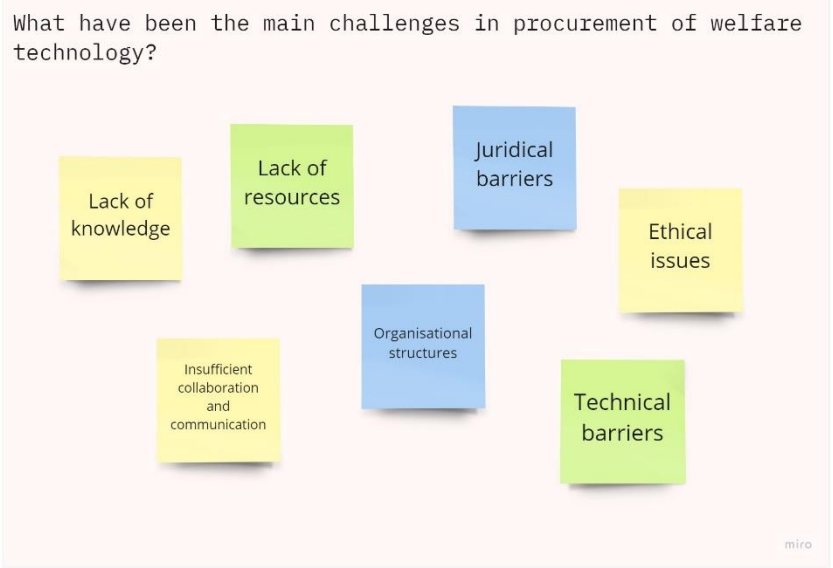
2. Procure: Choosing the best and most suitable alternative. If the value of the agreement is beneath the threshold value for a direct procurement, this alternative can be chosen.

3. Realise: Evaluating the outcomes
Implement: Reviewing the delivery, deciding if it fits with what municipality and the supplier agreed upon.
Manage: Following up the agreement and evaluating if the welfare technology delivers the value that sought to be created



Qualitative study on Procurement practices

- Empirical case study for procurement managers, IT development leaders and digital strategists working in procurement of welfare technology in 3 municipalities in Sweden
- In-person interviews to investigate the challenges and problematic areas in the procurement process of welfare technology (N=8)
- Interview transcriptions (100 pages) were analyzed with qualitative content analysis method and systematic categorisation



Challenges in the procurement process

Difficulties to find a suitable supplier; Requirement for openness restricts the amount of suppliers; Requirement for openness restricts the amount of suppliers; Lack of political strategy

Lack of communication and cooperation between divisions; Lack of utilisation of product information; Lack of financial resources; Lack of national strategy to implementation; Lack of standardization; Health care responsibilities differ between municipalities; Requirement for interoperability restricts the amount of suppliers

Difficult to meet the end-users needs; Ethical questions; Need analysis is not done systematically;

Difficult to set functional requirements for design

Wide market makes it difficult to choose a product

Challenges in the procurement process

Ethical questions

There are a lot of ethical problems. -- And we have, for example, chosen to send all our alarms to the emergency services. We do not connect them to relatives (--). And then we have this with consent. It is very difficult to get consent from people with dementia. The night camera. Shall we look at them while they are lying there sleeping? (--)The safety requirements are also raised when changing with new technology. (5.1)

"Yes, some of us are very aware of that (procurement is governed by technical possibilities rather than real needs). We have to go from the outside and then see that since there are a lot of opportunities with technology, it is like "what do we want?". Then they (suppliers) also come here "we can". With the help of technology, we can measure the heart rate of the person lying down and sleeping and see that it really is alive. But then I think like this "yes but wait now, yes, it's great that we can do it, but do we need it?" (5.4)

Market and need analysis

Interoperability

Requirements for interoperability limit the number of suppliers, but it is an important requirement to have. A limited number of suppliers means that the entire legal part of the procurement, where suppliers must submit tenders and the best price must win, becomes an unnecessary and time-consuming process because it is often only one supplier who will be able to deliver the required solution in the end. (6.3.1)

Framework for procurement competence

Competence level	*Individual*	*Organisational*	*Cross-organisational*
Technical	Requirement specification for technical system	Internal collaboration with divisions	External collaboration to streghten the technical competence
Economic	Market analysis: recognising the relevant suppliers	Financial and economic resources	Market analysis: Difficult to find a suitable supplier
Juridical	Systematisation of need analysis	Standardisation and legislation	Legislation
Ethical	Need analysis: Recognising and meeting the needs of end-users Attitudes towards welfare technology	Communication between divisions	Political strategy

Thank you!

sannaku@kth.se