Potholes in effective use of innovative technology in elderly care

Helinä Melkas
D.Sc. (Tech.), Adjunct Professor
Lappeenranta University of Technology, Lahti Unit, Finland
Tel. +358 40 588 1400
helina.melkas@lut.fi

Special Session 2: Innovation, Product Development and Technologies
Empirical research in several large research and development projects:

- "Safety and communication services in the living environment of an elderly person", 2001–2004, nationwide
- "Good living at home of the elderly: A productivity improvement project for municipalities", 2005–2007, regional
- "Smart homes pilot", 2007–2008, regional
Objectives and viewpoints of the research

- The objective was to search for and solve problems and contradictions in the relationship between human-centred care and technology
- Research environments: sheltered accommodation and elderly people’s home care
- Gerontechnology = research, development and implementation of particular technologies for the benefit of elderly people (e.g., safety alarm systems)
- Other types of technology related to elderly care were also investigated: customer information systems, computers, camera supervision, GP navigators…
• Some 170 interviews with Finnish care workers in the different projects
• Survey data (questionnaires)
• Impact assessment processes on technology use
• Other research-based development work: thematic workshops, mapping of work processes, etc.
Roles of gerontechnology

- Preventing problems
- Emphasizing and utilizing strengths
- Compensating for weakening abilities
- Supporting care work
- Furthering research
Human Impact Assessment (HuIA)

**HUMAN**
(A group of) people targeted by a decision, plan or action (or indirectly affected by it)

**IMPACT**
A decision always affects something (for instance, impact on health, well-being and work processes)

**ASSESSMENT**
Assessment produces information that can be applied to support decision-making and development efforts

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An impact assessment process

1. Identification of different types of impact
2. Assessment of significance of impact types
3. Planning related to weakening or strengthening of impact types
4. Drafting action plans
Technology use has many impacts

- Many impacts on elderly people, their near relatives, care workers and organizations – but these are often overlooked
- With the help of impact assessments, positive, negative and neutral impacts of technology use are identified
- Coping at home and at work may be enhanced through empowerment and a positive assessment culture
- Systematic impact assessments
  - bring forth different viewpoints in a thorough manner
  - make it easier to weaken negative effects and strengthen positive ones
  - no right or wrong answers
An example of technology that was focused on in our projects

• A high-tech well-being wristband is a Finnish invention

• It automatically monitors 24 hours a day the user’s activity level by measuring micro and macro movement, skin temperature and skin conductivity

• Manual and automatic alarms
Impacts of technology use on elderly people’s life at home or in sheltered accommodation

- Technology may cause inequality and substitute human relationships
- Prejudice and fear = need for time and encouragement
- Technology must be tailored to the user in question; impacts are individual
- A motivating factor: increases accessibility; helps to maintain health and activity
- Need for orientation into use, reminding about use and follow-up of use and related conditions
- It is vital to understand the whole of life; technology does not help as a separate "island"

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Impacts of technology use on elderly care work and care workers

- Conflicts and disagreements, prejudice and fear = need for time and encouragement (lack of thorough orientation = long-term negative consequences)
- Loss of resources or financial savings
- Increase or decrease of haste and coping at work
- An increased amount of information on customers
- A motivating factor (work becomes visible in a new way; image of the workplace changes)
- Meaning of technology must be understood as part of work processes (not a separate “island”)
- Individual or group-related differences (e.g., short-term – permanent staff, junior – senior staff, women – men)
Impacts of technology use on near relatives of elderly people

- Ignorance and prejudice =
  - need for provision of general information and orientation
  - need for assistance and support in acquisition, use and follow-up of technology use of their close ones
- Understanding needed in order to avoid giving inappropriate technology to a person who suffers from dementia or other memory problems
- Understanding needed concerning ’opportunity costs’ of expensive technology from the point of view of the elderly person
- Attention to human relationships – how technology use can support them, not substitute them

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Impacts of technology use on service systems and decision-makers

• Needs for
  • novel competences and new knowledge (e.g., competence to give guidance in technology use and competence to assess impacts)
  • network management skills (service networks consisting of the public, private and non-governmental third sectors)
  • process management skills (e.g., acquisition, introduction, orientation and follow-up processes) and change management skills (e.g., common rules of the workplace with regard to technology use)
  • information and knowledge management skills (increase in information on the elderly person and other types of information – who handles it; how; where, and when?)

• Loss of resources or financial savings
Six potholes in effective technology use (1/2)

1. Impact assessments on technology use are missing although they should form part of development of service quality.

2. Lack of awareness concerning the need for competent and tailored orientation into technology use (including elderly people, their near relatives, care work community – and the service network, where appropriate).

3. Insufficient consideration of aims, ethical issues and acceptability of technology (attitudes of different people).
Six potholes in effective technology use (2/2)

4. **Awareness-raising needed among decision-makers** concerning elderly care, technology use in it and impacts of technology use

5. **Public discussion on technology use is black-and-white** (negative – positive), although it should cover ’all colours’ (different users, needs and aims of use)

6. **Suitability of technology for all age groups** – **Design for All thinking** should be encouraged and **users’ views** taken into account in technology development (not just those of ”experts” and young users)
Technology use is collaboration

Thank you!

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