Untangling the Complexity of Connected Health Evaluations

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1 Background

Connected Health:

» The application of ICT to support healthcare delivery.

» Lack of evidence about:
› How Connected Health technologies impact users and other stakeholders.
› What are the best practices for assessing impact of Connected Health solutions.

Research Gap:

» A robust evaluation technique to evaluate Connected Health innovations.

Research Question:

» How can we holistically evaluate the impact of Connected Health technologies from different stakeholder perspectives?

Context:

» Primary care based dementia patients in Ireland.

2 Motivation

Literature Review:

» Connected Health: no evidence of generic Connected Health evaluation models that have been successfully implemented and applied across the industry.

» Examined health information system (HIS) literature for evidence of evaluation of technology in healthcare.

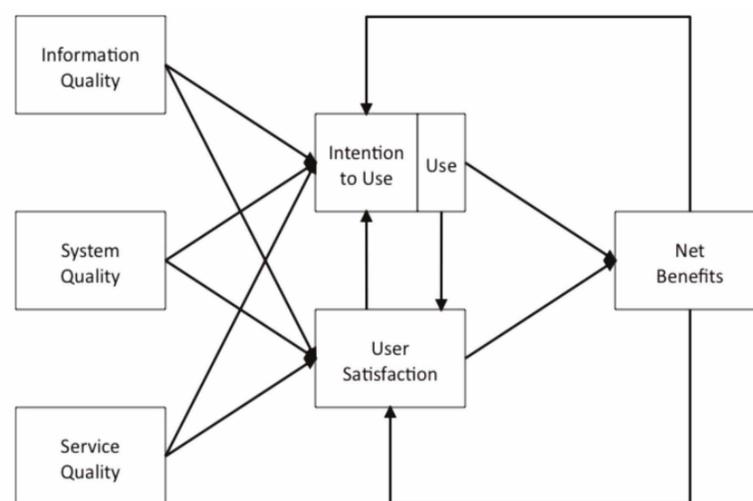» Modifying the DeLone and McLean IS Success Model (Figure 1).

Figure 1. The IS Success Model

3 Approach

Stakeholder Group	Description
Technology Provider	Provides Connected Health technology to their clients. This term also covers technology suppliers that builds soft- or hardware that is integrated into the ARCH platform.
Service Provider	Provides health services. The term also covers the individual service provider who works for a service organisation, including nurses, general practitioners, physiotherapists, gerontologists, and welfare workers. These are also called formal caregivers.
Assisted Persons	A person who is dependent on health services due to old age, a chronic disease or a handicap. A person who is indirectly dependent due to responsibilities for an elderly parent, family member, friend or a spouse.
Society	Government at the local, regional or national levels that allocates funds to Connected Health technologies or services.

Table 1. Stakeholder Groups

	Technology Provider	Service Provider	Assisted Persons	Society
System Quality	Is the solution built right?	Is the solution fit for purpose?	Does it work as expected?	Does society benefit from improved service quality?
Service Quality	Does the technology provider support the solution?	What Service Level Agreements are in place?	Is there adequate support for users?	Does society benefit from good solution support?
Information Quality	Do technology providers ensure users get quality information in and out of the solution?	Is the information quality high?	Will assisted persons have access to quality information?	How will society become more informed through the solution?
Acceptability	Are the technology providers encouraging users acceptance of the solution?	Will the users accept the solution?	Do assisted persons want this solution?	Will society accept the solution?
Usability	How usable is the technology providers solution?	Will the users be able to use the solution?	Can assisted persons use this?	How has the solution impacted on their behaviour?
Clinical	What clinical value are the technology providers offering?	What are the clinical benefits to users' and society?	How will this benefit assisted persons health?	How can the solution improve clinical care for society?
Economic	Can technology providers make a profit?	What is the Return on Investment (ROI)?	How much will this cost assisted persons?	How much will this cost society?

Table 2. Connected Health Evaluation Framework

4 Results

Summary:

» Need to understand how a deployment is performing and where progress is being achieved in improving patient care.

» Assess the impact of Connected Health solutions from multiple stakeholder perspectives and multiple innovation perspectives (Table 1).

» Need systematic assessment of a deployment.

» Connected Health Evaluation Framework (Table 2)

Results

» **Tailored** to support insights around achieving the vision and strategy for healthcare delivery;

» **Holistic**, covering all HIS that make up the healthcare system;

» **Comprehensive** in capturing how performance would change based on introduction of connected solutions;

» **Comparative**, to allow benchmarking healthcare providers performance against relevant peer providers.

Output/Publication:

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