IoT in the health and social care ecosystems
Andrés Laya

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What my work is all about

How can communication actors benefit if they enter the H&WB sector?

Aspects beyond communication topics:
In other to say: communication can do this and that,
First we need to understand the context.
Motivation

IoT is contributing to a reconfiguration of the ICT industry
Interest from telecom to be service enablers, beyond connectivity

Interaction with non-ICT industries calls to extend research:
  from *Can we develop new tech? How costly would it be?*
  to *Can we solve a real problem? Can we get revenues from it?*

Differentiate lack of adequate technology
  from inconvenient market settings

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Health & Wellbeing with IoT

- Real-time *symptoms* report
- Report for medicine *intake*
- Remote patient monitoring
- Ambient Assisted Living Apps
Keeping the ICT Perspective

Health and social care in Sweden

Laws and Regulation

National Board of Health and Welfare

Social Services Act

Health and Social Care Inspectorate

Vårdförvaltning

Data Protection Authority

Person data

Municipalities are responsible for healthcare in the home. Except in Stockholm, where it is provided by the Stockholm County

Providers (Companies)

Associations

Kommunstiftelsen

Kommunstiftelsen

Lundstinget

County Council

Private sector

Users and Beneficiaries

Relatives

Patients

Staff

Providers

Homecare

Healthcare

Social Assistance

Primary care in the home

Care in hospitals
Challenges for IoT in healthcare (1/4)
The healthcare market structure and governance

SF1: The decentralized healthcare structure in Sweden slows the adoption of solutions based on connected devices

Challenges for IoT in healthcare (2/4)
Public sector barriers for healthcare

SF2: Innovation based on connected devices entails risks that public sector organizations are not design to manage
Challenges for IoT in healthcare (3/4)

Unclear incentives and reimbursement models

SF3: Digital technologies payback periods are unaligned with public budgeting cycles

Challenges for IoT in healthcare (4/4)

Interoperability and coordination

SF4: Lack of standards adoption and guidelines specification result in lock-in-effects and high maintenance costs
Next, some examples

Remote patient monitoring

Facility management

#1 Homecare - Access Control and Time Reporting

- Digital key using mobile phones.
- Access authorization and time registration.
- Homecare authorities can prove service delivery.
- Relatives can monitor who enters the home.

- Big values:
  - Reducing complexity in keys management
  - Providing accurate reporting times

www.bluegiga.com/solution?g=Consumer&n=Phoniro
Showstoppers

MNO in charge of the application management phased out the service, claiming:

- Small market
- Lack of suitable phones
- Complex product for the sales force
- Long sales cycles in the public sector

Change:
Service was not cancelled, delivered without active participation of MNOs, the municipality took care of the connectivity provisioning.


#2 Remote patient monitoring - in Västerås

Persons that need assistance several times per day

Some visits can be replaced by video conversation
- Check medication intake
- Reminders
- First contact in case of alarms

Big values:
- 300 home care customers
- 2 M€ annual cost saving
- Immediate response

Initial Setbacks

Less than 30% of people above 70 had Internet

For the ISPs, this idea was:
  – A small, price sensitive market
  – A lot of customer care

Customers mistrusted the ISP installation

New Thinking

Customers do not pay for broadband

Installation done by homecare staff

The town IT service department:
  – Buys broadband connectivity capacity
  – Acts as service provider


#3 Chest-belt with motion analysis

WEMEMOVE
#4 Wristband with biofeedback on stress

Service Set-ups
• ICT players are usually on the background
• WMM Approach: have relationships with users’ organizations, making devices part of their core business

Early discussion on opportunities for ICT actor
• MNOs could leverage retail operation and explore collaborations to provide integrated services
• Verizon in the US is one step in this direction, using retail channels to sell sport and fitness accessories

Verizon online shop: http://www.verizonwireless.com/accessories/sports-and-fitness/

Business models in ecosystems
Business model explain ways to exploit business opportunities

Firm perspective  Network perspective

Stand-alone strategies don’t work when your success depends on the collective health of the organizations that influence the creation and delivery of value Iansiti & Levien 2004

Development patterns

Three development patterns to deal with challenges:

1. Innovation starting in the public sector
2. Focus on corporate and private care
3. Reach healthcare through wellbeing

Further reads

HBR - How Smart, Connected Products Are Transforming Competition. Porter and Heppelmann.

Ericsson – Service Enablement

Forbes - The Massive M2M Business Opportunity
Sanjay Poonen.
http://www.forbes.com/sites/sap/2013/02/18/the-massive-m2m-business-opportunity-part-1/

Machine-to-Machine in Smart Grids & Smart Cities, Technologies, Standards, and Applications
Mischa Dohler, David Boswarthick, Jesús Alonso-Zárate.
Thank you!