Innovation in Healthcare - An analysis of the regional preconditions in Skåne for innovation in digital healthcare

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Changes in the demographic structure will put pressure on the healthcare system in Skåne. As Estonian president Toomas Hendrik Ilves points out one of the major limitations of the digital healthcare market is not the shortage of technology but rather the innovation-uptake is slow in healthcare compared to other sectors. The problem is to understand why the technology uptake is slow, which barriers prevents uptake and what decelerate continued innovation in the healthcare sector.

"We know that in healthcare we lag at least 10 years behind virtually every other area in the implementation of IT solutions." Estonian President Toomas Hendrik Ilves, (May 2012)

The global digital healthcare market is forecast to grow tremendous over the upcoming years. Report forecast the global mHealth app market to reach a revenue of USD 26 billion by 2017. That number would be equal to a 0.5% share of the global healthcare market. It’s still uncertain how much the market will grow in the future but everyone are agreeing that the market is still in an early phase making it attractive for new players to enter. Skåne can benefit from this growing market segment. A strong innovation, adaptation and exportation of eHealth can give a better quality of life for citizens, growth for the industry in the region and tools for managing the upcoming demands on the healthcare system.

Purpose
The master thesis aim to describe and analyse the regional conditions in Skåne for innovation in digital healthcare. The goal has been to identify strengths, opportunities and various barriers that prevents or delay innovation in the region. Using these finding to give recommendations for future actions and strategies for Region Skåne.

Theoretical framework
To understand the innovation climate in the region first the external macro- and internal environment need to be studied. Two methods where used in combination with each other to map the region, PESTEL and SWOT. For the strategic planning and forming actions from the analysis TOWS where used. A method for matching threats and opportunities with the weaknesses and strengths. Giving a good framework for analyzing the region.

Summary of findings
The healthcare system in Sweden are to most extend government funded with taxes. It’s decentralized into 20 regions and county councils. The result of this decentralization are the healthcare market in Sweden becomes fragmented with every independent region and county council. To overcome this fragmentation Region Skåne have initiated a collaboration with the two other big regions in Sweden, Region Stockholm and Region Västra Götaland.

Comparing to other countries, Sweden are ranked 3rd on the list of innovation uptake in healthcare just beaten by Denmark and Estonia. The region has an innovation agenda with the goal to be one of the most innovative regions year 2020. In the International Innovation strategy for Skåne personal health is represented as one of the possible field for advancement. The nation as a whole has a strategy for eHealth, Nationell eHälsa. Combining the strategies shows that innovation and especially eHealth is considered an important field for the future of healthcare.

Knowledge – Findings shows that the healthcare professionals are not sharing their ideas or have time to elaborate them. Patients are sitting with valuable expertise and knowledge but only sharing it with their peer groups. For the business and academia getting hold of this expertise and customers need is
considered the two major challenges. Here is a big opportunity to facilitate cross border meetings and collaborations to help healthcare professionals and patients to share their ideas and get in contact with the business sector and academia who can work on it.

**Standards** – Looking at the regional strengths there is a great expertise in development standards derived from the mobile industry. This knowledge is something the region should try and capitalize on. Both the business and academia have a low awareness about medical standards, and healthcare is not using standards for global interoperability. It’s important to raise this awareness to promote interoperability between systems. The region and Sweden should form strategic alliances with interoperability and standardisation organisations such as Continua, at the moment some work is starting to be done on a national level. It is important to monitor the potential outcome from a collaboration between the United States and United Kingdom around healthcare standards.

**Identified barriers and actions**

To get a more radical change in the healthcare sector some barriers need to be broken down. These changes need a more strategic and political approach, many of them need to be brought up on a national level.

**Fractured organisation** – To capitalise on the strengths it’s important to have a solid organisation. Region Skåne is perceived as a fractured organisation by its stakeholders, which is considered a strong weakness. There should be established a part of the organisation that acts as a front with the responsibility for innovation in healthcare. The region could consider implementing the concept developed by Hennepin County Medical Center and appoint a Chief Imitation Officer. A person whose job is to look outside the organisation for good ideas to bring back. Taking inventions and innovations from around the world, improve and later applied them to the own organisation. This is an approach well known to businesses outside of healthcare, best known are Procter and Gamble with their concept C&D, Connecting and Developing.

**Security** – Today security laws that regulates the use of personal information and EMR need to be modified to allow the use of unidentified healthcare data. Allowing academia and companies to use the information for pursuing new research areas and possible innovations. A possible solution is to create laws for punishing misuse of information instead of only focusing on security. Safety is an important aspect to uphold but it shouldn’t hinder the use of information. Sweden could be in the forefront of innovation and open up un-personified data for research and development.

**Reimbursement model** – For new entrepreneurs and companies there need to be clear how to use the reimbursement model to support their business plans. There is a presumption that the current reimbursement model doesn’t favour preventive care and products in eHealth. An expert in the area from healthcare opposes this belief and argues that in Skåne, this is entirely possible. An important action is to look into the existing reimbursement model and consult experts to create and evaluate new potential business models.

**Pre-commercial procurement (PCP)** - It is important that the way into the healthcare sector, procurements, is built to handle and promote these new ventures. In May 2014 made the Swedish Competition Authority and VINNOVA an agreement to work on PPI, Public Procurement of Innovative. This means that they shall encourage the promotion, supply methods and support for innovation procurement. At the current time for this thesis no real outcome from the collaboration has been presented. The collaboration should be monitored and Region Skåne could try to become a test bed for PCP and PPI.

**Financial Capital** – Access to long-term funding’s is an important factor and an area where the region is lacking. Especially when going into the growth phase. From attended events it’s clear that Stockholm considered themselves as the innovative capital of Scandinavia. They are not looking at or
promoting other parts of the country, which makes it harder for a region like Skåne to attract outside investors. Promoting the region and a try to raise the awareness both national and international should be an important action. Region Skåne could also use the fact that they are a part of Medicon Valley, the Øresund region and the close distance to Copenhagen. In combination with the unique program at LTH, department of Biomedical Engineering with an eHealth program. Making the region have some unique preconditions for innovation in digital healthcare.

**Interoperability** – The IT system of Region Skåne consist of over 700 different individual computer systems and are built on an infrastructure from the 90ties. Resulting in some of the interoperability problem’s seen today. Work has been initiated to remove and consolidate some of the systems, a process that will take some time.

Both the business and academic sector in Skåne has a gap in expertise regarding semantic interoperability. This is not a unique problem for Skåne and can be seen in other regions as well. Collaborations with other regions and worldwide expertise is needed to fill this gap and promote advances in this field.

**The research process**

Primary findings are built on an explorative quantitative survey study with 435 answers from Skåne and semi structured interviews with nine key actors. This information combined with attending national and local eHealth events, and the theoretical framework gave the result for this thesis.

**Reflections over main contributions**

Third place in digital healthcare solution implementation is good but we can’t sit down and be satisfied with the result. Even if you are in first place you need to constantly revaluate your position and look for areas to improve.

“EHealth development in Estonia was certainly helped by the good cooperation with healthcare service providers and doctors”, explained Raul Mill, Member of the Board of the Estonian eHealth Foundation

The region have most of the building blocks to get a good climate for innovation in digital healthcare. Region Skåne have to join the blocks together, here is a unique opportunity to facilitate cross-border meetings, be a collaborate voice, and put digital healthcare on the agenda. There is a need for a link into healthcare to get providers, doctors and nurses to share their ideas and needs to business, entrepreneurs, and the academia. Lobbying to politicians and policymakers should be done to raise the awareness and try to change some regulations and laws that acts as barriers for innovation today.

“Perhaps what we need is not simply another “big idea”, but rather better ways of distributing the smaller ideas.” Harvard Business School Forum

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