Recommendation 9:

Machine Learning

Inclusive well-being and health

Using '*Machine Learning*' to meet the societal need '*Inclusive well-being and health*'

Status quo:

The following solutions are available for implementing machine learning applications:
- AmazonML (Amazon Machine Learning)
- AzureML (Azure Machine Learning)
- BigML
- Google Prediction API, a Machine Learning black box for devs
- Wise, Machine Learning for Customer Success

Recommended actions:

Technical challenges:
- Data availability and reliability; data sets upon which machine learning systems are to be trained must be unbiased and of good quality.

Non-technical challenges:
- Training: users need to be trained in order for machine learning applications to produce reliable results.

Links – text to be shown when clicking on the technology or the need:

Inclusive well-being and health:
The pursuit of well-bring, provision of a primary health care services, realignment between work, personal and community life and a stable work-life balance across all age groups and gender. Some instances of this need include providing basic health care services and personalized services for disabled and physically impaired, child care, maintaining the quality of life (work-life balance, cultural and free time), and reducing the stark economic and social isolation of elderly people. 10 of our informants mentioned this as a priority need. Their comments and concerns embrace issues such as "more appropriate medical care", "improved access to primary health institutions", "social cohesion", and "lack of solidarity and rise of selflessness".

Machine Learning:
Machine learning is the subfield of computer science that "gives computers the ability to learn without being explicitly programmed" (Arthur Samuel, 1959)*. It explores the study and construction of algorithms that can learn from and make predictions on data. Within the field of data analytics in particular, machine learning is a method used to devise complex and algorithms that lend themselves to prediction. Machine learning algorithms are composed of many technologies (such as deep learning, neural networks and natural-language processing), used in unsupervised and supervised learning that operate guided by lessons from existing information**.

* Phil Simon (March 18, 2013). Too Big to Ignore: The Business Case for Big Data. Wiley. p. 89.
** Gartner IT Glossary – Machine Learning, http://www.gartner.com/it-glossary/machine-learning/