Repurposing smartphone capabilities for circular economy business models in Telecommunication

Background of the research project
This thesis is done within the project RESMAC (REpurposing of SMArtphone Capabilities) funded by VINNOVA. The project RESMAC aims to systematically explore circular economy concepts through the design of commercially viable solutions based on upcycling of still working functionality from used smartphones. This could be devices for commercial and/or non-profit applications, such as connected fitness products, parts of a smart home, or teaching products for marginalized communities.

Tasks
1. Describe the current state of the mobile phones’ end-of-life in Sweden through a map of existing material and information flows in the recycling market and second-hand market.

2. Conceptual prototypes of devises using components of used smartphones will be developed by the Challenge Lab. Your task is to understand and possibly quantify the impact of each conceptual product on sustainability, from an economic, environmental and social perspective.

3. Map the potential obstacles to the achievement of a large-scale, circular business model stemming from the proposed prototypes, along with a plan to overcome them.

The methodologies to achieve these tasks can stem from pre-studies, literature studies, questionnaires, interviews, etc., and may be properly delivered by modeling methodologies (e.g., UML, stakeholder mapping).

Goals
- From a methodological standpoint, formally connect and deliver the results of the tasks above by using scientific approaches and methods.
- Be able to synthetize learning outcomes in the domain of industrial engineering and sustainability science.

Conduction
This thesis work needs to be conducted by two students. The time period is February to early June 2018.
Expenses for reaching company sites in case of face-to-face interviews will be covered.

Information
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