BENEFITS:

User perspective: customization, motivation, competition, bonuses.

Company’s perspective: more plastics come already sorted straight from a user, data from an application of usage, less work to recycle and separate different types of plastic products from mixed waste.

Government perspective: City of Lahti owns 58% of Kujala Waste Centre, thus, we can say that, since municipality owns major share, municipality owns it. Since mixed waste is the most expensive kind of waste it will save a lot of money for the government as well. Other municipalities can have information about consumption of different kinds of plastics and the rates of recycling so then it will be possible to showcase this through the reports and analyze this information.

WEAKNESS:

Users: not every person will still be using this, some target areas still cannot find benefits for them (teenagers/pensioners)

Company: Finland is already one of the leading countries worldwide when it comes to recycling, some companies will not be willing to pay for this platform since it is not directly enhances recycling rates drastically

Government: some municipalities might not allow reduces at tax rates based on recycling or other municipality’s income areas.

Technology:

Application: custom space for a person to earn rewards actually helping companies and municipalities. Users can compete with each other or there can be competitions between municipalities/cities. Rewards can be: cuts off from fees and municipal payments/taxes, user can send his bonuses to charity (like kennels etc). The application will also feature a map with geolocation of the user and nearby recyclers. The process of user authentication proceeds the way that application determines the user's geolocation and sends one-time authentication code when the app perceives that the distance is getting close enough. When user approaches Plastomat it is only required to type in a 6 digits code; this way the average time required to authenticate user is reduced compared to necessarily to type in user login and password that is vitally important during rush hours when experiencing queues.

Recycling machine: the machine functions as a typical bottle recycler but with some new features mounted inside. Person will put a plastic piece on a conveyer line, it will go inside and be scanned by RAMAN spectroscopy and be identified as one of 7 major types and the send it to one of the containers respectively by the type. If RAMAN cannot identify the type then it will throw the plastic to the 8th container. The recycler can be partially powered by green energy: outside of the city line on the suburbs it can be wind power plants and in the city this can be done by solar panels. One other way of powering those machines is using train’s break power energy. Any excess energy from the railway is pumped into the power grid to supply them. In Helsinki it is also possible to use metro’s excessive energy. All intermittent energy sources can be supplemented by battery storage to provide peak shavings and load leveling, thus, enhancing power efficiency of the system