

No Time to Waste: Making Waste Sorting Worth the Time

Mustafe H. Jama
MSc student
BI Norwegian Business School
Mustafe.H.Jama@student.bi.no

Stian Taalesen
MSc student
BI Norwegian Business School
Stian.Taalesen@student.bi.no

John Egil Nilssen
Head of Analysis
Oslo REN
john.egil.nilssen@ren.oslo.kommune.no

Kim van Oorschot
Professor
BI Norwegian Business School
kim.v.oorschot@bi.no

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Abstract

Sustainable cities and communities is one of the SDGs. To reach this goal, improving material recycling through waste sorting is important for big cities. Although young people are concerned about the environment, analyses show that “millennials” (20-29 years old) perform worse on waste sorting compared to other age groups. Therefore, we have analyzed and modeled the waste sorting behavior for students in Oslo that are living in shared housing arrangements. The main objective is to find ways to improve the material recycling. Five initiatives are simulated and discussed. Our results show that citizens need to be divided into distinctive segments and influencing factors for each segment’s waste sorting behavior need to be identified. Customized communication and attractive incentives for each segment need to be offered. More specifically, Millennials seem to be influenced more by initiatives that give objective results, like discounts on bus tickets or winning prizes through competitions.

Table 1: Summary of simulation results (*)

| Incentives | Quality of collected waste (+) | Influencers in household (+) | Active new recyclers (+) | Material recycling percentage (increase from base case) |
|------------------------------|--------------------------------|------------------------------|--------------------------|---|
| Good sorting = Reduced costs | 9.3 ↑ | 2.6 ↑ | 2.2 ↑ | 37.4% (+3.9%) |
| Best waste sorting district | 5.3 ↑ | 2.6 ↑ | 1.9 ↑ | 35,6% (+2.1%) |
| Blue and green bag campaign | 4.1 ↑ | 2.1 ↑ | 1.6 ↑ | 34,5% (+1.0%) |
| The green month | 4.1 ↑ | 2.2 ↑ | 1.5 ↑ | 34,3% (+0.7%) |
| New larger blue bag | 3.1 ↑ | 2.0 ↑ | 1.3 ↑ | 34,0% (+0.5%) |

(*) All values in 2030

(+) Initial values of these variables is 1, so a final value of 1.3 means a 30% increase