Engaging in sustainable bioeconomies: The role of data-driven communication

Final wildcard project report

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Introducing the format

When submitting your Wildcard project you committed to providing several deliverables:

1. A short accessible document for the inter- and transdisciplinary group of people involved in the programme that describes your methodological innovation project / proof of principle project and its rationale;
2. A presentation at a community meeting of the investment theme;
3. A report of the results of your learning journey that describes the key lessons learned about your methodological innovation or proof of principle.
4. Additional deliverables formulated by you as part of the submission, labelled 'Project specific deliverables' in this format.

All Wildcard projects already provided presentations as stipulated under 2. This format then is meant to document deliverables 1, 3 and 4.

In section 2 of the format we ask some additional questions related to possible follow-up.

1. A short accessible document (max. 600 words)

Please describe your project in a way that people from completely different disciplines and/or laymen can understand using the below format/headers. Note that we will use these descriptions for our website as well.

Innovative idea and objective

Many of the changes towards a more sustainable society require a behavioral change of individual citizens. Providing those citizens with information that is factually correct is of key importance. However, for messages to be convincing and to foster desirable behavioral change they also must resonate with individuals' personal situations and connect to their values and priorities. Online (micro)targeting strategies might be useful. Using the personal data people leave behind on digital media, this information can be used to develop targeted messages that are more personally relevant. In this project, we have investigated how different targeted messages can be effective in influencing citizens' attitudes as well as purchasing behavior of clothes.

Relevance to the materials transition in textiles and/or building materials?

Behavioral change asks for effective communication. Our project provides concrete insights into the features that co-determine whether people engage with information that encourages sustainable consumer behavior, in particular relating to buying, selling and re-using clothes.

What did you do?

We have conducted an experiment to test whether introvert and extrovert individuals are more susceptible to different types of ads. More specifically, we developed different Instagram ads focusing on reusing and reducing clothing consumption, targeting introvert and extrovert individuals and see whether they had a differential impact on ad engagement, attitudes and intentions towards sustainable clothing consumption– both directly and after several weeks. We focused on female Instagram users.

Currently, a follow-up experiment that focuses on education and political preferences is conducted.

Main result, achievement and highlight

We find that extrovert individuals are indeed more susceptible to ads that suggest extravert behaviour (e.g. organizing trading parties, engagement with friends) than introvert individuals. Effects are small and disappear after a few weeks.

Key message

Targeting individual citizens with tailored messages can be effective in changing their attitudes and behavioral intentions relating to sustainable clothing behavior. However, to change individual's attitudes and also in the long run, a continuous flow of communication (e.g. through campaigns) might be needed.
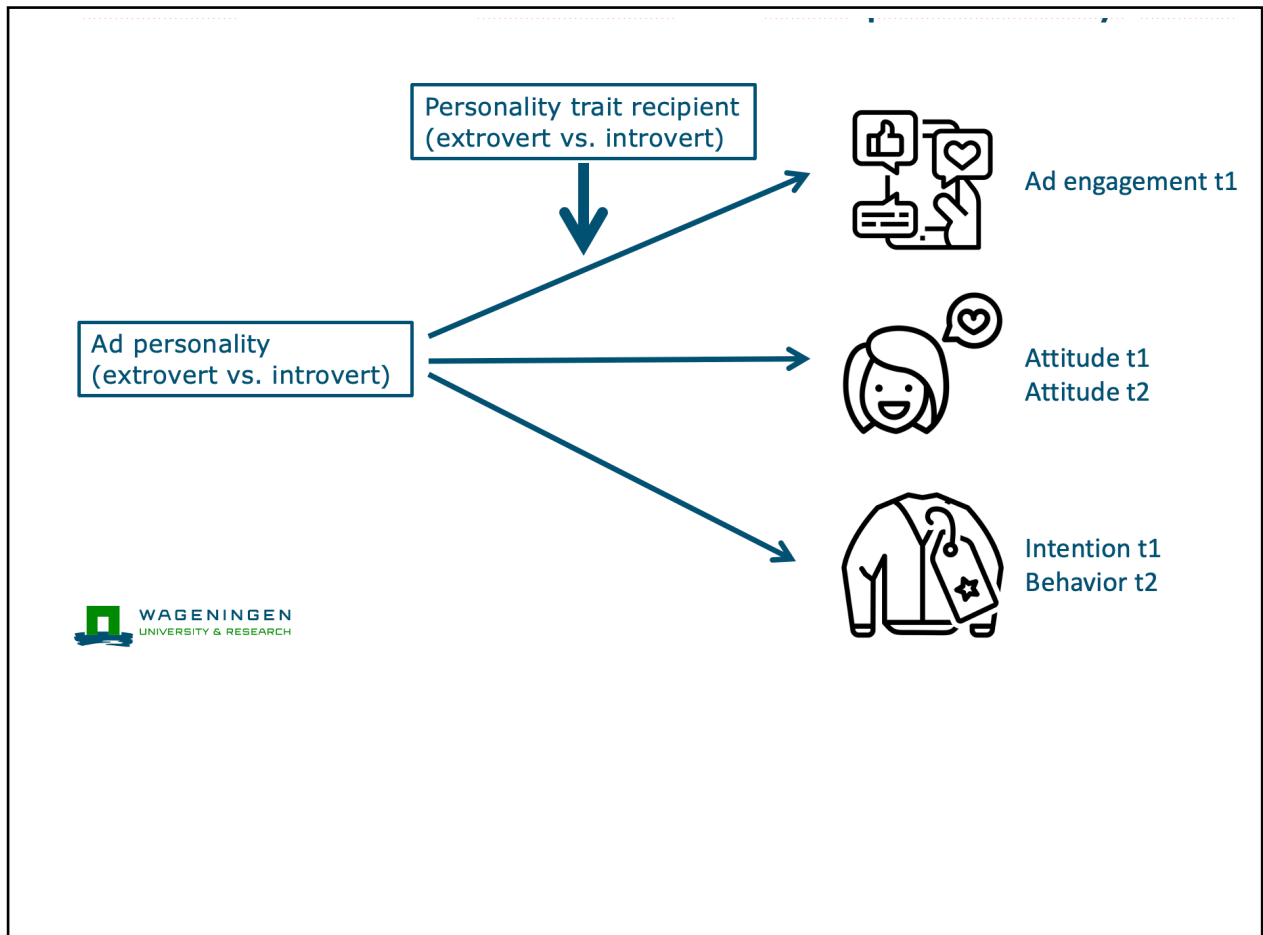
Visual abstract

Figure 1: Testing the effects of personalized ads on ad engagement, attitudes and behavioral intentions

2. Questions about 'readiness' and possible follow-up (max 200 word)

This section serves the investment theme to understand the development the project has undergone. We aim at selecting Wildcard projects to be taken up by one of the domain flagships (building materials, textiles). To make a selection, we need to know what the progress has been, where the project is now, and what potential there is.

Where you started

We had previous knowledge of the potential impact of targeted ads, but lacked knowledge on the specificities of the case (sustainable bioeconomies/textiles).

Where are you now

We have learned about the types of sustainable behaviour when it comes to clothes and have implemented those different types in an experiment to test their potential impact. This has led to domain-specific insights into the efficiency of micro-targeting that potentially apply to other types of sustainable consumer behaviour as well.

Potential and next steps

One logical next step is to further understand the motivations and barriers for sustainable clothing behaviors. These motivations and barriers can be somewhat affected by targeted ads, but might require more continuous communicative efforts. For them to be effective, a deeper understanding of what drives individuals' sustainable behavior is a first step, which can then be followed by communication campaigns that e.g. specifically focus on overcoming barriers.

Innovation readiness

The ads that we developed for our experiments might be readily applicable in a 'real-world' campaign – though it might be hard to assess their precise effects at this stage. We have now reached stage 6 (testing in a controlled, experimental setting) and could move on to stage 7 in the model..

3. Learning Journey (max 300 words)

1. Did your Wildcard project involve new collaboration with disciplines or people? If so, briefly explain what was new.
Yes it did. During the various events we had interesting exchanges with several people, including specialists in agent based modeling. We met several times with Paulien Harmsen and Dieuwertje de Wagenaar to discuss our findings. De Wagenaar's presentation on different types of sustainable consumer behavior offered a direct inspiration for the stimulus material of our experiment.

2. If applicable, did the new collaboration alter your original thinking about the topic? Did it change research directions or courses of action? If so, briefly characterize how.

It provided necessary substantial input to construct experimental material with large external validity.

3. Did interactions during community days and/or meetings organized by the investment theme alter your original thinking about the topic? Did such interactions change research directions or courses of action? If so, briefly characterize how.
See above.

4. Did you meet any challenges during implementation of your wildcard project? If so, what kind of challenges where these?
The research did not face major challenges.

5. If applicable, how were these challenges eventually addressed? Did activities organized by the investment theme contribute to overcoming challenges? If so, briefly indicate how.
NA

6. Has your involvement in the investment theme resulted in any new initiatives or spin-offs that would probably not have emerged if you had not participated? If so, briefly indicate how these new initiatives came about.
All four of us started working at WUR in the past year. The investment theme offered a very nice way to get acquainted with research on one of the key WUR themes. Our participation in the project inspired several other studies, among others on micro-targeting on the issue of sugar tax. The design for this research is comparable with the one we use in the investment theme.

4. Additional project specific deliverables

Copy-paste the deliverables provided in your submission document and explain how you have met these deliverables. If deliverables could not be reached, please explain.

Additional deliverables proposed when submitting the Wildcard project

1. An outline of a mock campaign on sustainable consumer behavior. This consists of ads that we test in our field experiment and an outline of our findings providing concrete information about the effectiveness of each of them.

2. An academic article that brings together the findings of the two experiments.

Status of each project specific deliverable

1. Campaign material is partially developed (see Annex). We are currently developing additional ads for the second experiment. Once done, we will share those together with our main findings about their impact.

2. In progress – an abstract is accepted for the SCP23 conference in Wageningen.

Figure 1. Stimulus materials
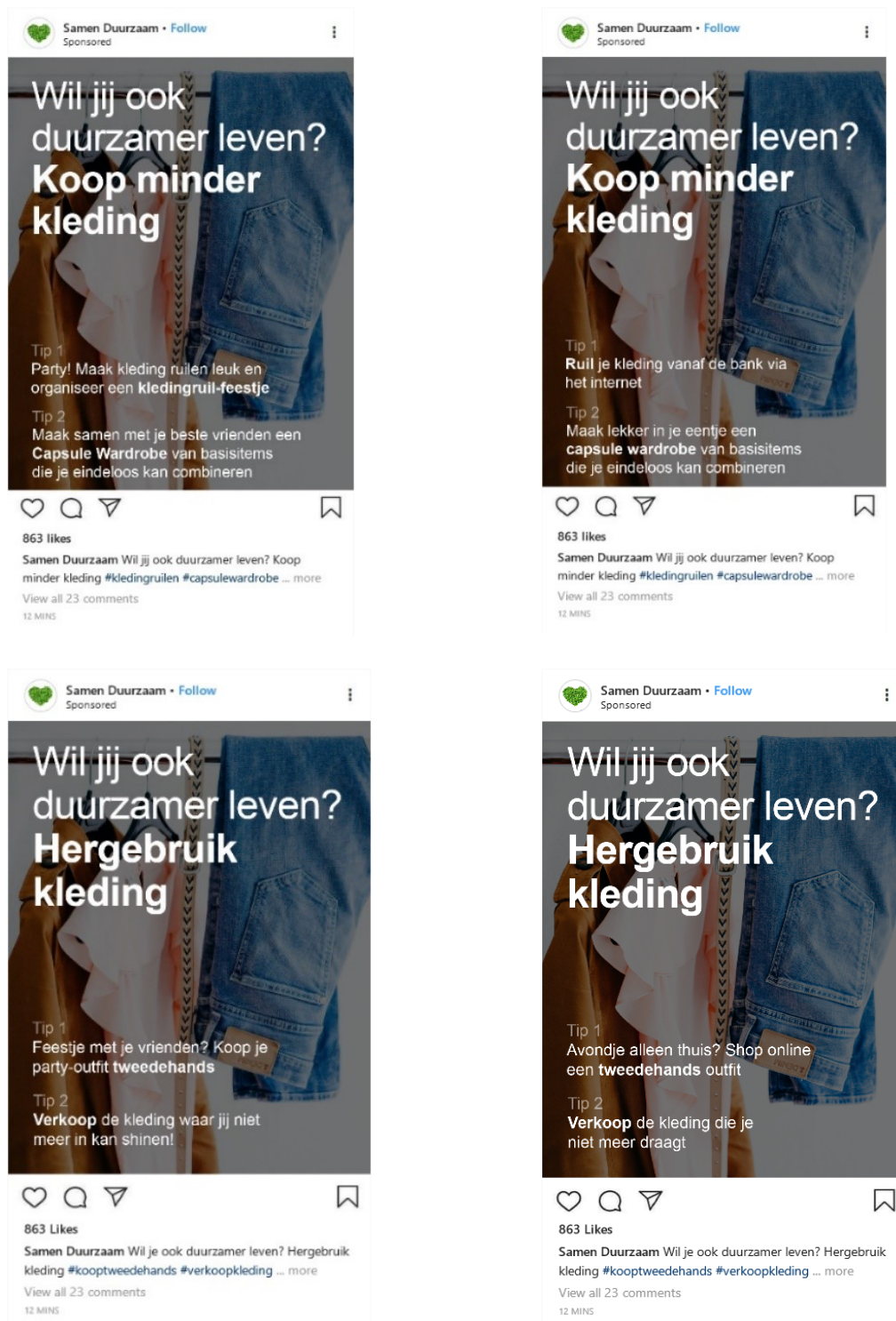
Upper ads: Reduce – Extrovert and Reduce – Introvert; Lower ads: Reuse – Extrovert and Reuse – Introvert