

Chapter 18

Recruitment of Participants (Households in City District and Companies) for Insight Research and Prototyping

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Abstract In the project SusLabNWE the integration of users in private households was a vital part of the concept and scientific approach because products and services need to be aligned to the user needs and fitted to their behaviour. In order to develop, design and implement innovative products that serve their purpose and are accepted by users, a high level of user engagement is expected. This chapter describes the recruitment of participants in two case studies within the SuslabNWE project.

18.1 Introduction: General Overview and Implementation in SusLab

Within SusLabNWE, the integration of experimenters into private households is a vital part of the project's concept and scientific approach. To get the most diversified insights and universal statements of results, it is on the one hand necessary to spread the project on different types of households. One point is a variation on demographic aspects (e.g. age, state of life, standard of living), but also on income differentials, which reflect the standard of living and especially the type of property, i.e. owner occupancy of rent.

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On the other hand, the innovative products and services offered in the context of SusLABNWE (e.g. devices which help to save energy and enhance comfort in terms of heating) need to be aligned with the users' needs and fitted to their behaviour in order to safeguard their application. To a greater degree some products even have negative effects because users show different behavioural patterns as engineers and designers had foreseen or predicted. In order to develop, design and implement innovative products which serve their purposes and are accepted by users in SusLab, a structure of LivingLabs and a high level of user engagement and preliminary investigation by the project managers is needed.

And at least it is a chance to explore some new technical opportunities and chances to implement technical assistances at highest technical level combined with visually attractive design. Following sections introduce the recruitment of participants in two SusLABNWE case studies.

18.2 Case Study Bottrop

The described differences and the initial position at all levels assume that recruiting appropriate private test persons adjust individual approaches. Therefore it is the responsibility of each partner to develop and implement a local volunteer program. The partners choose suitable instruments for activation and information, like information events, direct contact via personalized letters or contact forms via internet.

This is a prerequisite for creating a local test infrastructure for the topic "heating/space heating" in at least 50 homes. All participating households are located in the pilot area of InnovationCity Ruhr in Bottrop. The local involvement and recruiting for the project is coordinated by the Innovation City Management GmbH (ICM) for the German consortium consisting of Wuppertal Institute for Climate, Environment and Energy, Hochschule Ruhr West University of Applied Sciences (HRW) and ICM. The main benefit of that testing area is the existing sensitization of the inhabitants for unconventional and innovative projects regarding new technologies.

Since 2011, Innovation City Management has offered individualized energy consulting especially to private house owners through the Centre of Information and Advice (Zentrum für Information und Beratung—ZIB). In the past 5 years 2000 personal consultations have been carried out in total. This offer is absolutely cost free for the citizens of the pilot area and it is still much asked for. In 2015, 326 different consultations have been carried out by ICM's energy advisor/architect, every one of them for around one and a half up to 2 h. This service is available for everyone living in the city area offers energy efficiency advice to building owners, by analysing the energy consumption data of each building. For that a special online tool has been designed, which also can be used for a pre-review for every interest. Therefore the tool serves as an information basis for the interests and in addition it's a tool for the energy consultant who gives qualified input to

the software system to create an encompassing entry to each consulted building. With this data, personalized energy efficient retrofitting proposals are developed, implemented and customized to maximize efficiency for each individual unit. The advice is adapted to the individual financial possibilities combined with a special promotion for the total price of the modernization if someone lives inside the pilot area. The main advantage is due to the fact that subsidies spread more easily than in other existing programs for modernization by reducing administrative effort.

In parallel, informed citizens are motivated by advertising campaigns and targeted events and community workshops. These events are designed to engage the community and let citizens become part of a project and support its goals such as implemented in the SusLAB-project.

Additionally, Innovation City Management has organized networks of local craftsmen, architects and energy consultants and established a partner network for technology and process related innovation within the Ruhr metropolitan region. The industrial advisory board enables companies to develop and join projects. By means of this, major German energy related companies like Vaillant, Danfoss or RWE are involved, but also local and regional housing companies like VIVAWEST, GBB and Vonovia are members of the advisory board. The main benefit of this network is more than evident: By means of involving housing companies directly, thousands of test persons can be acquired.

For the SusLabNWE winter pilots ICM and HRW used this existing networks and initiatives to contact suitable households and asked them to participate and get involved in the project. The existing data represented the basis to analyse and then to find private landlords and tenants in flats and houses. They received a covering letter by mail from the HRW which described the project's background, the procedure and the benefits. Around 600 households received this letter and much more households replied than necessary.

The group of households involved increased after the first winter pilot by directly contacting further households. Another benefit was gained through media and newspapers: Positive reviews about the project spread quickly and numerous newly interested citizens approached the project. Apart from the media support the technical equipment improved.

Furthermore additional measurement toolkits were available to gather information and statistical data in the households. The main point is that the participants did not receive any kind of monetary incentive. But they provided their data containing detailed feedback about their individual behaviour and derived from that data individual potentials of savings.

18.3 Case Study UK

In the UK, the nature of the participants recruited, and the recruitment strategies used, varied throughout the SusLab project, depending on the goals of each part of the study. Overall, the primary aims of the first parts of the study were qualitative,

while later phases aimed to integrate qualitative and quantitative data. In every case, the aim was better understanding of householders' use of energy in context, including a specific focus on heating practices and thermal comfort. This deeper understanding, requiring multiple home visits by researchers, necessarily meant smaller sample sizes.

In the first phase of our research in London, researchers from the Royal College of Art carried out home visits and interviews with householders, followed by a probe/logbook study (described in Lockton et al. 2013). Following methodologies developed in the context of inclusive design (Eikhaug and Gheerawo et al. 2010), in this work we focused on *lead users* in one form or another—people who have particular needs around, or interest in, energy use at home, and who are indeed often self-described 'edge cases'. Recruitment of the initial group of nine participating households was done through: (1) Tenants' groups with a focus on environment and sustainability, at two social housing providers in London (Poplar HARCA in East London, and Camden Council in north London); (2) Word-of-mouth suggestions of participants, by researchers who had previously worked on sustainability-related projects; (3) Postings and announcements in the London Internet of Things and Cleanweb meetup groups (online groups with in-person meetings every month). Participants were offered gift vouchers for Marks and Spencer, a slightly upmarket UK supermarket and department store.

Once potential participant availability had been explored, we arrived at nine households of a range of ages, backgrounds and family situations (with children, living alone, retired, etc.), living in London and south-east England: social housing tenants on limited incomes, some already part of existing programmes aimed at saving energy (via home energy displays and online monitoring), and some who have taken it upon themselves to cut their energy use without using any kind of display; people with medical needs which mean they use higher than average amounts of gas for heating; people with environmental motivations and people much more focused on cost; and people from the Internet of Things and Quantified Self communities, who have set up their own home energy monitoring systems for their own interest, and have incorporated using the systems into their everyday routines. Some of our 'early adopter' lead users could be in the vanguard of coming trends around technology use at home, but trends also represented in the group—such as ageing populations and more people living alone—would have other effects on energy use. The idea was that through learning from these interested users—understanding their routines, motivations and interactions with technology, we could both understand better the factors to concentrate on in subsequent research, and identify design opportunities for interventions that take account of the real contexts of everyday energy use. Some of these householders subsequently took part in our Home Energy Hackday and co-creation workshops.

A parallel phase of our research involved public engagement at events and exhibitions, which is not so relevant for this chapter; Chap. 14 on participatory drawing, and Chap. 23 on the Powerchord sonified energy monitor describe the participant contexts of this work.

For the final ‘Winter Pilot’ phase of the UK SusLab research, involving the installation of the SusLab Monitoring toolkit and use of the heating practice diary (see Chap. 12) in homes, the Institute for Sustainability, via its partners at Dartford Borough Council, recruited five households in the Dartford, Kent area (to the south-east of London).

In this study, the installation, configuration and monitoring of the SusLab equipment was carried out by researchers from Imperial College London. One household had to drop out as the broadband internet service present was incompatible with the SusLab equipment. As the recruitment was handled by other partners, the demographic and contextual information about householders was something the RCA researchers (Flora Bowden, Dan Lockton and Shruti Grover) elicited during interviews. The householders were all social housing tenants who were part of schemes to improve the energy performance of their homes, had broadband internet which would enable the sensor kit to be installed, and were happy to do the level of self-reporting required by the study. This home improvement work had either been completed in the preceding few years, or was about to be carried out, and it was considered that these householders were sufficiently interested in energy, and heating, to be motivated to take part in the study. The incentive in this case was to be able to keep the Android tablet used for the self-reporting, at the end of the study.

This is a consideration that is worth attending to when carrying out recruitment for studies which require substantial ongoing effort from participants (such as completing diaries or using apps)—participants who are motivated to participate to this degree, are likely already to be quite deeply interested in the subject, which does not necessarily make for a representative sample of the characteristics of the population as a whole.

References

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