

The social norm approach to sustainable behaviour change: the CHARM project

Ruth Rettie and Kevin Burchell

Introduction

This paper describes the theoretical background, objectives, innovative methodology and progress to date of the CHARM project. CHARM is a three-year project, which started in September 2009, and is funded by the RCUK Digital Economy programme. The project is led by social scientists at Kingston University, working in collaboration with digital technologies specialists at the University of West England and Swansea University.

CHARM aims to develop, evaluate and understand the ways in which a range of digital technologies can be used to shape individual behaviour by telling people what other people do. Much of what people do is based on their conceptions of shared conventions, although these conceptions may be misinformed. Everyday practices and habits are grounded in taken-for-granted assumptions about 'normal' practices, e.g. that one should wash bedding every two weeks, leave kitchen appliances plugged in and switched on, drive children to school, etc. This sort of behaviour is often not a calculated choice, but taken-for-granted, as an inherent aspect of modern life. This helps to explain why traditional approaches that try to change behaviour by directly influencing attitudes and intentions often prove ineffective. Rather than telling people what to do, it can be more effective to use 'social proof' [1]; influencing behaviour by showing people what others do. This three-year project will explore, develop and evaluate this approach in the context of sustainable development, using digital technology as a non-invasive interface in three case studies: 1) electricity consumption, 2) active lifestyle and 3) Facebook.

Theoretical background

The project draws on complementary research from four disciplines: sociology, behavioural economics, social psychology and social marketing. Writing from a sociological perspective, Shove [2] explores the social organization of normality and shows how patterns of consumption are shaped by the taken-for-granted practices of everyday life: 'much consumption is customary, governed by collective norms and undertaken in a world of things and sociotechnical systems that have stabilizing effects on routines and habits' [2: p. 9]. Shove emphasises the collective conventions that underlie individual conceptions of basic needs such as cleanliness and comfort. Thus, a year-round indoor temperature of 22 °C has become an accepted standard of comfort that shapes buildings, clothing habits and energy consumption patterns, while daily showering has become an accepted cleanliness practice in the UK, with consequent impact on energy and water consumption. These expectations are taken-for-granted, and treated as inherent aspects of 'comfort' and 'cleanliness', but their contingency is demonstrated by historical and global variation. Although Shove highlights the complex sociotechnical, economic, cultural and symbolic systems that underlie conceptions of 'normal' practices, she argues that what people take to be normal is not fixed but 'immensely malleable' [2: p. 199]. Consequently, it is important to understand the 'dynamics of normalization', that is, how do the habits and practices of everyday life change and evolve? Recent sociological research on electricity consumption feedback [3] argues for innovative interactive systems that can challenge comfort and cleanliness expectations.

Whereas Shove avoids a rational choice model with its focus on individual choices, the relatively new field of behavioural economics retains a focus on individual choice, but contests the assumption of a rational economic agent, in the light of research on the psychology of choice. Numerous studies show that humans do not act 'rationally'; for example, they treat losses and gains asymmetrically, take into account social effects, do not understand probabilities, use heuristics, and are influenced by anchoring, priming and framing [4]. Thaler and Sunstein [5] argue that as choices are *inevitably* influenced by the context or 'choice architecture', it is legitimate to deliberately 'nudge' people's behaviour in order to improve their lives. A 'nudge' is 'any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives' [4: p. 6]. For example, Thaler and Sunstein argue that the layout of food in a cafeteria inevitably influences food choice, and consequently should be designed to nudge food choices in a healthier direction. Thaler and Sunstein highlight research in social psychology that shows one can nudge people simply by telling them what other people do.

There is extensive research in social psychology on compliance arising from overt social pressure to conform [6, 7]; however, recent research [see 8 for a review] has focused on subtle, indirect influences which are more analogous to nudges. Social comparison theory [9] indicates that people evaluate themselves in comparison with other people. Written communication of descriptive social norms, for example '70 % of students on this campus do not smoke', has been widely used in social-norm marketing campaigns aimed at substance abuse among young people [10]. Cialdini, Kallgren and Reno [11] distinguish between two types of social norms, descriptive and injunctive. The former simply state what most people do, the latter express an overtly normative message about what people **should** do. Both can be effective; descriptive norms are less invasive, but can have an adverse effect among those who are already achieving the desired behaviour, because they encourage conformity with the norm. Recent research indicates that descriptive norms are more effective if related to the respondents' reference group [12] and that the impact of descriptive social norms is underestimated by research participants [13]. Two field studies on electricity consumption are directly relevant to this proposal: Schultz et al. [14] found that negative movement towards the norm can be avoided by combining descriptive and injunctive social norms, and Nolan et al. [13] found that descriptive norms had more effect on energy consumption than appeals to self interest, protection of the environment or social responsibility. However, these two studies are not scalable because the researchers read meters in person and attached handwritten feedback to respondents' front doors; this personal element may have enhanced the normative effect of the communication. Most research on normative social influence has been quantitative; the few qualitative studies conducted have focused on the context, for instance, on alcohol abuse [10] rather than on conceptions of social norms and the ways in which they influence normal practices.

Focus group research on green marketing initiatives [15], suggests that consumers define 'green' and 'non-green' in relational ways that are related to a third category - what is seen as 'normal' behaviour. Labelling an activity as 'green' can be counterproductive, because this positions it outside normal behaviour; instead we can try to change conceptions of what is 'normal' to **include** green behaviours. This research is consistent with descriptive social norm studies: people are more likely to be influenced by initiatives encouraging practices positioned as 'normal' i.e. as 'what other people do', than those positioned as 'green', i.e. as 'what green people do'.

The four approaches above all contribute to understanding the complexity that underlies normative behaviour, the potential influence of information about what other people do, and the way in which what are seen as 'normal' practices evolve and change. The CHARM project uses these multi-disciplinary resources, but focuses on understanding how social group feedback can be used to shape individual behaviour by informing and challenging conceptions of 'normal' practice, and on understanding how conceptions of what is taken-for-granted as 'normal' can be changed. There are

different, but overlapping, notions of normal, including normal as normative, normal as average, normal as taken-for-granted, normal as personal (and therefore variable) etc. The study seeks to elucidate conceptions of normality, and to find out if and how we can use individual and peer group feedback both to change overall usage and to change the underlying practices that result in this usage.

Aims and objectives

The CHARM project aims to develop, evaluate and understand the use of digital technology to shape individual behaviour by informing and thereby challenging conceptions of 'normal' practices. This overall aim can be divided into four overlapping objectives:

- 1) To evaluate the impact of social group feedback in three different contexts.
- 2) To understand the taken-for-granted conceptions that underlie normal practices, their susceptibility to revision, the ways in which they are informed and contested by social group feedback, and the potential role of digital technology in shaping 'normal' practices.
- 3) To develop effective and efficient digital technologies for collecting and displaying individual and social group feedback.
- 4) To identify potential areas where social group feedback can be used to shape individual behaviour.

The CHARM approach

The project evaluates the efficacy of descriptive social group feedback in three case studies: 1) electricity consumption, 2) active lifestyle and 3) Facebook. The three case studies have been chosen for their diversity, their relevance to current social and policy concerns, and the challenges they present both in terms of intrinsic motivation and digital technology.

The methodological approach that will be employed in the three CHARM studies takes its inspiration from the social norm approach as it has been applied to ecological behaviours [13, 14]. Participants' behaviour is monitored over a set period, during which participants receive feedback about their own behaviour and the average behaviour of all of the participants. The CHARM approach is distinctive in three important ways. First, CHARM employs a range of digital technologies - including mobile phones, the internet, energy monitors, pedometers, GPS and social networking applications - to provide feedback to participants that is more sophisticated, detailed and graphically engaging than has been previously employed. Second, in CHARM, we compare the impact on behaviour of individual feedback on its own with the impact of both individual and social group feedback. Where possible these intervention groups will be complemented by comparison with a control group that will receive no feedback at all; this will enable to CHARM research to control for a variety of external factors in ways that have not been possible before. In addition, in CHARM the quantitative data and questionnaires that are typical of the social norm approach will be complemented by extensive longitudinal ethnographic interviews and focus groups. These activities will facilitate in-depth understanding of the sociotechnical contexts and practices that underlie sustainable and unsustainable behaviours. Each of the three CHARM studies will follow this general approach.

The energy study

We have developed digital technology that captures, transmits and provides online feedback of household energy consumption data. Following two pilot studies, the main study will include 420 participants in Bristol. The study will take place over eighteen weeks: following a two week benchmarking period, participants will receive energy consumption feedback in weekly emails and through a dedicated web site. The research will compare the energy consumption of three groups of households: households that receive no feedback, households that receive feedback only about their own energy consumption, and households that receive feedback about their own energy consumption and that of the other households in the study. In the energy study, data will include energy consumption data over time, pre- and post-intervention questionnaires, approximately 35 semi-structured household interviews and six focus groups.

The active lifestyle study

We are developing mobile telephone technology that will capture, transmit and display activity level data. Following two pilot studies, the main study will feature approximately 150 participants in a single UK city. The research will compare the activity levels over time of three groups of participants: a control group that will receive no feedback, participants that receive feedback only about their own energy consumption, and participants that receive feedback about their own energy consumption and that of the other participants in the study. In the active lifestyle study, data will include activity level data over time, pre- and post-intervention questionnaires, approximately 35 semi-structured interviews and three focus groups.

The Facebook study

We are developing a special Facebook application featuring a quiz relating to the sustainability aspects of contemporary lifestyles as well as seven entertaining sustainability games. Participants will be encouraged to complete the sustainability quiz each week or fortnight over a period of two to three months, using the release of new games as an incentive. Participants will be randomly assigned to one of three groups: the first group will receive feedback about their own quiz scores over time, the second group will receive this individual feedback plus feedback about the average quiz score of their friendship group, and the third group will receive the individual feedback plus feedback about the scores of all of the participants in the study. In the Facebook study, data will include quiz responses and scores over time, an end-of-study online questionnaire and approximately 30 semi-structured interviews.

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