

The Individual-Practice Framework as a design tool to understand consumer behaviour

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Abstract

Design for behaviour change is a growing research field which aims at providing methods and tools to foster pro-environmental and pro-social action through the application of diverse theories, models and approaches from the social sciences. This chapter presents the Individual-Practice Framework, which uniquely combines insights from social psychology and social practice theory, and discusses its possible use as a design tool. The Individual-Practice Framework captures the interrelation between the individual and specific combinations of the ‘material’, ‘meaning’ and ‘competence’ elements of practices. The framework is proposed here as a design tool for the effective exploration and envisioning of innovative, and conceivably more sustainable, product and service solutions. The paper discusses the advantages of employing the framework as part of the design process, sets preliminary guidelines for practical application and considers possible limitations. It concludes with an assessment of the potential for adoption of the Individual-Practice Framework in participatory design workshops.

1. Introduction

Current models of consumption and production cannot be sustained because they result in excessive demand, manifest in a fast throughput of material and energy, and unprecedented environmental, social and economic challenges (Tukker et al. 2006; Cooper 2005; Green and Vergragt 2002; Jackson 2005a; Jackson 2005b). The unsustainable nature of our present economic development path is linked to consumer behaviour. Understanding what motivates behaviour and how to bring about change has therefore been seen to be key to efforts and strategies to promote more sustainable patterns of consumption (Jackson 2005b).

Conceptual models of consumer behaviour and behavioural change that draw from disciplines such as economics, psychology and, to some extent, sociology

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have been widely used in the UK to inform policy interventions aimed at more environmentally sustainable consumption (Southerton et al. 2011). Meanwhile the design field has applied these models to propose a range of methods and tools to trigger behavioural change, an emerging research area known as ‘design for behaviour change’ (for a comprehensive literature review see Niedderer et al. 2014).

This chapter reviews two different disciplinary approaches to understand consumer behaviour and behavioural change: social psychological models of behaviour and social practice theory. The Individual-Practice Framework is then presented as a way to fruitfully combine both (Piscicelli et al. 2014). The two theoretical perspectives have generated two distinct design approaches: the Loughborough Model (Bhamra et al. 2011; Lilley 2009; Tang and Bhamra 2012) and practice-oriented design (Kuijter and de Jong 2012; Scott et al. 2012; Lidtke et al. 2012). These are described and contrasted in Section 3, followed in Section 4 by a discussion of how the Individual-Practice Framework could be used as an effective design tool.

2. Understanding consumer behaviour

Consumer behaviour is widely considered to be partly responsible for the impact that society has on the environment (Jackson 2005b). Understanding what motivates behaviour and how to bring about change is thus seen as key to efforts and strategies to promote more sustainable patterns of consumption. Social psychological models of behaviour and sociological theories of practice have recently attracted attention as different, if not contrasting, approaches to conceptualise pro-environmental behaviour and inform policy interventions (Darnton et al. 2011).

2.1 Social psychological models of consumer behaviour

Social psychological models of consumer behaviour provide frameworks for conceptualising (and predicting) behaviour by accounting for both the social influences and psychological antecedents of behaviour. The ‘rational choice model’, based on traditional neoclassical economic theory, is commonly acknowledged as a starting point for modelling consumer behaviour (Jackson 2005b; Darnton 2008). The model assumes that individuals make decisions between different courses of action by calculating expected costs and benefits and choosing the option that maximises personal net benefits. Underlying this is an assumption that behaviour is a result of processes of cognitive deliberation driven largely by individual self-interest. Consumer preferences are exogenous to the model, which does not seek to explain their origins or antecedents. Accordingly, the approach has been criticised for its failure to address a variety of affective (i.e. emotional) or cognitive limitations occurring in the decision process (e.g. habits, routines, mental cues, emotional attachment to products) (Jackson 2005b).

‘Adjusted’ social psychological models attempt to overcome the shortcomings of the rational choice model by considering the psychological antecedents of consumer preferences or accounting for the influence of other people’s attitudes on individual behaviour, most notably in the case of Ajzen and Fishbein’s ‘Theory of Reasoned Action’ and Ajzen’s ‘Theory of Planned Behaviour’. These are helpful in explaining some intentional behaviours, but arguably do not provide enough insight into affective (i.e. emotional), normative (i.e. moral) and certain cognitive (e.g. habitual) dimensions of behaviour (Jackson 2005b).

By contrast, moral beliefs and normative considerations are explicitly recognised as driving (or inhibiting) pro-environmental or pro-social behaviour in other theoretical models, such as Schwartz’s ‘Norm Activation Theory’, Stern’s ‘Value-Belief-Norm Theory’ and Cialdini’s ‘Focus Theory of Normative Conduct’. While these mainly focus on cognitive processes and determinants of behaviour that are internal to the individual (e.g. values, attitudes, intentions), other models add external factors (e.g. fiscal and regulatory incentives, institutional constraints, social norms) in order to provide a more comprehensive picture. Some such examples of ‘integrative theories of consumer behaviour’ are Stern’s ‘Attitude-Behaviour-Context (ABC) Model’, Triandis’s ‘Theory of Interpersonal Behaviour’ and Bagozzi’s ‘Comprehensive Model of Consumer Action’.

In particular, Stern’s (2000) ABC model of pro-environmental consumer behaviour accounts for four types of causal variable: attitudinal (e.g. including values and beliefs), contextual or situational (e.g. interpersonal influences, government regulations, financial cost), personal capabilities (e.g. knowledge, skills, resources) and habits or routines. Nonetheless, even this integrated model has critics, such as Shove (2010), who argue that there are intrinsic limitations to social psychological understandings of behaviour and advocate the use of social and technological theories of practice and transitions, which they consider more holistic. More specifically, social practice theory is proposed by Shove as an alternative paradigm able to re-frame academic debate and policy approaches to behaviour change and sustainable consumption.

2.2 Social practice theory

In contrast to social psychological understandings that assume consumption is based on deliberate and rational considerations by individuals, social practice theory regards consumption as less conscious and shaped instead by habits and routines. It argues that people use (and consume) resources and products while engaging in a variety of mundane activities (Warde 2005; Mylan 2014), and thus focuses on the routine actions that people (referred to as ‘practitioners’ or ‘carriers’) perform in daily life. Driving, walking and cooking are all examples of a ‘practice’ with the characteristics that Reckwitz (2002: 249-250) describes: “a routinized type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, ‘things’ and their use, a background knowledge in the form of understanding, know-how, states of

emotion and motivational knowledge. A practice [...] forms so to speak a ‘block’ whose existence necessarily depends on the existence and specific interconnectedness of these elements.”

Shove et al. (2012: 14) group these elements in three categories – ‘material’, ‘competence’ and ‘meaning’ – and argue that “in doing things like driving, walking or cooking, people (as practitioners) actively combine the elements of which these practices are made”. Therefore, “practices emerge, persist, shift and disappear when connections between elements of these three types are made, sustained or broken” (Fig.1). Specific configurations of elements making up practices are socially and culturally shared. Being geographically and historically grounded, they vary across space and over time.

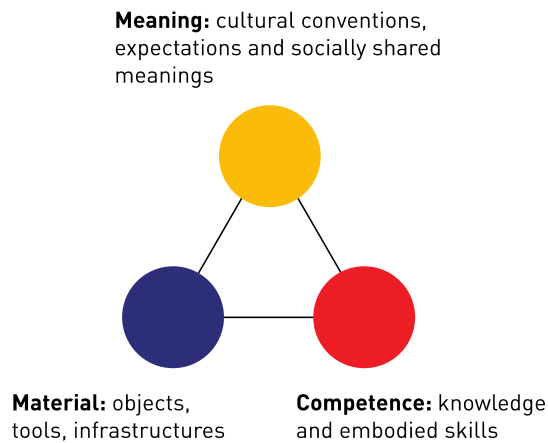


Fig.1 The elements of practices. Adapted from Shove et al. 2012: 29; Spurling et al. 2013: 9

Social practice theory shifts the focus from individual deliberation in decision making to practices and their emergent dynamics. Rather than originating from individuals’ attitudes, beliefs and other motivational factors, “behaviour is the observable expression of social phenomena (socially shared tastes and meanings, knowledge and skills, and materials and infrastructure)” (Spurling et al. 2013: 47). However, in shifting attention from the ‘individual’ to the ‘social’, social practice theory is vulnerable to critique as it reduces individuals to “more or less faithful carriers or practitioners” (Shove et al. 2012: 63) routinely reproducing “what people take to be ‘normal’ ways of life” (Shove 2003: 3). This prompts a series of considerations around agency (i.e. the role of the individual) and whether conceptions of ‘normality’ are culturally and socially shared as much as personally determined. In particular, it raises the possibility that shared understandings, social expectations and culturally constructed conventions (i.e. the ‘meaning’ element of

practices) are mediated by and through personal traits, characteristics and preferences (Piscicelli et al. 2014).

2.3 The Individual-Practice Framework

Social psychological models of consumer behaviour and social practice theory appear to rest upon and support different paradigms in conceptualising behaviour. Although some reject the possibility of merging the positions and overcoming the theoretical divide (e.g. Shove 2010, 2011), academic researchers in the area of sustainable consumption increasingly advocate a dialogue between these perspectives (Boldero and Binder 2013; Darnton et al. 2011; Whitmarsh et al. 2011; Wilson and Chatterton 2011).

Along the same lines, Piscicelli et al. (2014) combined insights from social psychology and social practice theory in exploring the role of values in the context of collaborative consumption.² Their study investigated the possibility that personal values, located within the individual, act upon the ‘meaning’ element (i.e. the bundle of cultural conventions, social norms, collective assumptions and expectations) of practices, thus contributing to (or hindering) the acceptance, adoption and diffusion of more sustainable patterns of consumption.

Departing from Shove et al. (2012), the resulting framework positions the carrier of a practice (i.e. the individual) at the centre of the practice itself. In doing so, it overcomes the ‘agency-structure’ divide by acknowledging the existing interaction between the carrier and a specific configuration of ‘material’, ‘competence’ and ‘meaning’ elements. Besides connecting the elements together through the reproduction of a practice, the individual interacts with, and renegotiates, each element (Fig.2). This relationship is mediated by individual traits, preferences and characteristics, such as personal values.

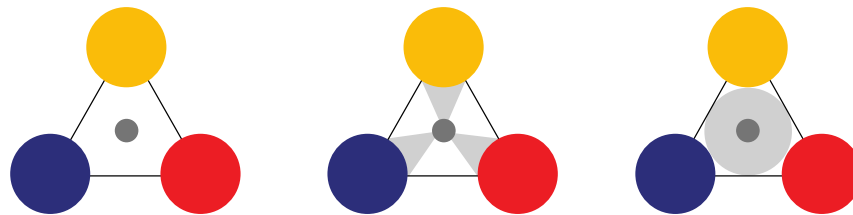


Fig.2 The Individual-Practice Framework. Individual (dark grey) and interaction (light grey) with elements of practice (Piscicelli et al. 2014)

3. Design for Behaviour Change

²An economic model based on sharing, lending, swapping, gifting, bartering or renting products and services, which prioritises access over ownership.

The potential to influence consumer behaviour and consumption patterns through design has attracted growing academic interest in recent years. A range of theories and tools has been developed in an attempt to encourage pro-environmental and social actions (Jelsma 2006; Lilley 2009; Lockton et al. 2010; Kuijer and de Jong 2012; Niedderer 2014; Scott et al. 2012; Wever et al. 2008; Zachrisson and Boks 2012; Selvfors et al. 2012). Although most focus on sustainability, due to their generic nature these ‘design for behaviour change’ models may be transferable to other areas as they provide a broad understanding of ways in which design can be used to influence behaviour (Niedderer et al. 2014).

Social psychological theories of behaviour and sociological theories of practice have informed the development of different design methods, strategies and tools. Two main design approaches linked to social psychology and social practice theory have so far been developed: The Loughborough Model and practice-oriented design. These are compared and contrasted to set the context for introducing the Individual-Practice framework as a design tool.

3.1 The Loughborough Model

Social psychological theories of behaviour have been widely used in recent design studies to identify antecedents of behaviour and determine how to achieve pro-environmental behaviour change. For example, in exploring how design could help to reduce the negative impacts of consumption, Lilley (2009) identified three strategies for changing user behaviour through design: Ecofeedback (McCalley and Midden 2006), Behaviour Steering (Akrich 1992; Jelsma and Knot 2002) and Persuasive Technology or Captology (Fogg 2003). Her approach, described as the ‘Loughborough Model’ (Wilson et al. 2010), was revisited by Bhamra et al. (2011) applying insights from the Theory of Interpersonal Behaviour (Triandis 1977) which suggests that social factors, along with attitudes, play a key role in forming habits, and highlights the importance of habits as a mediated factor for behavioural change. From this, they elaborated seven design intervention strategies: Eco-Information, Eco-choice, Eco-Feedback, Eco-Spur, Eco-Steer, Eco-technical intervention and Clever Design. These strategies are mainly focused on individual decision-making, and the possibility to promote behaviour change through design rests upon an underpinning view of users as primary agents of choice and change. The design interventions aim at purposefully affecting the interaction between the user and product/services by triggering the ‘right’ user reaction (Bhamra et al. 2011).

Critics have pointed out some limitations of this approach. First, behaviour-based strategies build on a number of causal factors and external drivers in order to explain and predict behavioural responses. In doing so, they take behaviours and technologies as given, thus supporting the reproduction of current patterns of consumption without fundamentally questioning them (Kuijer and de Jong 2012).

Second, social psychological models focus on micro-level dynamics targeting specific behaviours in defined and somewhat stable environments. Based on these assumptions, products and services meant to change a particular behaviour are susceptible to failure because actual ways, situations and contexts of use may vary considerably (Pettersen et al. 2013). Accordingly, critics argue for a more holistic perspective and systemic level of design intervention, as provided through social practice theory (Kuijer and de Jong 2012; Pettersen et al. 2013; Scott et al. 2012).

3.2 Practice-oriented design

Combining science and technology studies with theories of consumption and design, Shove et al. (2007: 9) have articulated a “materialised account of the emergence, reproduction and transformation of social practice” and advanced a Practice Oriented Product Design (POPD) conceptual model which attributes designers a unique influence in the configuration, persistence and evolution of social practices. In their ‘POPD manifesto’ Shove and Watson (2006) urge designers to consider material artefacts as embedded in (and enablers of) situated and situational practices, in order to understand the relations between users, objects, meanings and skills and to identify possible areas of intervention.

This provided the basis for subsequent elaboration of ‘Practice-oriented design’ (Scott et al. 2012), an approach that integrates social practice theory into design processes. In taking practices as the unit of analysis, it shifts the focus from products and services to practices (e.g. ‘showering’ instead of ‘shower heads’, ‘commuting’ instead of ‘cars’), and from design innovation in products and services to innovation in social practices of which those products and services are part. People are considered carriers and performers of practices, reproducing them through the active integration of socially shared elements. Rather than being individual-focused and choice-based, their actions are seen as routines learnt over time in spatially and temporally defined social contexts.

Changes in practices are the result of reconfigurations, in Shove’s terms, of ‘material’, ‘competence’ and ‘meaning’ elements (Fig.1). Opportunities for design arise from the possibility to modify or disrupt existing practices and establish completely new ones. The role of design, then, is to provide and enable novel elements to be integrated into novel configurations (Kuijer and de Jong 2012). However, to date only a few attempts have been made to apply a practice-oriented approach to sustainable design; these have been in the context of bathing (e.g. Scott et al. 2012), energy efficiency (e.g. Kuijer and de Jong 2012; Haines et al. 2012) and rethinking thermal comfort (Kuijer 2014).

Practice-oriented design is built around the idea of shifting the focus from the individual to the practice on the basis that this can inform the development of innovative ways of living and doing (Scott et al. 2012). However, critics argue that it is necessary to combine individual and contextual approaches to provide more holistic approaches and be able to address complex ecological and social challenges (Niedderer et al. 2014). Moreover, social practice theory reduces ‘user

needs’ to a “malleable construct tied to norms of existing practice” (Shove et al. 2007), which disregards how individuals interact and can renegotiate each element of the practice (Piscicelli et al. 2014). Finally, although the practice is the unit of investigation in practice-oriented design, prominent scholars working in this area still integrate insights from user-centred design³, thus recognising, more or less explicitly, the role of individuals, as users, in the introduction and diffusion of practices. For example, practice-oriented design using co-creation methods engages users on redefining their practices (Scott et al. 2012).

4. The Individual-Practice Framework as a design tool

The above discussion highlighted some limitations of the two main design approaches to behaviour change. In particular, a focus on individual behaviour (in the Loughborough Model) or, alternatively, on the elements and dynamics of practices (in practice-oriented design), fails to capture the interaction between both. On the other hand, considering exploring this interaction through design could reveal opportunities to enable and trigger behavioural change, especially in the context of sustainability.

Using the Individual-Practice Framework as a design tool aids the designer wishing to explore the interaction between individual behaviour and the dynamics of practices. The tool is meant to be applied in the early stages of the design process proposed by Martin and Hanington (2012): ‘Planning, Scoping, and Definition’, during which the project parameters are explored and defined, and the ‘Exploration, Synthesis, and Design Implications’, which is characterised by immersive research and design ethnography, leading to implications for design.⁴

The toolkit comprises four cards that are used in sequence, entitled ‘Practice and Objectives’, ‘Material-Competence-Meaning’, ‘Individual’ (these supporting the ‘Planning, Scoping, and Definition’ stage) and ‘Individual-Practice’ (supporting ‘Exploration, Synthesis, and Design Implications’). From a theoretical point of view, the proposed order allows the designer to move progressively through four phases, from analysis of the brief to considering the ‘social’, accounting for the ‘individual’ and, finally, appreciating their (two-way) interaction.

Phase 1: Understanding the brief

³ User-centered design is a design process and philosophy in which the designer focuses on ‘users needs’ in which users are involved either as informers or co-creators. Informers are seen as a subject of study to get information, and co-creators are users, which actively participate in the design process (Sanders and Kwok 2007).

⁴ Later stages not covered by the tool are: ‘Concept Generation, and Early Prototype Iteration’, ‘Evaluation, Refinement, and Production’ and ‘Launch and Monitor’ (Martin and Hanington 2012).

This phase focuses on identifying the practice within the design brief and the objectives set by the brief through using a ‘Practice and Objectives’ card (Fig.3). Identifying the practice targeted by the brief shifts the attention from a particular product (and its associated service or system) to the relevant actions, thus providing a broader perspective. Identifying the objectives can then help designers to focus on what the brief is asking them to do.

To provide a practical example, if the brief set is to redesign a kettle, using the card the designer will be encouraged to consider the underlying action verb in its ‘-ing’ form (i.e. boiling water for a cup of tea) and take this as a starting point for the design intervention. The final concept will thus not necessarily be a new kettle, but a (potentially innovative) way of boiling water for tea.

Fig. 3 ‘Practice and Objectives’ card

Phase 2: Exploring the practice

Having determined the practice, the second card helps the designer to understand the related ‘material’, ‘competence’ and ‘meaning’ elements and their mutual relationships. The ‘Material-Competence-Meaning’ card (Fig.4) aids this scoping exercise. The elements of practice are identified by answering questions such as: ‘What makes it possible?’ to understand the objects, tools and infrastructures involved in the practice (i.e. the ‘material’ element); ‘How do you do it?’ to understand the knowledge and skills required to perform that specific practice (i.e. the ‘competence’ element) and ‘Why do you do it?’ to understand cultural conventions and social expectations that underlie the practice (i.e. the ‘meaning’ element). Other materials, competences and meanings could be found through answers to additional questions (e.g. ‘When?’, ‘Where?’) which would add insights about the contexts and time at which the practice takes place.

In this phase, the designer should remain open to all the possibilities within each element that can define the practice, should explore different settings

(When/Where) of the practice, and should avoid narrowing the focus down to specific products or users. This exercise would help the designer to find areas of opportunity to modify and/or disrupt existing practices and establish (completely) new ones through design interventions. To explore each element of the practice, designers are encouraged to use post-it notes (that could match the colours of each element in the card to aid the task) to brainstorm ideas from their previous knowledge of the practice. To aid this process and get inspiration, the designer could also use established design tools commonly used in Phase 1 such as territory/image/concept maps (*cf.* Martin and Hanington 2012).

To return to the kettle example, in Phase 2 the designer lists all the objects necessary to perform the practice of boiling water to prepare tea (e.g. a kettle, teapot, hob, etc.), the skills needed (e.g. how to use a hob, the right amount of water to boil, the right water temperature, etc.), and the related social meanings (e.g. having a tea to relax, throwing a ‘proper’ afternoon tea party with friends, etc.). Boiling water for preparing tea at home will require certain materials, competences, and have a range of meanings. If the practice takes place in a different place or time, the elements will change accordingly. Boiling water while camping, for instance, will require a different set of objects and skills, and invoke different meanings. Therefore, the more options and situations considered at this stage, the more complete will be the overall picture.

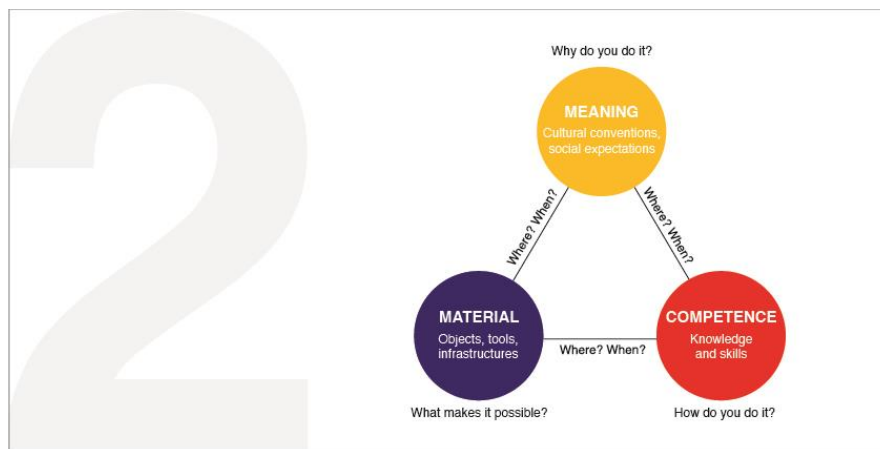


Fig. 4 ‘Material-Competence-Meaning’ card

Phase 3: Considering the individual

Once the practice is explored, it is important to consider the potential user(s) involved – who they are demographically (e.g. through segmentation data), and their motivations, frustrations, interests and lifestyle – in order to better understand their behaviour.

The ‘Individual’ card (Fig.5) aims at exploring user characteristics and encourages the designer to use post-it notes to brainstorm ideas about individuals that could potentially engage with the practice in question. This exercise would help designers to understand the users of the potential design intervention. In the case of boiling water for tea, the practice may be performed by an old lady or a young man, or individuals with different cultural backgrounds, and so forth.

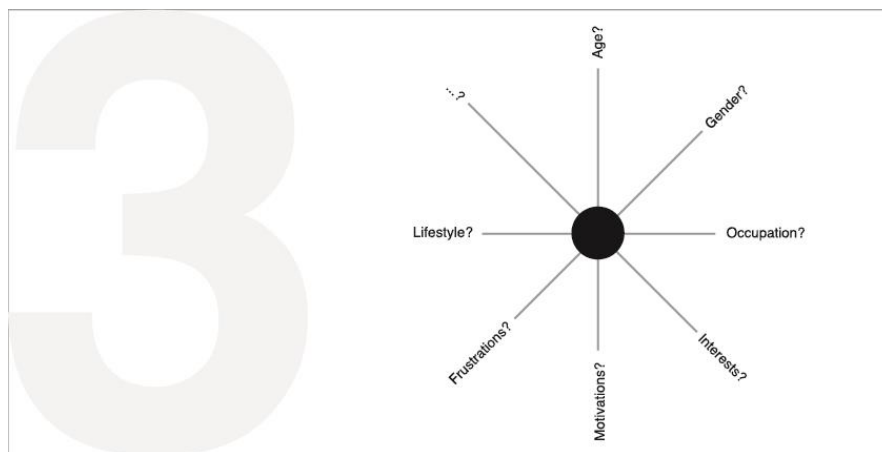


Fig. 5 ‘Individual’ card

Phase 4: The individual and the practice

After considering separately the practice and the individual, the designer is able to identify the area(s) of opportunity to design for. Thus, before moving on to this phase it is important that the designer defines the potential users of interest and a certain combination of elements of the practice to focus on.

This last phase consists of understanding the interaction between the individuals (i.e. potential users) and the practice. This phase heavily relies on immersive research and design ethnography using primary and secondary data. Techniques such as cultural probes, observations, interviews, focus groups, co-design workshops, diary studies and directed story telling amongst others (*cf.* Martin and Hanington 2012), could be used to collect information.

The aim of the ‘Individual-Practice’ card (Fig.6) is to collate the research data to understand specific individuals’ motives in relation to the elements of a specific practice. Thus, the designer is encouraged to use multiple cards, because for each individual the significant elements of the practice might be different. The designer also has the freedom to include one or more individuals as the ‘centre’ of the practice as this might influence how the practice is engaged with.

This last phase will help to narrow down the focus to a specific practice and a specific individual or group of individuals. This phase aims at helping the designer

to better organise the data collected before continuing the design process with concepts generation, testing and evaluation.

In this phase of the kettle example, the designer would choose some areas of opportunities to investigate, e.g. boiling water for tea at home. The primary research will consist of, say, ethnographic observation of ‘real’ users performing the practice in their normal setting. One card can be used for each observation to collect data about the user (in the centre of the card) and the specific materials, competences and meanings relating to the practice.

The analysis of common or contrasting patterns could be used to group similar people in the form of ‘personas’, or to define ‘scenarios’ for further exploration. In particular, personas are built clustering common user behaviour patterns into representative profiles. This fictional character(s) can be then brought to life through scenarios, narratives that help the designer to explore the future use of a product or a service in a person’s day-to-day life (*cf.* Martin and Hanington 2012).

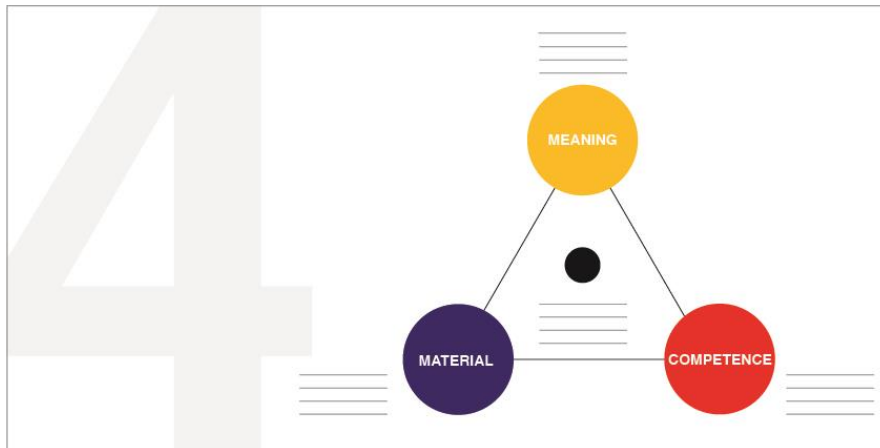


Fig. 6 ‘Individual-Practice’ card

To summarise, the Individual-Practice Framework can be applied as a tool to guide the designer through the phases of scoping and definition of the brief, exploring the practice, considering potential users and, finally, their mutual interaction. The tool also helps gathering and organising information during the data collection stage. It is envisaged that the framework could prove particularly effective with briefs that are quite open and flexible in terms of expected final outcomes.

5. Conclusions

Different models, approaches and tools have been developed to influence behavioural change through design. This paper compares two theoretical perspectives to understand consumer behaviour, social psychological models and social

practice theory, and draws on two approaches, the Loughborough Model and practice-oriented design, in developing the Individual-Practice Framework. The paper presents preliminary guidelines for its application as a design tool to aid designers in the early stage of the design process.

The main benefit of the Individual-Practice Framework as a design tool is its ability to enable a deeper understanding of the interaction between individual behaviour and elements of practice: materials, competences and meanings. This could aid the designer to propose innovative interventions for behavioural change that could be applied in the form of a new product, service or system. In addition, this interaction might enable the (re-)configuration of less resource-intensive ways of living, doing and consuming, by considering challenging aspects of individual behaviour and capturing why and how people do what they do (both at individual and societal level). Outputs conceived using the tool would not necessarily be sustainable. As such, the final concept might need to be tested through other tools, such as Life Cycle Assessment, to assess its environmental impact.

Many benefits are envisaged from use of the Individual-Practice Framework tool, but it needs to be tested in a real setting to prove its practical value. Future research is required with practitioners in product and service design, sustainable design and business model design to test and refine the framework. The development of case studies should follow, in which the tool is applied in participatory design processes involving real users in conceptualising ideas and possible solutions.

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