



The Scottish  
Government  
Riaghaltas na h-Alba

# INFLUENCING BEHAVIOURS

## A TECHNICAL GUIDE TO THE ISM TOOL

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# CONTENTS

INTRODUCTION .....	02
TECHNICAL GUIDE – ISM FACTORS IN FULL .....	07
THE INDIVIDUAL CONTEXT .....	07
THE SOCIAL CONTEXT .....	17
THE MATERIAL CONTEXT .....	25
REFERENCE LIST .....	31

# INTRODUCTION

The ISM – Individual, Social and Material – tool and its associated user guide is intended to be a practical device for policy makers and other practitioners who want to influence people’s behaviours and bring about social change. The purpose of this accompanying technical guide is to explain the theory underlying the model on which the tool is based, and to provide a fuller explanation of the different factors within the Individual, Social and Material contexts. This guide is therefore aimed at interested policy makers and practitioners who wish to achieve a better understanding of the ISM tool, as well as at those of a more analytical persuasion who are interested in the different theories and disciplines which underlie the model.

This technical guide is structured around the Individual, Social and Material contexts and the different factors within them. The guide opens with an introduction to the tool and its rationale.

## BACKGROUND

The ISM tool has been designed to offer a practical alternative to the wide array of existing behavioural models and theories. The tool has been developed in the context of environmental sustainability and influencing people’s behaviours so as to reduce CO<sub>2</sub> emissions and other impacts. However, it is also applicable to a range of other policy areas, including health and transport.

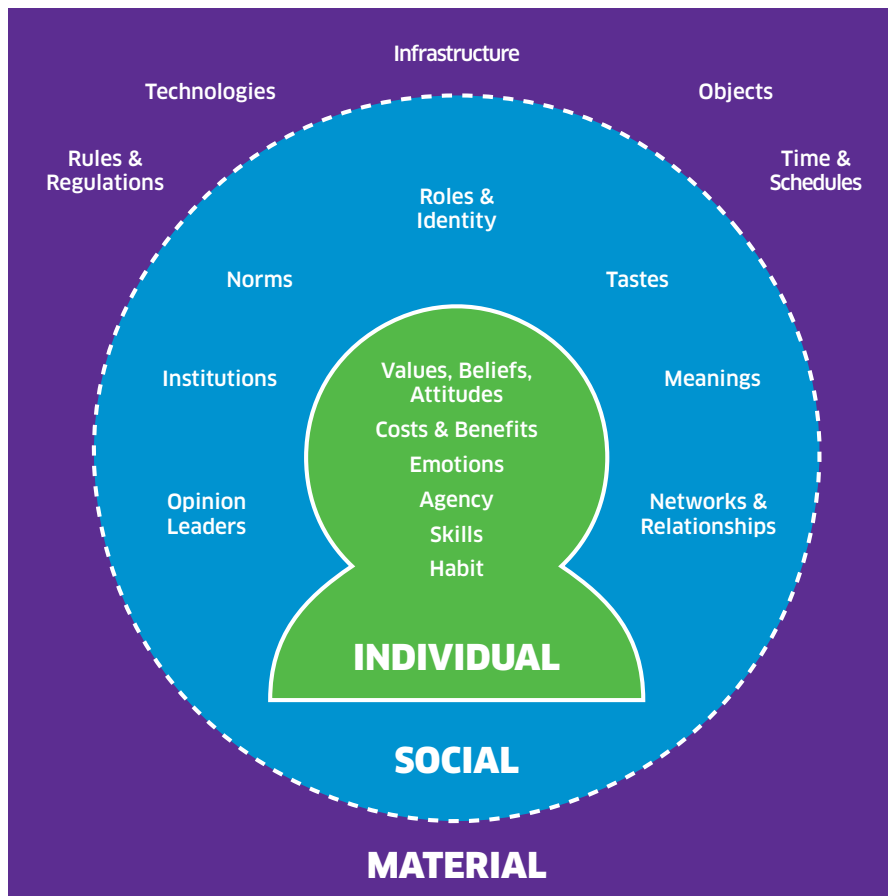
Policy problems are often complex, and solutions require a package of interventions, working across a number of levels. Examples can be found in relation to obesity (with the attention of practitioners focused on

‘obesogenic environments’ as much as the healthy choices made by individuals), and among pro-environmental behaviours (where recycling, for example, has become a normative behaviour as much through the provision of kerbside recycling collections as through the greener lifestyles of keen recyclers).

Just as there is no ‘silver bullet’ for changing behaviours in these areas, so it can be argued that ‘there is no one winning model’, or indeed winning discipline. Existing guidance recognises this – for example, the Government Social Research Unit’s Behaviour Change Knowledge Review (Darnton, 2008) – but then leaves practitioners wondering which of the myriad behavioural models featured would best apply to the behaviour under consideration. The ISM tool attempts to shortcut that problem, by combining into one model the most pertinent factors and influences from multiple disciplines, in order to provide a practical tool for policy makers, practitioners and researchers.

ISM originates from the University of Manchester. It was first used in work for the Scottish Government in a report by the Sustainable Practices Research Group (SPRG), which used ISM to examine the effectiveness of low carbon behaviour change interventions (Southerton et al, 2011). The ISM classification was further developed by Andrew Darnton in another Scottish Government project on low carbon workplaces (Cox et al, 2012). The user guide and technical guide take this further through providing a considered allocation of factors within the ISM contexts, together with full explanations, and the development of ISM as a practical tool.

# FACTORS WHICH INFLUENCE BEHAVIOUR IN INDIVIDUAL, SOCIAL AND MATERIAL CONTEXTS ('THE ISM MODEL')



## OVERVIEW

The three contexts of I, S and M can be understood as follows:

### THE INDIVIDUAL CONTEXT

includes the factors held by the individual that affect the choices and the behaviours he or she undertakes. These include an individual's values, attitudes and skills, as well as the calculations he/she makes before acting, including personal evaluations of costs and benefits.

### THE SOCIAL CONTEXT

includes the factors that exist beyond the individual in the social realm, yet shape his or her behaviours. These influences include understandings that are shared amongst groups, such as social norms and the meanings attached to particular activities, as well as people's networks and relationships, and the institutions that influence how groups of individuals behave.

### THE MATERIAL CONTEXT

includes the factors that are 'out there' in the environment and wider world, which both constrain and shape behaviour. These influences include existing 'hard' infrastructures, technologies and regulations, as well as other 'softer' influences such as time and the schedules of everyday life.

## THEORETICAL BASIS

The factors and influences which appear as labels in the model are principally drawn from three of the most prominent disciplines in studies of human behaviour: behavioural economics, social psychology and sociology, mostly theories of practice. The main aim of the model is to bring the three disciplines together in order to make it easier for policy makers and practitioners to draw on the insights from multiple disciplines, especially when faced with complex policy problems, where no one discipline is likely to have all the answers. Together, the three disciplines span the contexts of I, S and M, although they do not each map neatly onto any one context. It is also worth noting that the different factors are not arranged hierarchically in any order of importance.

Part of the practical strength of the model is that each of its underpinning disciplines offers a different view of human conduct and the role of the individual. Whilst it is obviously challenging to sum up entire disciplines within a few sentences, brief and simplified descriptions are provided as follows:

- In **behavioural economics**, the individual takes the central role. The traditional economic representation is that of a 'rational man': an individual operating usually in isolation to maximise his/her own personal good. Behaviours are understood as decisions, which are ideally arrived at through cost-benefit calculations. In terms of theoretical constructs, behavioural economics incorporates ideas from other disciplines, mostly psychology, to provide decision-making principles which develop this traditional economic view. An example of this includes heuristics which describe the mental shortcuts people take in reaching decisions. However these can lead to systematic errors creeping into their judgement – this results in the less rational man of behavioural economics.
- In **social psychology**, the individual is viewed more as a social animal, whose mental calculations are informed as much by emotion as cold calculus. Vitality, the individual also operates as part of a collective, behaving in ways which simply 'ape' the behaviour of important others. Nonetheless, behaviours are seen as choices, which ultimately flow from the motivations of the individual, and their identity as part of a group (or in opposition to a group). Social psychology provides myriad models of behaviour, which identify the factors (or 'barriers and drivers') which most strongly bring about the behaviour in question. These tend to be derived from 'attitudinal' survey data.
- Theories of practice within **sociology** take social practices as the central focus of enquiry, and in so doing move individuals into the background. Social practices can be explained as patterns of action which bring together different ways of 'doing and saying'. No matter how many people are involved in undertaking a practice in a particular time and place, practices are always shared and social; people recognise a practice when they see it (e.g. driving the kids to school, tumble drying laundry), and are therefore (more or less) able to reproduce it elsewhere – hence practices also tend towards the regular and routine. Recent work on theories of practice have better defined the common features that make practices coherent and which provide the basic elements that render

them stable and recognisable: the materials, competences, and meanings which are already in circulation in everyday life. These come together to sustain particular practices, or split apart when practices fall out of daily use. Practice-based approaches to social change are therefore concerned with intervening at the level of elements, rather than pursuing individuals in order to change ‘hearts and minds’.

These conceptual differences are a source of strength for a practical tool, as they open up different avenues for intervention. However, the attempt to bring them together in a single model or tool is also a source of tension on the theoretical level, including in the following ways:

- By making the factors, influences and elements appear as equal labels on a single model, it could appear some equivalence was being implied between them. However, as we have seen above, the disciplinary understandings are fundamentally different. For instance, behaviour and practice are two alternative and incommensurate understandings of human conduct. Meanwhile ‘drivers and barriers’ assume a very different role to ‘elements’ in the process of acting. ISM should be understood as a pragmatic arrangement of diverse approaches to understanding behaviour in order to create a practical tool that makes the most of the different thinking that the disciplines have to offer. For theoretical purists, it is understood that the tensions within the model may be insurmountable. However, the purpose of the tool is not to find a way of unifying the theories, but rather to cut across them to create something derived from multiple disciplines which practitioners can use to achieve new insights and ultimately maximise behavioural impacts.
- There is also debate over where specific labels should be placed on the model, and this also relates to the disciplinary angle from which one approaches the model. This is especially the case along the boundary between the Social and Material contexts, where exponents of practice theory might be tempted to place all but the ‘hardest’ labels (e.g. ‘Objects’ and ‘Technologies’) in the Social context (as all practices are understood as shared and social). The authors have – after some debate – agreed to place, for example, ‘Rules & Regulations’ and ‘Time & Schedules’ in the Material context to highlight the extent to which they seem beyond the control of most individuals (albeit they are socially constructed). The ISM tool suggests that these influences form part of the ‘soft infrastructure’ which acts as a boundary to much individual behaviour and decision making – and over which governments are better placed than individuals to affect change.

## CONCLUSION

The ISM model is presented as a tool to help achieve social change, which draws on multiple theories and disciplines. It is not theoretically pure, but a practical tool, developed not least as a corrective to some policy makers' and practitioners' tendencies to reach for single models from single disciplines when faced with complex problems. It is fair to say that we will not nudge our way to a solution to obesity, or build flood defences high enough to meet the ever-increasing challenges of climate change. However all these interventions, and the theories which underpin them, have a role to play as part of a multi-intervention approach to social change, grounded in multiple disciplines. The ISM model starts from an understanding of individual behaviour, but sets that within its social and material contexts, illustrating how action on multiple levels by multiple actors is required for inclusive and lasting change. It is hoped this guide makes the theory behind the ISM tool clearer, leading readers to understand more about behaviour and practice, and helping them to encourage practitioner colleagues to adopt ISM – and a wider definition of behavioural influences – when looking to design or improve policies and programmes.

“The ISM model starts from an understanding of individual behaviour, but sets that within its social and material contexts, illustrating how action on multiple levels by multiple actors is required for inclusive and lasting change.”



# TECHNICAL GUIDE – ISM FACTORS IN FULL

This main section of the technical guide provides short descriptions of each of the 18 factors in the ISM model, moving through each context in turn. Each description closes with examples relevant to low carbon behaviours, and a few selected references for further reading. Short label descriptions are also given in the user guide.

## THE INDIVIDUAL CONTEXT

The Individual context includes the factors held by the individual that affect the choices and the behaviours he or she undertakes.

The factors and influences included in this context are: Values, Beliefs, Attitudes; Costs & Benefits; Emotions; Agency; Skills; Habit.

### Values

Discipline: psychology

*Part of the basic elements of an individual's motivational system: the most abstract and broad-based (values).*

Psychology holds values to be the underpinning foundations of human motivation, describing them as the 'guiding principles' that individuals use to judge situations and determine their courses of action. Hence, values are at the root of all other motivations (including beliefs and attitudes). They can be described as 'broad spectrum', in that while they have an influence on a very wide range of behaviours, their influence on any one specific behaviour is relatively weak (as other factors also apply).

*Examples of values which can influence low carbon behaviours include: pursuing power or wealth, universalism (protection of the welfare of all people and nature), preserving tradition.*

Selected references include:

Crompton, 2011

Dietz et al, 2005

Schwartz, 1992

## Beliefs

Discipline: psychology

*Part of the basic elements of an individual's motivational system: particular worldviews (beliefs).*

Beliefs are defined in psychology as a person's views of a particular aspect of life. For example, the conviction that humans should live within environmental limits would be classified as a belief. In terms of their degree of specificity, beliefs sit between values (the most abstract) and attitudes (the most specific) in the hierarchy of motivational constructs in psychology.

*Examples of beliefs in the context of low carbon behaviours could include: that profit should not come at the expense of the environment; that we should hand on a vibrant natural environment to the next generation.*

Selected references include:  
Dunlap et al, 2000

## Attitudes

Discipline: psychology

*Part of the basic elements of an individual's motivational system: their views on specific things such as objects, activities or other people (attitudes).*

In psychology, an attitude is a person's view or evaluation of another person, a physical object, an idea or an action. Technically, attitudes are subject-specific, for instance relating to a behaviour (e.g. support for recycling). This more precise definition allows practitioners and researchers to distinguish between attitudes and other related motivations such as values and beliefs. The distinction matters, as each plays a different role in influencing behaviours.

Attitudes are often taken to arise from consideration of information, as well as lived experience. Hence, linear models of behaviour are often termed 'information deficit models'; their premise is that information feeds into attitudes, which shape intentions that determine behaviour.

*Examples of attitudes in the context of low carbon behaviours could include: I should not have to pay more to buy sustainable products; I am too busy to make cutting my CO<sub>2</sub> emissions a priority; instead of driving to work every day, I should walk, cycle, use public transport, or car share.*

Selected references include:  
Albarracin et al, 2005

## Costs & Benefits

Discipline: behavioural economics

*The cost/benefit calculation is the basic method of decision making, in which the perceived benefits (or 'utility') of acting are weighed against the perceived costs of doing so, including non-monetary costs such as time. However recent research has shown that much of this decision making is based on mental shortcuts, which can introduce errors, rather than effortful calculations.*

Perceived costs are a key factor in the Individual context, as it is ultimately individuals who decide whether they are prepared to take on the costs of goods, or of a behaviour. Rational choice theory in economics relies on cost/benefit calculations as the default process of decision making.

*Examples of cost/benefit calculations in the context of low carbon behaviours could include: deciding whether the extra time spent walking to work is worth the health and environmental benefits; deciding whether the extra time, and potentially financial cost, of rail travel is worth the emissions saved relative to flying.*

Behavioural economics has gone on to explore the ways in which human decision making is not perfectly rational, as standard economics would assume. Instead, behavioural economics shows that much of our decision making is based on mental shortcuts ('heuristics') which provide speed and ease, but also introduce an element of systematic error, i.e. they result in individuals repeatedly making 'suboptimal' decisions. Related to heuristics is the concept of biases, which also lead to suboptimal outcomes. Loss aversion is the best known of these biases, which observes that people are influenced by losses more strongly than by the same sized gains or "losses loom larger than gains" (Kahneman and Tversky, 1979). This in turn explains why people hang on to what they have, rather than risk losing it to gain more (also called the 'status quo bias'). Behavioural economics suggests that if we understand the shortcuts people use and the biases which affect them, we can design our offers and interventions to capitalise upon them, or "to go with the grain" (in the words of Dolan et al, 2010).

Some of the key behavioural economic principles here include:

■ **Discounting**

Manipulating the perceived costs and benefits of a behaviour is a key way to influence behavioural decisions. In traditional economics, future benefits are discounted against the present at a constant rate – that is to say, what we are prepared to pay for them declines over time, at an even rate. By contrast, behavioural economics takes account of the fact that people are ‘impatient’: they apply much higher discount rates over the short term than in the long term. This is known as ‘hyperbolic discounting’, and explains how jam today has a premium over jam tomorrow, which has a (smaller) premium over jam later still.

The principles of discounting particularly relate to financial decisions, where it is observed that people would rather spend money now than tie it up in long-term investments. However, applying a wider definition of costs and benefits, which includes non-financial costs, such as time and effort (also known as ‘transaction costs’) can broaden the applicability of discounting to include other non-financial behavioural decisions. In this way, any behaviour in which the benefits appear in the distant future but where the obvious ‘costs’ are all upfront, e.g. dieting, or not flying, can be seen to be difficult to ‘sell’ to the public. Hence discounting techniques may be helpful, such as looking for immediate or short-term benefits to promote the desired behaviour, such as meeting new friends and looking good if selling the benefits of taking up a new sport to the public.

*Examples of discounting in the context of low carbon behaviours could include: people being reluctant to invest in a new boiler because of the upfront costs, despite the future flow of annual savings; people being unwilling to go without airconditioning in warm weather.*

## ■ **Framing**

Framing explores the way in which options are arranged, and how that influences the choices that people make. Traditional economics assumes that people make rational choices based on an accurate assessment of the costs and benefits of each option involved. Instead, behavioural economics shows how the way options are set out or 'framed' will influence the choices people make, and thus how they behave. For instance, how options are arranged on a form influences which one people will choose, just as how the way items are laid out in a supermarket influences what people will buy.

Framing principles have wide relevance to social behaviours, including those with a norms dimension. Messages which demonstrate that a course of action is the same as that undertaken by most people in an individual's peer group can be very persuasive in shaping the behavioural choices people make. For example, in Nudge Thaler & Sunstein (2008) feature the well-known example of the reduction in the amount of laundry done by hotels, by placing notices in rooms about most guests reusing towels.

*Examples of framing in the context of low carbon behaviours could include: promoting walking to work as a way of getting fit (rather than tackling climate change); people being persuaded to eat less meat by hearing about how friends or celebrities have also changed their diets; people taking part in neighbourhood clean-ups so they don't miss out on the social benefits of participating.*

## ■ **Loss Aversion**

The concept of loss aversion refers to the phenomenon whereby individuals strongly prefer to avoid losses than acquire gains of the same amount. For example, it is likely that part of the success of bottle deposit schemes lies in consumers' loss aversion. When people hand over their deposit on the bottle as part of the purchase price, loss aversion suggests that the failure to return the bottle and get the deposit back will trigger a larger psychological cost than the monetary value of the incentive would suggest.

In an overlap with the concept of framing, one consequence of loss aversion is that people will tend to value something more highly when they own it than when they do not, because giving up an object is a loss that weighs more heavily than the gains associated with acquiring it. Therefore, disincentives such as penalties and fines may be more effective when framed as losses, i.e. threatening to take something away from people that they already have, such as their TV if they don't pay their TV licence, may be more effective rather than simply imposing a monetary fine.

*Examples of loss aversion in the context of low carbon behaviours could include: people responding better to messages emphasising that installing a new boiler will stop you wasting £100 a year, than messages emphasising it will save you £100 per year; the disadvantages of installing insulation (such as the 'lost' time of fitting) being weighed more heavily than its advantages (such as warmth and energy saving).*

#### ■ **Mental Accounting**

Behavioural economics shows that people have distinct mental accounts or 'pots' in which they make cost/benefit calculations for different areas of their lives. By framing choices in the context of different mental pots, people can be encouraged to calculate the relative costs and benefits differently. For instance, if travelling by train was framed as a leisure experience rather than a high-speed means of getting from one place to another, then it might appeal more than flying to those travelling for non-work reasons. Another example includes winter fuel payments – people are more likely to spend money on their energy bills when the benefit is called a winter fuel allowance, rather than when given as a general payment.

*An example of mental accounting in the context of low carbon behaviours could include: staff taking energy saving more seriously if energy costs were deducted from a notional 'bonus pot' for each team to share at the end of the year.*

Selected references include:

Cabinet Office Behavioural Insights Team, 2011

Dolan et al, 2010

Kahneman, 2011

Thaler & Sunstein, 2008

## Emotions

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Discipline: psychology, plus behavioural economics

*How people feel about something – their emotional response – is one aspect in their behavioural decision-making.*

Some psychological theories bundle emotions in with attitudes, as a driver of behavioural intentions. Others choose to keep them separate, with attitudes involved in 'cold' evaluations, and emotions in 'hot' evaluations. In psychology and behavioural economics, emotions tend to be grouped under 'affect'. It follows that practitioners should not merely make rational appeals to people to change behaviour, based on factual and logical arguments, but try to provide emotional and empathetic messaging too. An example from the waste sector is underestimating the 'yuck factor' when trying to encourage people to recycle their food waste.

*Examples of emotions in the context of low carbon behaviours could include: satisfaction (e.g. from growing food locally); virtuousness (e.g. from cycling to work); apathy (e.g. because changing habits seems like too hard work).*

Selected references include:

Finucane et al, 2000

Lowenstein et al, 2001

Russell & Lux, 2009

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## Agency

Discipline: psychology, plus sociology

*Agency relates to self control and a person's confidence that they can undertake the behaviour in question, and see it through to completion. It usually relates to a specific object or situation, but people can also be described as 'low agency' (generally lacking in confidence).*

In psychology, agency relates to a person's confidence that they can undertake the behaviour in question, and see it through to completion; like attitudes and norms, in technical usage it should refer to a specific object or behaviour.

Agency is also used as a generic concept, and people in disadvantaged circumstances are sometimes described as being 'low agency', that is generally low in confidence, largely due to having few personal experiences of success to draw upon.

Other more specific terms for agency are used by different psychologists; these include:

- Perceived Behavioural Control: PBC is defined as a perception of the "ease or difficulty" of performing a behaviour (Ajzen, 1991).
- Self Efficacy: Self efficacy is defined as "the conviction that one can successfully execute the behaviour required to produce the outcomes" (Bandura, 1977).

On a wider level, agency features as one of the core concepts in sociology, being the capacity of individuals to undertake action. In this sense, agency is normally presented as one of a pair of concepts with structure, being the rules and resources of everyday life. The relationship between agency and structure is seen by some academics as recursive (i.e. each evolves in opposition to the other, yet are inter-dependent).

*Examples of agency in the context of low carbon behaviours could include: a person's sense that they can change how they travel to work; a person's confidence in installing and using microgeneration within their home; a person's sense that they could make a difference if only they knew where to start.*

Selected references include:

Ajzen, 1991  
Bandura, 1977  
Giddens, 1984



## Skills

Discipline: psychology, plus sociology

*Skills are the things a person needs to know in order to carry out a behaviour. These include both procedural knowledge ('know how') and factual knowledge ('know what').*

In psychology, skills can be considered as a 'Facilitating Condition': the resources a person needs in order to enact their intentions. This refers to a person's internal resources, including skills, or social capital – see Networks below (resources can also include money and time). There is an overlap with 'agency', given that a person's confidence they can do something will reflect the resources and skills they have.

There is also an overlap with knowledge, which cuts across different disciplines. Knowledge as factual information is considered a standard part of the decision making process (e.g. in the cost-benefit calculation in economics). By contrast a sociologist might prefer to highlight the importance of procedural knowledge or 'know how' (as opposed to 'know what'). Also called tacit information, this refers to all the things a person knows about how to act in the world. Notably, much of this tacit knowledge will be acquired through experience or observation, as much as through formal information.

Finally, theories of social practice identify skills or competences as one of the key elements which come together in the performance of a practice. Here, the more a person performs a practice the more competence they will acquire – in turn making the practice more likely to continue, as a habit.

*Examples of skills in the context of low carbon behaviours include: fuel efficient driving techniques; how to work a thermostat; cooking from leftovers.*

Selected references include:

Shove et al, 2012

Triandis, 1977

## Habit

Discipline: psychology (also referenced in behavioural economics); seen differently as routine practices in sociology

*Habits are those behaviours which are undertaken automatically and frequently, with little conscious thought, and usually in the same time or place. These can also be understood as routines.*

In psychology, habit is represented as a factor driving behaviour, moderating (and often working against) the influence of behavioural intentions. For this reason, habit is often described as a barrier to individuals' best intentions, and to policy makers' best efforts to construct logical reasons (or incentives) for individuals to change those behaviours. For example, people may understand the health and environmental benefits of active travel such as cycling, but it can be difficult to break the habit of driving to work, even if the distances involved are relatively short.

Traditionally, habit has simply been measured on the frequency with which a behaviour has been undertaken in the past. More recent work in psychology has identified that habit is the combination of multiple factors: frequency, automaticity (i.e. occurring without deliberate thought), and a stable context in which the behaviour keeps happening.

Sociology offers a different view of habit, in keeping with that discipline's understanding of conduct as social practices not behaviours. In theories of practice, the habit is the whole practice, not a factor in it. All practices are routine and habitual; hence intervening in practices involves addressing the elements that sustain them, and which lie beyond the individual and their motivations. The main implication is that working to change habitual social practices may not require trying to persuade or incentivise individuals at all.

*Examples of habits in the context of low carbon behaviours could include: turning off TVs and other equipment rather than leaving them on standby; commuting to work by car; tumble drying instead of line drying laundry, even in good weather.*

Selected references include:

Darnton et al, 2011

Shove et al, 2012

Triandis, 1977

Verplanken & Aarts, 1999

Warde & Southerton, 2012

## THE SOCIAL CONTEXT

The Social context includes the factors that exist beyond the individual in the social realm, yet shape his or her behaviours.

The factors and influences included in this context are: Roles & Identity; Norms; Tastes; Institutions; Meanings; Networks & Relationships; Opinion Leaders.

The factors are presented below as if reading from the top of the model, and then left to right as you move down, in 'zig zag' fashion.

### **Roles & Identity**

Discipline: psychology

*Roles relate to a person's different repertoires of behaviours and attitudes, based on the 'role' they are fulfilling at the time (mother, employee, football supporter etc.). The related concept of identity is a person's innate sense of who they are.*

All roles are socially constructed. Appealing to different roles (or framing a behaviour in this way) can influence who takes up a particular behaviour and how. For instance, the same individual could be reached with messages linked to corporate social responsibility whilst in the workplace, whereas linked to their role as a parent, a softer message about conserving the planet for future generations could be delivered through their child's school or play setting.

As roles are socially constructed, some psychologists also relate them to 'social identity', and make a distinction between that facet and 'self identity'. Self identity is my innate sense of who I am, and what behaviours and attitudes fit that identity (this can also be referred to as 'self concept'). Social identity theory is used to explain the processes by which groups of individuals (however arbitrarily assembled) tend to differentiate themselves from one another. The two processes described are 'categorisation', by which individuals identify themselves with like others in an in-group and differentiate themselves from the out-group; and 'self enhancement', through which individuals favour the in-group, and promote themselves relative to others.

*Examples of identity in the context of low carbon behaviours could include: community champions having the sense that they must follow their pro-environmental motivations; different households, streets or community groups developing shared norms in opposition to other more/less pro-environmentally-minded groups of people.*

Selected references include:

Breakwell, 1983

Tajfel & Turner, 1979

## Norms

Discipline: psychology; also referenced in behavioural economics (and simply as 'normative behaviours' in sociology)

*People's perception of how other people (especially 'significant' others) would view their behaviour. In turn these perceptions have a strong influence on the behavioural decisions that people make.*

People develop their sense of prevailing social norms based on what they observe others doing, and from the explicit instructions and orders which they receive in daily life. It is important to note that the most relevant norms are those in someone's social circle or peer group (or 'in-group'), as the person needs to identify with the group in question for their norms to have traction on that person's behaviour.

In thinking about norms, it can be helpful to make further distinctions:

Subjective norms are a more specific label for social norms, used by some psychologists. They are defined as a person's perception of "the extent to which 'important others' would approve or disapprove of their performing a given behaviour" (Ajzen, 1991).

Practitioners may also like to make distinctions within social norms into the two different types of:

- Injunctive norms: also called 'ought' norms – what we perceive others would approve of our doing in society (laws may help make this explicit).
- Descriptive norms: also called 'is' norms – what we perceive to be approved behaviour in society based on the behaviour we see others performing around us (this can deviate from injunctive norms, e.g. in the context of laws on speeding on the motorway).

This latter distinction is important when planning interventions based on norms, as descriptive norms tend to have a magnetic power – people can be drawn to follow them, whether or not the behaviour they promote is actually for the social 'good'.

*Examples of norms in the context of low carbon behaviours could include: people being aware that they are not supposed to fly for domestic or short-haul trips, but observing friends, family and neighbours doing it; householders observing that their neighbours don't set out their food waste collection bins; the awareness that everyone at work puts waste paper in a 'green bin' not in mixed litter bins.*

Selected references include:

Ajzen, 1991

Schultz et al, 2007

Schwartz, 1977

Thøgersen, 2006

## Tastes

Discipline: mostly sociology

*Tastes can be understood as preferences through which people signal their belonging to particular social groups (e.g. kinds of music listened to, or table manners). These preferences are collectively developed and are based on shared understandings of appropriate and desirable conduct.*

In theories of practice, tastes are central to explanations of the things that people do. For these sociologists, tastes are shared by groups of people (who are usually similar) and so have less to do with individual preferences than with collectively developed understandings of normal, appropriate and desirable conduct.

Tastes are a critical mechanism through which people express their disposition or tendency to act in certain ways given particular circumstances, and so demonstrate that they have good (as opposed to unsophisticated, vulgar or otherwise poor) taste. Allied to this, tastes enable people to categorise themselves as belonging to an in-group whilst also distinguishing themselves from the out-group (see Identity above).

In sociology, tastes – and the emulation of good taste – are understood as a powerful force for changing the things that people do. For example in the 1970s, gastronomists pioneered the eating of meat (duck, lamb, steak) that is pink rather than cooked through. In turn, this created a way of cooking and eating that is now widely understood as a mark of good taste.

If low carbon behaviours could become an indicator of good taste, there is scope for them to become attractive and adopted by different groups of people.

*Examples of taste in the context of low carbon behaviours could include: the use of 'taste makers' (e.g. celebrities) to shape ideas of desirable conduct; the use of influencers (e.g. senior managers) within the workplace to carry out activities for others to emulate – the emphasis could be on different areas of conduct such as mode of transport (train rather than plane), use of video conferencing.*

Selected references include:

Bourdieu, 1984

Gronow, 1997

Warde, 1997

Warde, 2009

## Institutions

Discipline: mostly sociology

*Institutions influence how groups of individuals behave when they are engaging in particular activities or interacting with other people. Institutions can be formal (such as the legal system) or more informal (such as family life).*

In sociology, institutions are understood to emerge from collective human action over time, and, once in place they operate to prescribe roles and responsibilities. For example, the institution of family not only transcends individuals but also carries a set of expectations about how members of a family should behave, ranging from the idea that parents should care for infants to the suggestion that eating together is desirable.

Social and political scientists acknowledge that certain institutions are powerful and so in a position to influence the things that people do. For example the institution of 'mass media' can shape a range of factors, including tastes and social norms. However, institutions such as workplaces are well placed to influence low carbon behaviours by, for example, attempting to institute Flexible Working Hours (see Time & Schedules below) or conferring certain roles and expectations on employees (such as computers should be turned off at the end of the working day, or that short sleeves and shorts may be worn in summer instead of relying on air conditioning).

Whilst being the product of social interactions, institutions can also be part of the material environment. A good example is the informal institution of education, with its own implicit rules (e.g. that having a good education helps you get on in life). This then takes place in formal educational institutions such as schools with their own, more explicit rules (e.g. that you must wear the correct uniform or be sent home).

*Examples of institutions in the context of low carbon behaviours could include: households and families setting expectations that family members should not waste energy and therefore turn off lights and electrical appliances when not using them; government departments and offices setting expectations around the use of travel versus telephone and videoconferencing for meetings.*

Selected references include:  
Berger & Luckman, 1966

## Meanings

Discipline: sociology, plus psychology

*Meanings are culturally-constructed understandings of daily life which can include images, ideas, metaphors, and associations. These meanings effectively set the frame for a behaviour or practice, and in so doing so influence how it is undertaken, and how it is understood (e.g. smoking in popular culture used to mean sophistication and glamour, but now is more likely to mean an unhealthy lifestyle).*

In practice theory, meanings are one of the three kinds of elements which come together when a social practice is performed. Meanings are culturally-constructed understandings which can include images, ideas, metaphors and associations. These meanings effectively link the practice to a particular context or discourse, but at the same time sustain the practice. For instance, the meaning of 'freshness' is both perpetuated by daily showering, but also explains why so many people shower on a daily basis. Similarly, the meaning of being a good citizen is informed by the practice of setting out recycling for kerbside collection, but this meaning also explains why recycling is widespread.

In other disciplines, meanings might be referred to by the related labels of social norms, cultural values, and dominant frames. The last of these concepts, frames, is itself present in many disciplines. In cognitive linguistics, it refers to the chunks of factual and procedural knowledge which link together in the mind, and which determine the way in which we 'read' and respond to particular situations. In a simple example, if a behaviour is framed (explicitly or implicitly) as 'green' then that will influence the kinds of people who engage in it, and how. Overlaps with the (narrower) behavioural economic definition of framing should be apparent.

*Examples of meanings in the context of low carbon behaviours could include: changing the meaning of flying for leisure from glamorous to environmentally damaging; not idling your car whilst stationary because of the image of school children with asthma choking on exhaust fumes; farmers markets suggesting affluence and status rather than collectivist tendencies.*

Selected references include:

Crompton, 2011

Darnton & Kirk, 2011

Shove et al, 2012

## Opinion Leaders

Discipline: psychology, plus behavioural economics

*Opinion leaders can be thought of as individuals who have a strong influence over others for instance in shaping social norms.*

Sometimes used in marketing campaigns, opinion leaders can be thought of as individuals who have a strong influence over others, for instance in shaping social norms, or directly persuading other people to follow them in a particular cause or course of action. In everyday life, opinion leaders may hold positions of status in formal (or informal) institutions: examples could include faith leaders, celebrities, CEOs and senior managers in organisations.

In network theory, these people could be network 'nodes', who connect together numerous others. Gladwell (2000) describes three types of individual who play key roles in driving adoption of new technologies or behaviours: Mavens (who acquire expert knowledge and freely share it with others), Connectors (who interact with large numbers of other people) and Salesmen (who are the most persuasive in encouraging adoption).

*Examples of opinion formers in the context of low carbon behaviours could include: celebrities setting norms around consumption habits; celebrity chefs encouraging use of sustainable fish.*

Selected references include:

Feick & Price, 1987

Gladwell, 2000

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## Networks & Relationships

Discipline: psychology, but also in all

*Connections between individuals, which people draw upon in identifying and carrying out possible courses of action (this is sometimes called 'social capital'). In aggregate, social networks can help to explain how ideas, innovations and behaviours can spread.*

The relationships that people have with others can be understood as one of the resources they draw upon when undertaking behaviours. As with skills, an absence of the necessary networks can act as a barrier to intentions: for example, it may be hard for someone to fit loft insulation if they don't know an installer or have a friend to help remove clutter from their loft first.

Distinctions between different kinds of relationships between people are also central to thinking on social capital. Social capital can be defined as "the social resources available through networks, social norms and trust and reciprocity" (McMichael, 2007). Putnam (2000) describes three types of links between people and therefore different types of social capital. 'Bonding capital' refers to links with close family and friends, 'bridging capital' to friends and colleagues, and 'linking capital' to the vertical links between strata of society, including acquaintances. For example, someone with strong bridging and linking capital may find it easier and cheaper to adopt new and more demanding low carbon behaviours (such as microgeneration), than someone with weak links, as they will have a wider network of people and expertise to draw on.

Interpersonal relationships can also influence the forming of behavioural intentions – for example through the power of social norms and the modelling of behaviours in peer groups.

In aggregate, social networks can help to explain how ideas, innovations and behaviours can spread. Network theory is concerned with the nature of 'nodes' (i.e. hubs, or connecting points between the spokes in a network), and of the different types of connections between people. It contrasts the value of 'strong ties' – close relationships with a few people, which can support more intensive behaviours and interactions – with the 'strength of weak ties' which are better at speeding adoption, as they tend to cover more 'nodes'.

*Examples of networks in the context of low carbon behaviours could include: being able to easily implement car sharing arrangements through identifying someone who travels the same route; effective environmental action groups in communities; accessing support to help you grow your own fruit and vegetables.*

Selected references include:

Granovetter, 1985

McMichael, 2007

Putnam, 2000

Rogers, 1995

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## THE MATERIAL CONTEXT

The Material context includes the factors that are 'out there' in the environment and wider world, which both constrain and shape behaviour.

The full list of factors and influences included in the Material context are: Infrastructure; Technologies; Objects; Rules & Regulations; Time & Schedules.

The factors are presented below if reading from the top of the model, and then left to right as you move down, in 'zig zag' fashion.

### Infrastructure

Discipline: all

*Hard infrastructure relates to the firm boundaries to people's behavioural choices presented by the environments in which they live (for example, without a bus service, there will be no chance of bus use). Such factors can often prevent even motivated people from undertaking the behaviour in question. Alongside hard infrastructure, soft infrastructure emphasises features of everyday life which also bound individual action, but are not concrete (see Time & Schedules, and Rules & Regulations ).*

Infrastructure appears in all the main disciplinary approaches to behaviour change, not least in recognition of the fact that human behaviour cannot be reduced simply to individual choices.

In social psychology, Triandis's Theory of Interpersonal Behaviour (TIB) includes a factor called Facilitating Conditions. This refers to external influences, "out there in the environment" (Triandis, 1980). This factor points to the material barriers which prevent even motivated people from undertaking a behaviour. In this view, more or less CO<sub>2</sub> emitting behaviours are constrained or enabled by access (or lack of it) to the relevant infrastructures. For example, efforts to encourage people to move away from private car use partly rely on the availability of adequate and affordable public transport and/or the provision of safe walking/cycling routes.

Similarly, existing infrastructures underpin many of the behaviours that people undertake in their everyday lives. For example, ecological models in social psychology focus on influences in the environments in which people live. Hence health psychologists talk about 'obesogenic environments', defined as ones in which the opportunities to exercise are relatively scarce, while there is a superabundance of affordable and convenient energy-dense food. It follows that availability, accessibility and affordability (here, of healthy foods) are key points of intervention.

In behavioural economics, the infrastructure is often the same as the decision context; the place in which behavioural choices are made. By rearranging the infrastructure (or 'choice architecture' in the terminology of Nudge), the decision making process can be rearranged, or the options 'reframed'. In a simple example, if the lift is situated at the back of a building, while the stairs are in the front lobby, more people will use the stairs.

Finally, in practice theory, infrastructure appears as one of the elements in the 'Materials' type, along with other elements of hard infrastructure such as objects and technologies. For example, the practice of cycling to work requires bicycles (as objects or technologies) and roads or cycle lanes (as infrastructures) – as well as human riders, the time and skills to cycle, and the meanings of health or active travel which all come together to sustain the practice of cycling.

*Examples of infrastructure in the context of encouraging low carbon behaviours could include: cycle lanes; anaerobic digestion plants (and food waste collections); electric vehicle charging points; allotments and community gardens.*

Selected references include:

Swinburn et al, 1999

Thaler & Sunstein, 2008

Triandis, 1980

## Technologies

Discipline: mostly sociology, but also in all

*Technology is sometimes contrasted to behaviour, in that techno-fixes are presented as ruling out the need for individuals to change their behaviour. However, individuals and technologies interact, and this can influence the effectiveness of a technology in terms of its desired impact (e.g. smart meters and how they are used in practice). This interaction also enables new practices, and the meanings of these practices, to spring up and take hold quickly (e.g. tweeting).*

Technologies are understood by some people to lie outside of the behaviour change remit, with technological fixes seen as an alternative to changes in individuals' behaviour. However, it is important to emphasise that technological improvements are – and always have been – central to efforts that aim to reduce the environmental impacts of the things people do. To understand this, it is vital to recognise the various ways in which people interact with technologies.

Firstly, sociologists have long understood that technology has the potential to 'script' human behaviour (i.e. to trigger sequences of behaviour appropriate to a particular setting). Classic examples are traffic calming measures such as sleeping policemen which force drivers to slow down, or washing machines, which when first introduced required people to learn new ways of handling laundry, applying cleaning products, and drying clothes.

Secondly, technologies have the potential to reduce the environmental impacts of the things that people do without requiring them to stop doing them. Examples include electric vehicles or videoconferencing instead of travelling to meetings. However, the challenge is persuading people to adopt these more environmentally friendly technologies in the first place. Allied to this, it is important to ensure that once people adopt them; they go on to use them appropriately. For example, the environmental benefits of concentrated laundry products (including reduced packaging and reduced emissions from distribution) will not be realized if people continue to wash their clothes using the same quantities as they did before. It is therefore essential that technological interventions take place alongside interventions in the individual and social contexts of behaviour.

Thirdly, people may well reject or misuse particular technologies. For example, energy-monitoring devices such as smart meters have the potential to create conflict in the home or workplace, as arguments might erupt over how much energy different people are using, thus discouraging people from using them and thus saving energy. Therefore such interventions should include measures to address factors in the social and individual contexts.

*Examples of technologies in the context of encouraging low carbon behaviours include: videoconferencing, microgeneration, smart meters, electric vehicles.*

Selected references include:

Akrich, 1992

Bijker, 1997

Latour, 1991

Shove, 2003

## Objects

Discipline: mostly sociology, but also in all

*Many behaviours (e.g. cycling to work) involve the use of objects (e.g. a bike, cycle racks at work), and the lack of necessary objects can stop a practice from being undertaken. As with technologies, objects and individual users interact such that sometimes the object can 'act back' on its owners and heavily influence how much time an individual spends on which practices.*

Objects play an important role in shaping the things that people do and the ways in which they change their behaviour. For example, line drying clothes outside, rather than using a tumble dryer, requires a clothes line and pegs (and no rain!), just as cycling requires a bicycle. Objects are very often 'taken for granted' and all but invisible in thinking about influencing behaviours. For instance, how comfortable or cool a bicycle is will influence who would be prepared to ride it.

However practice theory draws our attention to how the object also shapes the practice, and as a 'non-human actor' often 'acts back' on the individual. For instance, gardens can end up structuring the time of people who use them (e.g. they need to be at home during certain months to plant and manage a vegetable garden), while waste imposes a set of time-consuming practices on the conscientious householder (e.g. cleaning and sorting recyclates for collection). All these objects also require an associated set of competencies (skills) in order for them to be used in particular practices (e.g. knowing which recyclates go in which bins in order to be able to recycle properly).

In keeping with psychology's emphasis on perceptions and attitudes more than things themselves, the relationship with objects in psychology is simpler. As with infrastructure, the presence of the relevant object can be seen as a driver of the behaviour (or a 'Facilitating Condition').

*Examples of objects in the context of low carbon behaviours include: bicycles and showers (for cycling to work); kerbside recycling bins.*

Selected references include:

Jalas, 2005

Shove et al, 2007

## Rules & Regulations

Discipline: sociology, but also in all

*At their most basic, rules and regulations are set out by formal institutions, such as government, to prescribe or prohibit certain kinds of behaviour (e.g. through the taxation system). Yet rules and regulations are also implicit, for instance determining appropriate conduct for individuals in informal institutions.*

Just as institutions can be formal or informal, so too can rules and regulations. For example, there is no formal rule that obliges individuals to take off their shoes when entering somebody else's home or give up their seat on public transport for an elderly or heavily pregnant passenger. However people are often expected to behave in this way, and failure to do so leaves them open to scrutiny and judgement.

Accordingly, in general, sociology adopts a wider approach, associating rules with shared understandings of what is normal and appropriate conduct. These informal rules and regulations are often 'hidden' and only revealed during the doing of particular activities – either correctly or incorrectly. As such, they are not dissimilar to social norms and so interventions here could take a similar form by making explicit the hidden conventions which people follow.

Meanwhile, in theories of practice, rules are formally understood as types of framework, including policies, regulatory and fiscal arrangements, and relevant schemes and initiatives run by particular institutions (these can overlap with costs and benefits in economics, in the form of incentives and disincentives, financial or otherwise). Accordingly, low carbon behaviours might be fostered through legislative measures that formalise shifts in rules and regulatory frameworks to enable different ways of doing things to be tried out. If successful, they might also help to 'normalise' low carbon behaviours and shift shared understandings of normal and appropriate conduct (e.g. as per the smoking ban in the area of public health).

*Examples of formal rules and regulations in the context of encouraging low carbon behaviours could include: tax breaks, feed-in tariffs and other grant schemes; cycle to work schemes.*

Selected references include:

Durkheim, 1883

Foucault, 1975

Parsons, 1937

## Time & Schedules

Discipline: mostly sociology

*Time is a finite resource that gets used in the course of carrying out everyday activities. Like money, it is a scarce resource that people have to allocate across competing demands.*

How people allocate the scarce resource of time can be viewed as a result of the ways in which they are required or able to co-ordinate with other people and activities. Changes in the demands on people's time or the scheduling arrangements that are in place have the potential to affect the ways in which practices are carried out and, in turn, influence the CO<sub>2</sub> intensity of different behaviours. For example, flexible working hours (FWH) can affect peak load demand on transport systems and reduce the carbon emissions generated by stop-start commuting in rush hour traffic.

Practices are also understood to compete with each other for time and space (e.g. line drying clothes and shift work). Other kinds of practices then come about to fill the gaps between other practices (e.g. tumble drying clothes). Because of these inter-relationships, changes in schedules (e.g. set by formal institutions) can often result in changes in people's practices – for instance, school hours and commuting habits.

*Examples of schedules in the context of low carbon behaviours could include: reduced working hours; shop opening hours; timing of the school day; holiday allocations.*

Selected references include:

Pred, 1981

Schor, 2005

Southerton, 2006

Zerubavel, 1985



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