Understanding people

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Abstract

In democratic societies moving towards increased participation, it is more important than ever that the values, thoughts, understanding, attitudes and behaviours of the communities and public that we serve are properly and proportionately included in the evidence base for decision-making around risk, particularly when it comes to food. Not to do so undermines our trustworthiness and our licence to operate as regulators and is likely to compromise the quality and effectiveness of our communication. Moreover, each risk has its own characteristics that will affect how it is perceived and how it should be managed. This article sets out some of the ways that social research strategies, usually harnessing the direct input of citizens, contribute to the evidence base used for risk analysis and includes some practical examples of methods that have been used by the Food Standards Agency in England, Wales and Northern Ireland.

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1. **Introduction**

1.1. **Why social science?**

As regulators, we need an approach that enables an excellent understanding of the food chain-related practices of consumers, businesses and allied professions, such as veterinarians and environmental health officers, and of how these players are likely to engage with and respond to information and the actions they are likely to prioritise and take when managing risk. To perform this well, we need to understand how risks are perceived, how people might respond and what the ‘ripple effects’ might be.

To deliver effective policy outcomes, we therefore need an approach that takes account of the individual, the groups and organisations they identify with and with which they interact, as well as broader aspects of the social context (such as education or employment), and the built and online environment. Such an undertaking must draw on multiple disciplines and within the behavioural social sciences this will include cognitive, social and organisational psychology, behavioural science, sociology and anthropology.

1.2. **Connecting with society**

Moreover, in developed contemporary societies, as we move inexorably from a more regulatory to a more participatory society (Lofstedt, 2004), the ability to listen, understand and interpret the attitudes, behaviours and values of the people we serve is essential if one is seeking to deserve the trust of citizens, customers, employees, members, shareholders and other stakeholders (McNamara, 2015). It was reassuring to see the emphasis placed at the 2018 EFSA Conference on the need for the so-called ‘hard’ sciences to connect more effectively to the society they serve.

At its most simple, risk in food comes in three forms: where it comes from (i.e. in terms of its ingredients and any environmental contaminants linked to the place of origin of the food or its ingredients); what has been done to it (i.e. in terms of processing, manufacture, packaging and so on, which might introduce process contaminants and allow microbial growth); and what people are likely to do with it. We seek robust scientific evidence on the first two and believe it is appropriate to carry out the same for the third. As a practitioner, I hope to suggest some ways that social science can contribute to risk analysis, with links to various studies and methods, and to argue that this is an integral part of building the trustworthiness that mandates us a licence to operate.

2. **Before undertaking a risk assessment**

2.1. **Problem formulation**

The risk assessment process is preceded by problem formulation. Social scientists such as Burns et al. (2004), Kaspersion et al. (2004) and Slovic (1987) write convincingly of why the near-infinite complexity of human behaviour has made it tempting for the concept of risk to focus narrowly on a multiplication of the probability and magnitude of an event. However, studies in risk perception (and the dark circles under the eyes of risk communications practitioners) attest to the reality that the direct and indirect impact – the ‘ripple effect’ – of a risk is wider and so it is worth considering risk in much broader terms.

2.2. **Other legitimate factors**

Much has been written on the drivers of risk perception. Various schools of thought, including psychologists, cultural, economic and sociological theorists, have sought to develop predictive models of how people will respond to a risk and the ways that risks are amplified and attenuated, with varying degrees of success. Suffice it to say that if we ignore factors such as familiarity, dread, the personal ability to influence the outcome and the perceived ability of those in charge to manage a risk, both honestly and competently, we are likely to miss the mark when it comes to the management and the communication of that risk to real people in real life.

Each risk has its own characteristics. Codex Alimentarius states that ‘when elaborating and deciding upon food standards Codex Alimentarius will have regard, where appropriate, to other legitimate factors relevant for the health protection of consumers and for the promotion of fair practices in food trade’. The criteria in the Codex Procedural Manual indicate that concerns related to economic interests and trade issues in general should be substantiated by quantifiable data, and they state that the
integration of other legitimate factors into risk management should not create unjustified barriers to trade.

The International Risk Governance Council (IRGC) is an independent non-profit organisation that provides policy makers, regulators, risk managers and other key decision-makers with evidence-based recommendations about risk governance. It recommends that beyond technical scientific risk assessment, a concern assessment should inform decisions about risk. A concern assessment examines how relevant stakeholders, including members of the general public, perceive the risk and its potential consequences. Both are relevant inputs to risk evaluation and risk management (IRGC, 2017).’

The IRGC emphasises that the evidence base must be sound and outline the contribution that the social sciences can make to the true assessment of risk and concern. It seems crucial that wherever applied, these other legitimate factors have as sound a basis as the other types of empirical evidence provided to risk managers and risk communicators, and that evidence provided on these is documented as transparently as other evidence.

It is important to be clear that risk management decisions can be based largely on these ‘other factors’. Moreover, it is important that we avoid the misrepresentation of health risk assessment and uncertainty to justify risk management decisions based largely on these other factors. That does not reduce their legitimacy – weighing the hazards and risks of an option for risk management action, against social impacts, costs and benefits of that action is an important and integral component of risk management. The social, economic and ethical factors that are inextricably bound up in national risk management decision-making should be identified explicitly and transparently. The Food Standards Agency’s (FSA) Board has recently endorsed this approach (FSA Board, 2019), including a non-exhaustive, broad list of what those other legitimate factors might include.

2.3. Techniques

Involving social scientists, including social researchers, economists and communications experts during problem formulation can provide wider contextual input, ensure the transparency of any starting assumptions and enable early mitigation of risks to an organisation’s reputation. There are various ways social science evidence of various weights can contribute.

For example:

- Exploratory social research, including new methodologies, such as social media listening, can provide insights for surveillance and reveal emerging risks. For example, at the FSA, we now use Twitter data to predict outbreaks of norovirus (FSA, 2015a).
- Statistically robust, quantitative research tracking reported concerns, attitudes and behaviours can help risk assessors understand likely exposure rates, beliefs and preferences, and allow a risk-based segmentation of the population. For example, we estimate exposure using the National Diet and Nutrition Survey (Public Health England, 2018). We also track consumer’s reported behaviours every 2 years through our flagship study Food and You (FSA, 2016), and consumer concerns twice a year through our Public Attitudes Tracker, a random location survey in England, Wales and Northern Ireland. Both are classed as Official Statistics and so are subject to the strictest scrutiny (FSA, 2018a).
- In-depth qualitative work often involving iterative methodologies (i.e. working with people over time to capture both spontaneous and more reflective responses) can help us understand the drivers of attitudes and behaviours, providing more robust evidence for policymakers about why a risk from human behaviour (at any point in the food chain) is occurring. For example, we are carrying out ongoing work on the risks posed by raw drinking milk, using both qualitative and quantitative methods (FSA, 2018b).
- Consumer preferences and acceptability of future products can be revealed through hypothetical discrete choice experiments; a statistical method that is used extensively in applied economics and marketing research, providing information that frequently cannot be obtained from existing data because the products being examined may not be available or cannot be purchased in existing markets.

3. Risk management

Where the management of risk through public policy involves changing what people do, behavioural science can make substantial contributions. The OECD recently published a collection of
over 100 case studies showing how practitioners’ application of insights from psychology and behavioural economics have helped governments to improve policymaking.

3.1. Changing behaviour

Behavioural science is a branch of science (including psychology, neuroscience, economics, behavioural economics, sociology and anthropology) that examines patterns of behaviour at the micro-(individuals) and at the macrolevel (groups, societies, cultures, populations). For example, psychology and behavioural economics have developed approaches to studying the effects of cognitive, emotional and social process on choice behaviour. Policymakers work with social scientists to understand the behavioural change models and theories of change which might best apply to design potential interventions, test and adapt them, and evaluate their effectiveness. Practitioners look at problems through the lens of factors such as cognitive biases and heuristics, and evaluate solutions to social policy issues using experimental tools (e.g. by comparing interventions against a control sample).

Founded on psychological and behavioural economic research, there have been several frameworks developed to help practitioners apply theory to practice in the UK. They include the MINDSPACE framework, the EAST framework, the COM-B framework and a framework developed specifically for businesses called ORGANISER (cofunded by FSA). We are currently piloting a new framework, called BASIC, developed in Denmark. There are over 2,000 frameworks claiming to provide useful insights for public policy making, one of our current challenges is to map these and understand which might be best for which situation.

3.2. Public participation

However, the academic literature has long been encouraging us to involve people more directly in policy making, rather than merely surveying, observing or experimenting with them. The OECD published a handbook on including citizens as partners as far back as 2001. While it is right that questions requiring specific technical expertise are answered by those who have such knowledge, it was interesting to hear speakers at the 2018 EFSA Conference acknowledge that science itself cannot ever be entirely values free. Social scientists have suggested that public participation in policy decision-making, weighted appropriately against expert opinion, allows citizens to decide ‘not only what policy they want, but also what value systems they wish to guide their decisions’ (Shrader-Frechette, 1998).

Ortwin Renn et al. (1995), having examined eight different models of participative practice acknowledges that there is no one size that fits all. We must balance the legitimate demand for public participation with economic and technical realities, and our accountability as regulators to whom decision are entrusted – and we must be honest about that. He concludes that ‘fair and competent participation will not come about through the rigid application of these models, but by creatively tailoring the models to be responsive to the problem setting’. The debate around participative practice, the benefits and the pitfalls, continues. The theory goes that it can fill knowledge gaps, increase the justice of decision-making and build support and buy-in for policies.

One proposed solution has been the establishment of a Citizen Advisory Committee, and indeed we have been down this road a couple of times; the first being in 2002. In reality, it has proved hard to make this approach work in a meaningful way (Rothstein, 2007). There are times where bringing a number of interested people together to discuss issues from a lay person’s perspective might be the appropriate or pragmatic answer, but certain questions need answering: Can a small group can be truly representative of the diverse publics and communities we serve? How can we ensure that people have enough information to form a meaningful position? Who sets the agenda? Who is selecting themselves to participate? Who is excluded? Do the processes, structures and behaviours support the effective exchange of ideas? How can we reconcile irreconcilable positions? How do we balance this evidence against other data? How much power to make rather than influence decisions should there be?

If we can answer these properly, we still face the challenge of having less expert voices heard within scientific institutions that assume that the scientists always know best. Sheila Jasanoff (2003), observing that the modern world is complex and unpredictable even for the most educated and thorough scientist or policymaker writes compellingly about ‘technologies of humility’ which allow ‘not only the formal mechanisms of participation but also an intellectual environment in which citizens are encouraged to bring their knowledge and skills to bear on the resolution of common problems’.
In the past, such committees have fallen between two stools, namely they are not deemed representative of the public at large, but not expert enough to challenge views and values within the organisation. X and Y. I would argue that any such committee needs an honestly and clearly defined role (which does not seek to duplicate the accountability brought to bear by scientific advisory committees or a management board, nor the evidence provided by social research), adequate skilled resourcing, time and effort put into engaging participants in the complex information presented and long-term, consistent senior sponsorship to help foster the cultural change that Jasanoff advocates.

Citizens forums and public dialogues, balanced by academic reviews and statistically representative quantitative research have, however, proved in practice to be a better way to capture the multiplicity of citizen views and have these taken seriously by those who make the final decisions. It only seems expensive and time-consuming if you consider it non-essential. I argued at the EFSA Science Conference in 2018 and continue to argue here that it is, in fact, essential evidence for effective risk analysis. Nearly 20 years on, video and mobile technology allow a better capture of citizen voices as well as provide more powerful material for the communication of the findings. Digital technologies may be able to help us engage with more people in ways that are more convenient for them and more economically feasible for us. There is never a perfect model, but will this give more organisations the opportunity for direct dialogue with people who may not be represented by organised and recognised interest groups?

3.3. Meaningful engagement and the ‘deliberative dip’

Meaningful engagement requires that people reach an informed position, but this is often a journey. The food system is incredibly complex and emotive. It is important then, to ensure not only that the material presented is unbiased and technically accurate, but that methods translate the abstract to the specific, in order that engagement with the subject matter can be as fruitful as possible. This can mean creating design fictions, scenarios, playing ‘Monopoly’ or shopping games, asking people to write letters to their future selves, to curate and record conversations with their peers and loved ones – creative ways that we can use to help us overhear what they are thinking and feeling, and get closer to understanding the values, preferences and trade-offs they would make if the final decision were theirs.

Practitioners employ all these strategies to get through the ‘deliberative dip’ (a turn of phrase coined by our research partners). We often find that overly complex information can lead some participants to resist engagement with the issue, to form an overly negative, even despairing point of view. However, what we have seen is if we are patient, creative and speak to people as equals, the result is a level of appreciation for the complexity of managing a risk, which is both better informed and more resilient. It is the difference between reasonable trust and blind faith.

3.4. Evaluation

Finally, social science evidence can help to evaluate the effectiveness of risk management interventions. Taken alongside other data, observed (for example, in the results of a randomised control trial) or reported changes (for example, as indicated by trends and changes in survey data) can be a key indicator of impact. For example, the data from a bespoke tracking study was one of several sources of evidence to assess the success of the Food Hygiene Rating Scheme in England, Wales and Northern Ireland, alongside data on levels of business compliance and incidences of food poisoning (FSA, 2015b).

4. Risk communication

4.1. The role of risk communication

Social scientists such as Baruch Fischhoff (2004) and William Leiss (2004) have written extensively about how to improve risk communication in practice, taking people from being ‘told the numbers’ to a feeling of partnership. Leiss argues that ‘for every dollar spent on risk assessment, a dollar should be spent on risk communication’. Risk communication is often used as a risk management intervention, but the primary goal of risk communication is to ensure the interactive exchange of information and opinions throughout the risk analysis process. This often means:
building a clear understanding of health risk and other factors including risk perceptions among risk assessors, risk managers, the academic community and other interested parties, including industry and consumers;
explaining the risk assessment and the other legitimate factors that form the basis of risk management decisions; and
using effective communications methods to achieve behavioural outcomes as part of a suite of risk management interventions.

4.2. Techniques

Social science techniques can help us:

- establish the segments of society that we wish to communicate with and understand more about their lived experiences. For example, we have segmented our consumer audiences by reported risk behaviours, mapped against commercially available marketing databases to achieve a rounder picture of the types of people with who we wish to communicate;
- explore their current level of understanding, their heuristics and emotional drivers through qualitative work, and develop a picture of the mental models of the people with whom we wish to communicate, mapping that against the ‘ideal’ expert level of understanding to establish the gaps;
- test risk messages in ‘peacetime’ before we use them for real. For example, we have tested several different ways of framing risk messages around foodborne disease to understand the most effective and appropriate to use with which segment of the audience, and any unforeseen responses;
- co-create risk messages with the end-users. For example, we have worked with groups of consumers through iterative qualitative work to develop a new and consistent template for messages around food recalls developed by and for consumers,
- evaluate the effectiveness of communications on various audiences and the reported and observed outcomes in terms of understanding and/or behaviour change, as well as the impact over time on the perceived trustworthiness of the organisation. For example, we have long tracked such things with consumers and this year have developed tracking survey methods for other stakeholder groups that we wish to listen to better, such as food businesses and local authorities.

4.3. Heuristics

We must understand that we all – even scientists – rely on pre-existing knowledge and values to form judgements. In establishing the acceptance of new technologies, for example, people tend to deploy a number of rules of thumb, making judgements based on, for example, whether they feel that the risk might have a severe impact, whether it feels controllable by the individual, whether it feels ‘natural’ or ‘unnatural’, or familiar, for example through exposure to local media stories, personal experience and those of friends and family, or akin to past experience.

It also depends on whether it feels current or old, past high-profile food scares are generally discounted as ‘dealt with’, and whether it feels proportionate set against other benefits (FSA, 2009). Despite a significant body of research, when looking at how to regulate food in real life, we need to remember that people do not tend to follow the precise calculation process as identified by theoretical models. Each risk has its own characteristics, each time is different. Added to this, food is something that people are personally highly invested in; there is little that is closer to home. Policymakers and risk communicators need to understand and anticipate the emotional complexity of the public response to each risk. In hope of preventing practitioners from repeating the mistakes of others, Fischhoff, synthesising his thoughts on observing 20 years of trial and error, describes the intellectual history of risk communication in six stages, from ‘telling people the numbers’ to ‘treating people as partners’, arguing that to understand the mental models of those with whom we seek to communicate we must work with them as equals.

4.4. Trustworthiness

Stakeholders and the public will judge the trustworthiness of our risk analyses based on how honestly, competently and consistently we communicate risk and uncertainty to them and whether our
assessments of what is important aligns with theirs. To a large extent, the effectiveness of our communication hinges upon our perceived trustworthiness, the so-called ‘communicator effect’. It was encouraging to hear trustworthiness (rather than merely ‘trust’) become a recurring theme at the recent EFSA Conference, reflecting the work of leading ethicists such as Baroness Onora O’Neill (2018).

The change in terminology acknowledges a long-term shift in the societal power dynamic between citizen and authority figure. This is a strategic issue for any organisation wishing to be listened to in contemporary society. The FSA Chair Heather Hancock has often said that ‘trust in the FSA is crucial to our ability to protect the public’. The academic literature agrees that to be effective and influential, regulatory bodies need to work hard to earn and deserve public trust, otherwise we will struggle with stakeholder acceptance of communications and cooperation, and public health will be put at risk. Communicating risk, evidence and uncertainty is already difficult within a political and media environment that lends itself to misinterpretation and reductionism. This digital age of ‘reference, not deference’ has profound implications for us as a regulator to whom the public delegate their trust. New platforms and the democratisation of information have increased the availability of information but have led to overload and so-called fake news.

We recently commissioned two complementary research studies – a literature review and a qualitative public dialogue – to explore the drivers of trustworthiness related to food and its regulation among consumers, and these findings were presented at the EFSA Conference in 2018 (FSA, 2018c). The key seems to be demonstrating honesty and shared values as much as (if not more than) demonstrating consistent competence. People are seeming to default to proxies for trustworthiness, recognised brands, celebrities, known entities, but also to known emblems such as the FSA’s Food Hygiene Rating Scheme sticker, and using these to help make decisions about who to trust, based on who they believe to share their values and to work in their interest. As a result, understanding the values of the people and communities we serve is essential, not just to deliver the right risk management policies for them but also to maintaining the right so to do. Without that, it is harder for us to regulate and harder for our voice to be heard. Work to quantify and measure the FSA’s trustworthiness is underway in 2019.

5. Conclusions

The recurring theme at the EFSA 2018 Conference was how to connect science to society in a world where the authority of science is being challenged; where people are overloaded with information but expect to have more say in the decisions that are made on their behalf. I hope to have made the argument that, for a regulator, particularly a regulator of food, building processes to take people’s values, understanding, attitudes, behaviours and preferences into account is crucial to be able to evaluate the context and characteristics of a risk, to develop, implement and evaluate risk management interventions, and to ensure that evidence of a risk is communicated effectively and appropriately in hope of maintaining our connection to the communities and publics we serve.

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Abbreviations

FSA Food Standards Agency
IRGC International Risk Governance Council