2

What is information behaviour and why do we need to know about it?

Introduction

Human information behaviour is all about how we need, find, process, and use information. But we do this all the time. So why do we need to study and research it?

Well, it's a bit like studying nutrition and the human body. The more we understand how the body works, what nutrients it needs and the different effects of different foods (for better or for worse) the more we can teach and advise people about healthy diets, train up elite sportsmen and women, and identify, treat and prevent disorders. Information is nutrition for the mind. It is the fuel of learning, and the basis of our knowledge. Like food, we need a constant supply. And information has its fast food, gourmet and high-performance diet equivalents.

To take one example, research into the information behaviour of people affected by HIV/AIDS has generated insights that are directly useful to those who provide information on both prevention of and living with the disease. Such information must be accurate, reliable, authoritative, up to date and easily available. But research suggests that other factors are also highly influential in determining whether people successfully find and engage with information they need. Accurate, reliable, authoritative and up-to-date information may be readily available. Yet some HIV/AIDS sufferers may ignore or avoid – even hide or destroy – information which possesses these desirable qualities. Information behaviour research suggests that it is one thing to make HIV/AIDS information readily available in, say, a city's public library, but quite another thing for a person who fears or has experienced stigma and discrimination relating to the disease to risk being seen accessing and reading it in such a public location. Also, information may not necessarily

be timely in terms of a person's readiness to accept it. What might objectively be accurate, reliable and authoritative information may be ignored, not understood or rejected by some HIV/AIDS sufferers who, for a time after learning of their diagnosis, may simply be unreceptive due to being in a state of shock, anxiety or even denial. The more that information providers (in this case, medical and social workers, support organizations and information professionals) are aware of such difficulties and complexities, the greater is their chance of being able effectively to bring people into contact with the information they need.

More generally, greater knowledge of information behaviour can help us enhance access to and use of information to the benefit of individuals, organizations and communities. Understanding of information behaviour can add value to:

- the effectiveness of our role as information professionals in advising and helping people find and evaluate the information they need
- the design of information systems to enable effective exploration, navigation and retrieval of information
- the way information is organized and managed by individuals and organizations in order to provide effective access by those who need it
- training and education designed to help people develop the ability to find, evaluate and use information in relation to their needs
- the way information is communicated by authors and information providers.

But before going on to discuss information behaviour in more detail, it is necessary to introduce a caveat. Many models of information needs, and of information seeking to satisfy them, that are generated by researchers (many of which will be found in this book) are geared to explaining relatively complex cases. The reader may legitimately question whether finding information is really so problematic and complicated – particularly in the modern era of fast and apparently efficient search engines.

If I want to find information on how to write web pages or publish a blog, it is a quick and simple task to tap a few keywords into Google and be presented with a wide range of sites brimming with useful information. If I want to find the times of trains from Sheffield to London, a quick search for 'train times Sheffield to London' will take me direct to an appropriate source of information. This hardly seems complex or problematic. So why have information behaviour, and its constituent elements of information needs and information seeking, been the focus of strenuous research efforts over many

decades, and the subject of a plethora of theoretical models?

Of course, some searches for information are more difficult than others. Trying to find the best medical advice relating to a set of symptoms you are experiencing may pose rather more problems than finding the time of the next train to London. Also, the level of complexity of information needs, and the information-seeking behaviour required to satisfy them, depend on their granularity. A low granularity need might be to answer a very specific question, or solve a narrow and specific problem.

But our need for information may operate at a much higher level of granularity – not geared to solving a narrow problem but, say, to learn how to be a good parent, to complete a PhD research project, to practise as an evidence-based professional in our work, or to be a good citizen. These different levels of information need can co-exist. Large-scale, long-term and possibly ill-defined information needs can encompass and be served by more specific, less problematic, ones.

The models of information behaviour discussed in this book presume relatively complex information needs. With this important caveat, let us now explore basic definitions and the components of information behaviour in more detail.

Note also that the examples early in the book relate mainly to the individual person, as opposed to groups and communities. However, it is important to realize that:

- information behaviour may be observed not only at individual level, but also as people work in interaction with others at the levels of groups, organizations and communities
- information-based interactions take place not only between people but also between people and non-human artefacts and forces
- information behaviour can be a distributed activity – i.e., it may be more than the sum of the activities of the individuals making up a group or community.

The following sections define a number of key terms, including data, information, knowledge and information behaviour. Although drawing where appropriate on existing definitions, the author is careful to present in detail those definitions he has adopted for use consistently throughout this book.

These terms may at first sight seem obvious – surely we already know what they mean, and even if we are not so sure, definitions abound in the literature. However, many existing definitions in the literature display variations between them. Many – particularly definitions of 'information behaviour' –

are arguably not sufficiently extensive to provide clear answers to a number of probing questions relating to where the boundaries of these terms – and of the field of information behaviour – are drawn. Answers to such questions are needed in the case of a field of study which has rapidly developed to embrace a wide range of foci, perspectives and methodologies.

Insufficiently elaborated definitions risk under- or over-specifying the field. We need to avoid restricting information behaviour to its relatively narrow library-based origins and to embrace its increasingly expansive coverage. At the same time, we must avoid under-specifying information behaviour in a way which makes it excessively inclusive and fails to differentiate it clearly from related fields in which the processing and use of information is central – such as psychology, education and communication.

For the reader interested in investigating the potential ambiguity and uncertainty in these key terms – which have prompted the author to spend time elaborating terms in some detail below – they are elaborated in Appendix 1, which should be read before proceeding.

Defining 'data', 'information' and 'behaviour'

The first thing we need to do in order to understand information behaviour is to define what we mean by 'information' and 'behaviour'. At first sight, these terms seem clear enough. A train timetable, a book, or a news broadcast clearly contains *information*. Reading a book or looking for information is clearly *behaviour*. So what's the problem?

THINK!

Consider the following three questions:

1. Meteorologists interpret cloud formations to forecast the weather. So are clouds an information source? And if so, is weather forecasting information behaviour?
2. Are the words two people use as they chat to one another information? If so, is talking to someone information behaviour?
3. And if I *think about* a piece of information someone has given me, but I do or say nothing, is this 'behaviour'?

Think about your answers for a couple of minutes before reading on . . .

It all depends, of course, on how you define 'information', 'behaviour', and 'information behaviour'. We need to establish definitions before we can decide on answers to the questions above, and before we can proceed to

discuss these concepts in depth. Definitions used throughout this book are as follows:

- **Behaviour** is defined broadly as some response to a stimulus. It includes thoughts as well as actions. Thus perceiving that one has a problem requiring information is as much behaviour as doing something about it (e.g., information seeking).
- **Information** is the subject of many complex definitions in the literature (see, for example, Case (2012) and Floridi (2010)). However, within the context of this book it is simply defined (Kitchin, 2014) as a meaningful pattern of stimuli which can be converted into knowledge (see below).

Many definitions in the literature distinguish information from data. Data has been defined as:

> . . . the raw material produced by abstracting the world into categories, measures and other representational forms – numbers, characters, symbols, images, sounds, electromagnetic waves, bits – that constitute the building blocks from which information and knowledge are created
>
> Kitchin, 2014, 1

Information is data rendered meaningful (Floridi, 2010) via analysis and structuring. Using these definitions, phenomena such as cloud formations represent data – i.e. potential information insofar as they are stimuli with potential for being interpreted in terms of meaningful patterns.

Learning is defined here as the process whereby information is converted into knowledge (Ford, 2008). *Knowledge* is what a person knows. It is internal to a person, whereas information is external. When processed by a person and integrated into his or her existing knowledge, information becomes part of that knowledge. When people communicate parts of their knowledge, they do so by converting them into information and putting it 'out there' in the form of, for example, speech, text or movement, which in turn can be interpreted by other people and become part of their knowledge. 'Knowledge' includes beliefs as well as factual and procedural knowledge. However, moods and feelings – though they may affect and be affected by knowledge – are not included in this definition of knowledge.

The definition of knowledge used in this book situates knowledge within a human brain. So how does this square with the notion of *distributed* knowledge, as conceived within social constructivist perspectives, in which meanings and knowledge are negotiated and shared within a community (as

opposed to being objectively and accurately knowable)? It is often said that communities can possess knowledge which is more than simply the sum of individual knowledge – the knowledge possessed by the individual members of those communities. Particularly with computer assistance, it is increasingly easy for communities to leverage 'the wisdom of the crowd', using collective knowledge to which individuals contribute but which no one individual possesses. Recommender systems are an everyday example.

THINK!

Can a community *really* possess knowledge which is more than the sum of the knowledge of the individual members of that community?
If so, where does this knowledge reside? And how is it generated?

Collective, shared, or distributed 'knowledge' can only, strictly speaking, refer to the *overlap* in the knowledge of the individuals making up the particular group or community being referred to. Let us consider a simple example. A group of people can meet to discuss an issue. By speaking, each member puts forward information that may be processed and considered by other members of the group. The discussion may lead to shared new knowledge – insights into the issue being discussed, or realization of new ways to solve some problem, generated by the collective thought processes of the group. But the 'collective' or 'distributed' knowledge that can be said to have emerged from the meeting does not hang mysteriously in a cloud over the group in the room. It can only exist as the overlap in the knowledge possessed by each individual in the group.

The case of a recommender system is somewhat different, since knowledge appears to be generated which is not simply the overlap in the knowledge of the contributors to the system. However, such systems process data to generate new information – not new knowledge. Humans can input data to such a system, which in turn can generate information which no individual contributor has the knowledge to generate. But what is often referred to as collective or distributed knowledge is in fact information generated by such a system. Like any other information, this information may be processed by individual members of the community and ingested, becoming part of their knowledge. In other words, I argue that there is no knowledge that exists 'between' rather than within humans.

THINK!

Having read my definition of 'information', what is 'data'? Does it differ from information, and if so, how?

'Data' is defined here as stimuli not (yet) integrated into a meaningful pattern. Thus, for example, a series of apparently unrelated and meaningless numbers would remain data until integrated by the perception that they represent train times. It should be noted that the classification of a particular stimulus as data or information is relative, and depends on a person's perception of a meaningful pattern in the data. Thus one person's data might be another's information, and vice versa. To take the 'clouds' example given earlier, clouds may or may not be data. They *are* data to someone who can interpret them meaningfully – such as a meteorologist. They are *not* data to someone who sees no pattern or meaning in them.

But what about the use of 'data' in concepts such as databases and data analysis? In both these cases the data referred to is hardly devoid of meaning. Qualitative data analysis is often applied to interview data, which can be rich in meaning before it is ever analysed by a researcher. Also, data residing in a structured database is by definition organized in meaningful fields or categories.

Well, information that is meaningful at one level can be considered data in the context of a higher-level meaning. For example, a paragraph of text may be meaningful in its own right. However, if it is only part of a larger text, it represents *data* for a reader who is trying to perceive a higher order meaning (the message of the text taken as a whole). The same applies to qualitative data – for example, interview recordings or transcripts. Individual interviews are meaningful in their own right at one level, but in the context of higher order themes or theories that the researcher is trying to perceive in the interviews, they are data.

Defining 'information behaviour'

Having defined information and behaviour, we are in a better position to consider in detail what is meant by 'information behaviour'. Pettigrew, Fidel and Bruce (2001) define it as:

> the study of how people need, seek, give and use information in different contexts, including the workplace and everyday living
>
> Pettigrew, Fidel and Bruce, 2001, 44

Ingwersen and Järvelin (2005, 259) include the generation and management of information in their definition of information behaviour as 'generation, acquisition, management, use and communication of information, and information seeking'.

Wilson, who originally coined the term, has provided a more detailed definition of human information behaviour as:

> the totality of human behavior in relation to sources and channels of information, including both active and passive information seeking, and information use. Thus, it includes face-to-face communication with others, as well as the passive reception of information as in, for example, watching TV advertisements, without any intention to act on the information given.
>
> Wilson, 2000, 49

Wilson's 1996 model (Wilson and Walsh, 1996) differentiates between information searching, information seeking and information behaviour. In this nested model, information behaviour is a concept that embraces (but is not limited to) information-seeking behaviour. Information-seeking behaviour, in turn, embraces but is not limited to information-searching behaviour.

- **Information searching** entails using a particular search tool (for example, a search engine or database).
- **Information seeking** is a broader concept, embracing strategies a person devises in order to find information, which may include – but is not limited to – searching. It may include the selection and use of a variety of search tools, and the use of other strategies such as browsing and monitoring.
- **Information behaviour** is even more general, embracing information seeking but also including information behaviours other than information seeking.

THINK!

If information behaviour is not limited to information seeking, what else might it include? Think about this for a few moments before reading on . . .

Recall from the introduction to this chapter the description of some HIV/AIDS sufferers who may ignore or avoid – even hide or destroy – information through fear or anxiety about their illness. These actions certainly do not entail seeking information. But they are examples of information behaviour. Serendipity, or encountering information accidentally, is another example of information behaviour that does not entail seeking information. By definition, serendipity is unplanned and unintentional, unlike information seeking. *Using* information is yet another example of information behaviour that is not information seeking.

The definitions given by Wilson and by Pettigrew et al. are excellent, widely accepted definitions. However, some further elaboration may be useful. This is because it is important to know how the field of information behaviour has developed and expanded from an early emphasis on individuals seeking information from formal library-based information sources, and to appreciate that it is constantly evolving.

Much early research in the field we now know as information behaviour concentrated on which types of information sources particular groups of people, such as scientists, made use of in their work, and on how people searched for information in libraries and databases. But over the years, the field has developed (a) to embrace more complex and wide-ranging views of the interactions between people, organizations and information, and (b) to differentiate more clearly the different elements that constitute information behaviour. Important lines of development have included the following:

- The focus of information behaviour research is no longer restricted to individuals, but also includes groups, organizations and communities.
- An increasing focus of information behaviour research is on the evaluation and use of information – its application and impact in the real world.
- The range of types of information embraced by information behaviour studies has expanded beyond more traditional recorded textual or audiovisual sources to embrace, for example, tweets and data from flight control instruments.
- Increasing attention has been paid to the context in which interactions between people and information takes place, and to studying such interactions within people's natural environments such as home or work.
- Research attention is also increasingly being paid to the information behaviour of particular groups of people – for example those with specific health needs or marginalized groups such as refugees.
- The assumed starting point for information behaviour has moved beyond information needs to include more fundamental needs (e.g. some problem to be solved, or some mental or physical state to be achieved or maintained). Thus, ignoring and avoiding information, whilst hardly representing behaviour associated with an information *need*, are examples of information behaviour. In this book I differentiate between *information needs* and *information-related needs*. Information-related needs are needs that have implications for the way in which we interact with information, whether seeking or avoiding it. Information-related needs are more general than, but include, information needs.

- Linked to the previous point, an increasing focus has been placed on aspects of information behaviour not confined to the active seeking and use of information, to include, for example, encountering information serendipitously, and avoiding as well as searching for information.

With such an expansion in conceptions of what information behaviour research covers, it is all the more important precisely to define the boundaries of the field, and to negotiate its relationship with other established fields which may appear to overlap. The danger is of under-specifying the field, risking overlap and confusion with other well established areas of research and knowledge. Information behaviour may both contribute to and draw from – but is distinct from – other fields such as psychology, sociology, communication, management and education. For this reason, we need a firm definition.

We exist in a constant stream of visual, auditory and tactile stimuli providing us with constant data and information. Whenever we act or think, we make use of knowledge which has been generated by processing information and integrating it into our knowledge structures.

However, based on the definitions we have so far, applying anything we have learned from our parents, peers or teachers (all information sources) could be information behaviour. Indeed, it is difficult to think of an activity which is *not* some form of information behaviour in that it entails thoughts or actions based on knowledge derived from processing information.

It is difficult to tweak the individual definitions of information and behaviour in such a way that simply combining them results in a satisfactory definition of information behaviour. In this sense, its definition is more than just the intersection of the definitions of its constituent terms. The reader interested in exploring this issue in slightly more depth in terms of considering the potential ambiguities inherent in adopting a simple intersection of the terms is referred to Appendix 1.

Information behaviour, whether viewed through individual or social perspectives, entails a number of component elements. They are outlined in Figure 2.1, which shows the author's conception of information behaviour.

Let us now explore each of these elements in more detail.

Information-related needs, information behaviour and its effects

Information *behaviour* is not the same thing as the *need* to which it relates, and the *effects* it has. This is why these are separated in Figure 2.1. A need is not in itself a behaviour — although *perceiving* and *expressing* a need *are* behaviours.

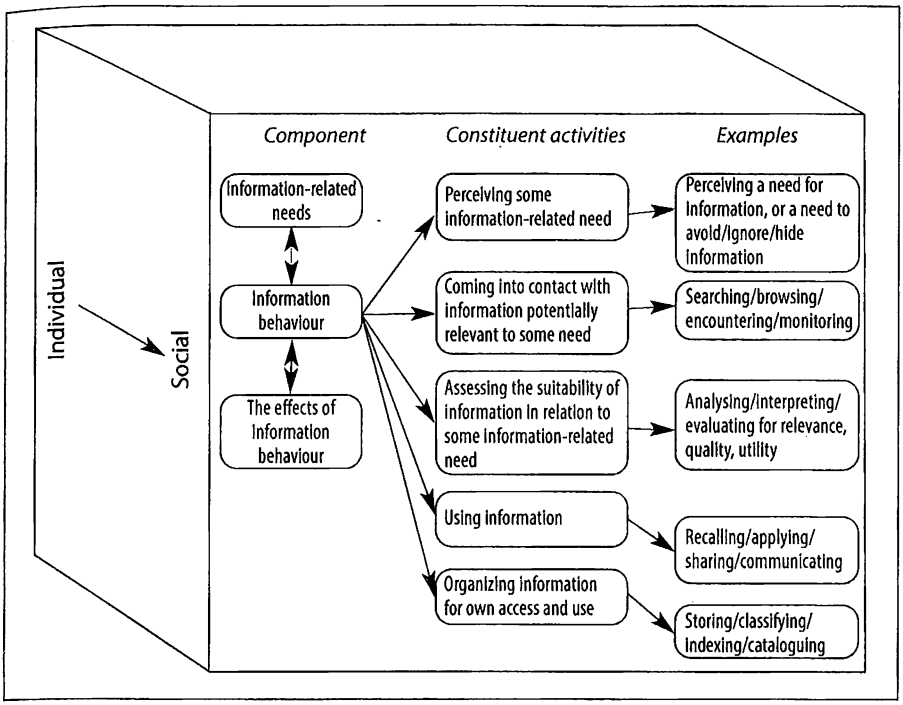

Figure 2.1 Components of information behaviour

And although the effect of engaging in information behaviour may be further behaviour (for example, deciding to take a particular course of action) the effect of a particular behaviour cannot at the same time *be* that behaviour. Nevertheless, the needs that drive information behaviour, and the effects that behaviour has, are important elements in its study.

Each of the components of information behaviour shown in Figure 2.1 will be introduced below. Note that the names given to each of the components are generic, in the sense that each includes both positive and negative instances. In other words, 'perceiving some information-related need' relates to whether or not a person perceives an information-related need – i.e. it includes both perceiving and failing to perceive. Failing to perceive some need is just as much information behaviour, and may be just as interesting to researchers and practitioners as perceiving it. Similarly, 'coming into contact with' and 'using' information embrace both coming into contact and failing to come into contact, and both using and failing to use. The same is true for all the headings and sub-headings. Thus information behaviour can include hiding, avoiding, ignoring and destroying information as well as seeking and using it.

Perceiving some information-related need

Perceiving an information-related need is a key component of information behaviour, representing its motivational component. But the need itself is not a constituent process of that behaviour.

Note that, as previously mentioned, an information need is not the same as (but is one type of) an information-related need. An information need is a need to acquire information to solve some problem or address some gap in our knowledge. However, information-related needs are needs which have implications for the way we interact with information. As previously noted, sometimes people feel the need to avoid or ignore information – for example, if they fear being upset by it. Such a need *relates to* information but is not a *need for* information.

It is also important to note that perceiving an information-related or information need does not necessarily precede coming into contact with information. Awareness of a previously unconscious need may sometimes be stimulated by encountering information serendipitously, or thinking about information related to some other need. Thus an information-related or information need is not the sole starting point for studying information behaviour.

A need becomes an information-related need at the point where implications for information are perceived. If you are at home and feeling hungry, your hunger may be satisfied by a quick trip to the fridge. But if you are in an unfamiliar city, you may need information about nearby restaurants. As soon as you begin thinking about the type of information you need (information about local restaurants with good reviews), and maybe information you do not need (information about fast food outlets) you are engaging in information behaviour.

Coming into contact with information potentially relevant to some need, with a focus on the characteristics of the information, or the way in which it was discovered

Note that this heading is longer than that shown in Figure 2.1. I have added 'with a focus on the characteristics of the information, or the way in which it was discovered'. This will be explained below.

'Coming into contact' with information is a broader concept than 'seeking' information. Coming into contact with information that is potentially relevant to some need may result from intentional information seeking (whether focused searching or more general browsing and monitoring), or from encountering information serendipitously.

The inclusion of 'potentially relevant to some need' in the heading for this section reflects the fact that unless a person encountering information perceives it as potentially relevant to some need (not necessarily at the time, but possible some time later) the encounter may simply not register with the person. If a person comes into contact with information of which they are completely unaware and which totally bypasses them, this does not constitute information behaviour on their part. It would, however, if the relevance of the encounter were realized at some later point. This qualification rules out coming across information that is totally irrelevant to a person, and which thus may not even be noticed or remembered. Only when it is perceived as potentially interesting/useful can it be regarded as an 'information encounter' as opposed to constant everyday reality in which all our senses are constantly bombarded with data and information.

However, further qualification is needed if we are to be able accurately to classify examples of 'coming into contact with information' as instances of information behaviour. Take, for example, the case of a person coming across a new algorithm for solving a particular computing problem:

> I came across Quinlan's ID3 algorithm, which is much better than the other algorithms I was exploring for solving my particular problem. The reason the algorithm is so much better is that . . .

I argue that this would only constitute information behaviour to the extent that substantial reference is made to the characteristics (the nature or type) of the information source where the algorithm was found, or the circumstances of coming across it (e.g. searching, browsing, encountering) as in, for example:

> I came across Quinlan's ID3 algorithm when I searched using Google Scholar. Google Scholar proved more effective in this case than Google . . .

THINK!

Imagine the case where Person A encounters a piece of information but does not notice it. Someone else (Person B) thinks that this information is potentially relevant to Person A. Can Person A's encounter be considered a case of information behaviour?

The key question in deciding this is whether the information is or is not 'potentially relevant' to Person A. If Person A was a patient suffering from a particular condition, and Person B was a doctor recognizing that the information encountered could in fact have been useful to Person A, then

studying the reasons for and the result of Person A failing to notice the information – provided that there is a focus on the characteristics of the information, or the way in which it was discovered – would constitute information behaviour research. Recall that these definitions are generic – so focusing on the way in which information failed to be discovered would also render this information behaviour research. Thus information can be potentially relevant to a person without that person necessarily recognizing this.

Assessing the suitability of information in relation to some information-related need

A key component of information behaviour is judging the suitability of information with which a person comes into contact in relation to some need. 'Suitability' is used broadly here to include intelligibility, relevance, trustworthiness and usefulness in relation to some need. The information may be suitable in terms of helping to satisfy, partly satisfy, focus, refine, stimulate, or even discard a need. Note that assessing the suitability of information does not, in the definitions used in this book, include engaging in its basic decoding (e.g. reading and comprehending the message that it gives). Otherwise, information behaviour research would embrace studies of the way in which children learn to read, listen and speak. Considering the extent to which information is or is not easily intelligible, however, is included.

Using information – or knowledge with a focus on the characteristics of the information from which it was derived

Note again that the heading above is more extensive than that in Figure 2.1. This is explained below. *Using* information includes recalling, applying, sharing and/or communicating it. Note, however, that there is a difference between 'using information' and 'using knowledge'.

THINK!

Recalling the previous discussion of the difference between information and knowledge, can you think of an example of using *information* as opposed to *knowledge* (i.e. a person using information which is not part of his or her knowledge)?

Strictly speaking, whether it is *information*, or *knowledge* derived from that information, that is being used by a person on a particular occasion depends on the extent to which the information has been processed by that person such that it has become part of his or her knowledge. If information is used

(for example shared or disseminated) verbatim, with minimal intellectual ingestion by the person passing it on – i.e. without it being processed to become part of that person's knowledge – then the person can be said to be using information. But if what is being applied or passed on is knowledge derived from the information (i.e. if it has been processed and integrated into the person's knowledge structure) then the person can be said to be using or sharing knowledge (derived from information). It is difficult to see how a person could *apply* information (as opposed to knowledge), in that 'apply' (as opposed merely to passing it on) implies understanding on the part of the person doing the applying – in which case it is *knowledge* (derived from information) that is being applied.

If we were to include 'using knowledge' in our definition of information behaviour then any instance of thought, or conscious action which makes use of any knowledge, would be included. And surely just 'thinking' (a use of our knowledge) does not of itself constitute 'information use'?

But if we specify 'using information (and not knowledge)', this rules out activities in which the person has understood the information they are using (since it will have become part of their knowledge). This would rule out a study of the comparative effectiveness of a cookery book and a YouTube video (different types of information source) on how to make bread. The key measure of effectiveness would be the extent to which a sample of people was able to apply the information (which implies they have incorporated it into their knowledge) and go on successfully to bake a loaf. But surely this would be a good example of an 'information behaviour' study? It seems neither viable nor desirable to rule out of the domain of information behaviour research any case where the information being studied is successfully understood!

THINK!

It seems as though we can only either *under*-specify information behaviour (by including any sort of thought!), or *over*-specify it (by excluding making use of any information that has been understood!).

Can you think of a solution to this problem in relation to 'using information' or 'using knowledge'? Spend a few moments thinking about this before proceeding.

The solution I have adopted here is to elaborate the definition to become:

> 'Using information – or knowledge with a focus on the characteristics of the information from which it was derived.'

This does two things:

1 It enables the *inclusion* within 'information behaviour' of behaviour which does not necessarily entail the person engaging with the content and integrating it into his or her knowledge. Thus, avoiding, ignoring, hiding or destroying an information source can be considered to be types of information behaviour.
2 At the same time, it *excludes* examples simply of the application of a person's knowledge – for example, how a person uses his or her knowledge to solve a mathematics problem, or what is the best way to remember road signs in order to pass one's driving test – without reference to the information from which the knowledge was derived.

Organizing information for one's own access and use

Information may be organized and managed in many ways – both formal and informal. Libraries typically use classification and indexing schemes to enable subject access to information sources, and cataloguing rules to enable access by authors and titles. Organizing and managing information is clearly behaviour, and this behaviour is clearly applied to information.

THINK!

So are librarianship and information management included within (i.e. are just aspects of) information behaviour? And if not, what is the essential difference between them and information behaviour?

Take a few moments to think about this before reading on . . .

Some qualification is required if we are to avoid subsuming under 'information behaviour' the distinct fields of cataloguing, indexing and classification, and indeed most of librarianship and information management.

For this reason I have added 'for one's own access and use' to the heading for this section. This excludes as information behaviour the organization of information services for clients – for example, the cataloguing materials in an academic library. At the same time, it would include the organization of information by particular individuals or groups for their own access and use.

For example, a study of cataloguing in an academic library could be a study of information behaviour if the researcher's focus is on the information behaviour of the academic community in which the library exists and of which it forms a part (in which case, the focus would be on the community's 'own' access and use). Similarly, a study of how a particular group of people organize the information they need and use would constitute information behaviour research.

And finally . . . a definition of 'information behaviour'

So far in this chapter I have:

- defined **information** and **behaviour**
- considered a number of definitions of **information behaviour**
- explored the **components** of information behaviour, and
- identified the **complications** that we must take into account if we are to differentiate information behaviour from closely related but distinct concepts.

We are now in a position to define information behaviour more rigorously. Figure 2.2 shows the formal definition used throughout this book.

Information behaviour is engaging in any or all of the following activities:

- perceiving some information-related need;
- coming into contact with information potentially relevant to some need;
- assessing the suitability of information in relation to some information-related need;
- using information or knowledge

with reference to/a focus on the characteristics of the information in terms of:

- its nature (e.g. accuracy, trustworthiness, style, approach, level);
- its medium (e.g. text, audio);
- its source (e.g. from whom or where it emanates); and/or
- the mode or circumstances of its discovery (e.g. searching, encountering).

- organizing information for one's own use.

Figure 2.2 Information behaviour defined

THINK!

Let's now test this definition. Consider the following research questions. All of them entail studying people's processing or use of information (i.e. behaviour applied to information). But to what extent would you consider each as clearly falling within the scope of 'information behaviour'?

1. How do people learn to read?
2. What does a driver need to know in order to pass the driving test?
3. What are the causes of dyslexia?
4. How justified are claims that Mary Shelley's novel *Frankenstein* is a Romantic Feminist reading of Milton's *Paradise Lost*?
5. Which of two TV adverts is more effective?
6. What is the best way to teach management?
7. How do meteorologists interpret cloud formations to predict the weather?

8. What is the most accurate mathematical formula for engineers to use in predicting stress on a bridge caused by a cross-wind?
9. What are the most effective forms of political spin?

All of these examples entail *behaviour* (thoughts or actions) relating to *information*. But do they fall within the scope of *information behaviour*? To what extent are they the province of education, psychology, literary criticism, sports science, marketing, management, engineering and politics? Can we really – and would it be desirable to try to – appropriate them to the field of information behaviour? Take a few minutes now to think about each example, in terms of whether you think it does or does not fall within the scope of information behaviour – and why. Once you have decided, read on.

Here are my own answers, based on the discussion and resultant definition of information behaviour above.

1 **How do people learn to read?** The closest activity in the definition of information behaviour is 'assessing the suitability of information', but reading is basic decoding (as opposed, for example, to assessing the degree of its intelligibility) and does not qualify as information behaviour.
2 **What does a driver need to know in order to pass the driving test?** This could be reformulated as 'What are the information needs of drivers intending to take their driving test?' Such a study of information needs would not *per se* qualify as a study of information behaviour. Recall that an information need is the cause of information behaviour but not information behaviour itself. No behaviour is specified as the focus of the study (e.g. how different people may perceive their information needs differently). No reference is made to the nature of the information or the circumstances of acquiring it.
3 **What are the causes of dyslexia?** As in (1), basic decoding (reading) does not qualify as information behaviour according to the definition used here.
4 **How justified are claims that Mary Shelley's novel *Frankenstein* is a Romantic Feminist reading of Milton's *Paradise Lost*?** This study does not entail any of the activities listed. It involves analysing information (*Frankenstein* and *Paradise Lost*) in order to address an information-related need (to assess how justified the claims are) but it does not focus on the characteristics of the information in any of the senses listed.
5 **Which of two TV adverts is more effective?** If this study explored consumers' assessment and subsequent use of the information in relation

to a need (for the product), and if it focused on the role of characteristics of the information (e.g. the adverts' different styles or approaches) then it would qualify as an information behaviour study.

6 **What is the best way to teach management?** As in (5), if this related to the role of characteristics of information (e.g. different types or channels) and if it also focused on 'assessing the suitability of information in relation to some information-related need' (to learn about management) then it would qualify as an information behaviour study.

7 **How do meteorologists interpret cloud formations to predict the weather?** This entails the use of information, and if the study focused on the characteristics of the information (cloud formations), for example assessing the suitability of this type of information compared with other types of information, then it would qualify as an information behaviour study.

8 **What is the most accurate mathematical formula for engineers to use in predicting stress on a bridge caused by a cross-wind?** Although the implied activity entails assessing the relative suitability of two pieces of information in relation to an information need, there is no focus on the characteristics of the information in any of the senses listed in the definition.

9 **What are the most effective forms of political spin?** As in (5), if this study focused on the effects of particular characteristics of the information (e.g. different styles or approaches) on consumers' assessments and subsequent acceptance or rejection of the political message, then it would qualify as an information behaviour study.

Information behaviour and cognate areas

Information behaviour is related to – but distinct from – information literacy, information management, knowledge management and information retrieval. Let us briefly explore how these concepts relate to information behaviour, and how they are different.

Johnston and Webber (2003) define information literacy as:

> the adoption of appropriate information behaviour to identify, through whatever channel or medium, information well fitted to information needs, leading to wise and ethical use of information in society
>
> Johnston and Webber, 2003

'Literacy' is a value-laden (as opposed to value-free) concept, in that it is

generally accepted that to be literate is better than to be illiterate. Information behaviour, on the other hand, can include undesirable as well as desirable behaviour. As noted by Johnson and Webber, information literacy is associated with information behaviour that is *effective* in terms of achieving a desirable goal ('wise and ethical use of information').

Information and knowledge management also require understanding of the information behaviour of the groups, organizations and communities on which they focus. Managing information and knowledge (including the design, development, deployment and evaluation of information systems and strategies) clearly represents information behaviour on the part of the group, organization or community whose information or knowledge is being managed. However, the activities of the individuals engaged in such management do not represent the information behaviour of those individuals (unless their management activities are focused on their own information-related needs). Thus, a study of how an individual, group, organization or community organizes and manages its own information and knowledge (as opposed to managing information for others) does fall within the province of information behaviour research. A study of, for example, cataloguing practices in an academic library would not qualify as a piece of information behaviour research according to the definition used in this book unless the study was focusing on the information behaviour of the academic community served by the library.

'Information retrieval' is a term often used in two ways. Firstly, it can refer to the process of finding information from a retrieval system. Secondly, it is often used to refer to the processes of designing systems that enable people to retrieve information. Thus the field includes both information behavioural and technical aspects. Examples of the latter are system design, testing and evaluation. Studies of these activities would not qualify as information behaviour research. Examples of the former are studies of the way in which people use and interact with a retrieval system in terms, for example, of the needs they bring to it and the strategies they use. Such studies would be included in the definition of information behaviour used here. In this case, information retrieval would be equivalent to information searching (insofar as retrieving relevant information is the goal of information searching). Information searching is considered here to be a subset of information seeking. Information searching (in keeping with information retrieval) is generally used to imply the use of some search tool. Information seeking includes, but is not limited to, searching using a specific tool.

A study of a person (or team) designing an information retrieval system, however, would not constitute a study of that person's (or team's) information behaviour – unless the system was designed to support the information-

related needs of the person or team, as opposed to other users the system was designed to support.

Summary

A satisfactory definition of 'information behaviour' cannot be generated simply by combining the definitions of 'information' and 'behaviour'. This chapter has attempted to clarify all three concepts.

At one level, this does not really matter. No information professional is going to withdraw from helping a client because the information-related problem they are facing does not fit an academic definition of 'information behaviour' such as the one presented here. No researcher interested in the way people solve information-related problems is going to abort a line of inquiry because it takes him or her outside such a definition. After all, a research project does not need a label to proceed – any given project may bring aspects from multiple fields of study. There is nothing to say that an information behaviour investigation cannot draw from and include aspects of psychology, communication studies or management.

However, at another level, a precise working definition is useful insofar as it enables the reader of this book to share with the author a clear understanding of precisely what are the scope and boundaries of what is being discussed. It also enables the author to be consistent in his use of terminology and concepts relating to 'information', 'behaviour' and 'information behaviour' throughout this book, and coherent decisions to be made as to what is included and excluded. The definition adopted is arguably sufficiently broad to reflect the new and broader directions in which researchers and practitioners are taking us in this field, and at the same time sufficiently narrow to avoid unprincipled and unreasonable claims of the field to cover almost any form of human thought and behaviour.

It is important inadvertently to adopt an Alice in Wonderland approach to word definition:

> 'When I use a word,' Humpty Dumpty said in rather a scornful tone, 'it means just what I choose it to mean – neither more nor less.'
>
> Carroll, 2013

If we are studying information behaviour in depth, we must be clear about its nature. This relates to exactly what it consists of (what are its constituent elements and how they interact), how it relates to, and how it is distinct from closely related concepts such as information *needs* and the *effects* of

information behaviour, and closely related fields of practice and research such as information and knowledge management and information retrieval.

The definitions explained above are offered as working definitions that provide a consistent base for the introduction of themes and issues in the rest of this book. They are not claimed to be universally accepted, or to address the depth and complexity of some discussions, particularly of the nature of data and information. For more in-depth discussion of basic concepts and terminology, the reader is referred to Chapter 3 of Case (2012) and to Fisher and Julien (2009).

Having addressed these basic issues, the book now turns in the next chapter to the driver and motivating force behind information behaviour – information-related needs.

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