

Improving consumer comprehension of online contractual terms and privacy policies

Literature review

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Executive Summary

The Behavioural Insights Team (BIT) was commissioned by the Department for Business, Energy and Industrial Strategy (BEIS) to undertake a review of the existing evidence on techniques that increase consumer engagement with, and understanding of, online contractual terms and privacy policies. Online experiments suggest that when attempting to increase engagement with contractual terms and privacy policies, telling participants that reading terms and conditions ‘only takes five minutes’ increased the number of participants clicking to read them, and showing participants the full terms by default increased self-reported engagement with terms and conditions. The review also found that in lab settings, shortening, simplifying and visually representing terms has the potential to increase understanding.

We found a number of behaviourally informed techniques could hold promise in encouraging consumers to engage with and understand contractual terms and privacy policies. To increase engagement, promising techniques include: the use of social norms, reading cost cues, financial incentives, personalisation, appeals to urgency, timely prompts and trusted messengers. To increase comprehension, promising techniques include: the use of summaries such as standardised summary tables, shortening, improved readability, layering of terms within a hierarchical/concertina structure, just in time explanations of terms and policies, and comics, cartoons, and other visual icons and graphics. The findings of this literature review will help BIT and BEIS to design evidence-based interventions to test within six online experiments. The results of this literature review, and the subsequent online tests, will form the basis of a best practice guide for businesses on how to present online contractual terms and privacy policies to consumers online.

Introduction

This literature review summarises existing evidence on techniques to increase consumer engagement with, and understanding of, online contractual terms and privacy policies. We define engagement as opening or reading contractual terms or privacy policies. This can be measured empirically by tracking open rates and time spent on web pages or through self-reports of whether consumers read the contractual terms or privacy policy. We define comprehension as consumers correctly understanding the terms that they are agreeing to when making a purchase or signing up to an ongoing contract. This can be measured empirically by asking consumers multiple choice questions to discern if they have correctly understood key terms, or through self-reports of whether they found the contractual terms or privacy policy hard or easy to understand.

This review focuses on empirical studies. As there are relatively few in this field, a number of studies from other contexts have been included where it is felt that their behavioural and psychological underpinnings are transferable to comprehension of, and engagement with, contractual terms and privacy policies.

This review aims to summarise the evidence that could inform solutions to the issue of low engagement and comprehension of contractual terms and privacy policies - rather than focusing on reviewing the broader theoretical literature on why consumers do not engage with, or understand, contractual terms and privacy policies.

Research questions

This literature review aims to explore the following research questions:

- How can online contractual terms and privacy policies be presented to improve **consumer engagement** with them?
- How can online contractual terms and privacy policies be presented to improve **consumer comprehension** of them?

Methodology

We conducted a rapid review of the most relevant evidence to assist understanding of our research questions. The limited timespan of the review meant it was not systematic.

Instead, the review was conducted in three phases:

- we consolidated existing evidence reviews and policy documents BIT has drafted for similar projects;
- we drew on existing BEIS and CMA knowledge of relevant evidence; and
- we conducted a time-limited review of the latest literature (last ten years). We searched through high-quality (peer-reviewed) sources and the grey literature of market research, working papers and government reports.

A record of search terms is included in Appendix A, and in each case the results were ordered by relevance and at least the first 5 pages of results were reviewed. Only studies published in the last 10 years were included except in a few instances where an older study is considered seminal and demonstrates a general and well-established behavioural insight.

Background

Engagement with, and comprehension of, online terms and conditions and privacy policies has been a subject of study across multiple disciplines including law, product design,

computer science, economics, and psychology. As Elshout et al. (2016) note, different surveys return large variance in self-reported reading rates of privacy policies and terms and conditions, from 1 per cent to 65 per cent of online users (Milne and Culnan 2004; Gordon 2004). In a small survey (n=144) of UK, US, and EU computer security professionals, only a small minority (<11 per cent) in each region said they always read the privacy policy of websites they visited (Gordon 2004). While these studies looked at self-reported reading rates, Bakos, Marotta-Wurgler, and Trossen (2014) captured actual browsing behaviour of over 90,000 households in the United States. Overall, they found that engagement with contractual terms was very low, with only one or two out of every thousand retail software shoppers accessing a license agreement.¹ Whilst we did not find similar field studies looking into how often consumers access privacy policies, experimental evidence suggests engagement with privacy policies is also likely to be low (N. Good et al. 2006; Obar and Oeldorf-Hirsch 2016).

As the OECD have recently noted, low reading rates are a reasonable response to the time and effort costs of reading long and dense terms (Barker 2018). (McDonald and Cranor 2008) estimated the time required to read privacy policies to be about 200 hours per year per person in the US and that reading online privacy policies word-for-word would cost \$781 billion annually in lost time. When consumers do read companies' terms and conditions and privacy policies, they find them difficult to read and understand. Luger, Moran, and Rodden (2013) use the SMOG (Simple Measure of Gobbledygook) readability formula and find that energy supplier 'terms and conditions were far beyond what a functionally literate adult could be expected to understand' (p. 2,687). Similarly, Proctor, Ali, and Vu (2008) find privacy policies are written at reading levels corresponding to 13 years of education but that even college students show poor comprehension of these policies.

A common finding in the field of privacy research is the 'privacy paradox' - the majority of consumers say they want to protect the privacy of their personal data in surveys, but they do not behave accordingly in practice (see Spiekermann and Korunovska (2017) and Norberg, Horne, and Horne (2007), and see Gómez-Barroso (n.d.) for a review). This may be explained by 'present bias' - the tendency for people to place greater value on immediate rewards, often at the expense of longer term costs. In addition, the risks of giving away data are often uncertain, unknown, and abstract, which may make them less salient to consumers making decisions (John, Acquisti, and Loewenstein 2009). And there is little

¹ The authors used a dataset from an online research company, which had recruited a representative panel of U.S. households that had agreed to install a data collection plug-in on their computer to record the URL address of each webpage visited. Data from 2007 showed that these households downloaded the end-user license agreement in 63 of the 131,729 visits to software retailers' websites (0.05 per cent of all such visits).

feedback: consumers may not even know when their data has been compromised as a result of a transaction they made online in the past (Milne, Rohm, and Bahl 2004).

Consumers usually do not have an opportunity to negotiate their preferred level of online privacy, but instead have to decide on a case-by-case basis whether to accept or decline individual privacy policies. There is mixed evidence on how much individuals are willing to pay to avoid giving away their personal data, and how much they need to be paid to give up their personal data. Experimental evidence suggests that when privacy policies are 'salient and accessible, some consumers are willing to pay a premium to purchase from privacy protective websites' (Tsai et al. 2010, p. 254). In a small lab study, participants (n=48, split across three conditions) purchased products from sites marked with medium or high levels of privacy at substantially higher rates than from sites not marked with this information. However, this was a small study, and therefore the conclusions should be drawn with caution. In another small lab-based study (Hann et al. 2007), people agreed to share personal information for small rewards. Researchers asked participants (n=268, 84 from the US and 184 from Singapore) to rank fictional websites in order of how likely they would be to use them and find that monetary rewards as low as \$5 and convenience attributes (speed and ease) often outweigh privacy policy differences in determining participants' rankings of the websites.

Lack of engagement with, and understanding of, terms and conditions and privacy policies can result in range of negative outcomes for consumers. For example, consumers may share more personal data than intended or desired, resulting in unforeseen compromises to their privacy and unexpected receipt of marketing material from businesses; they may purchase a product that they could not return due to a misunderstanding about the terms and conditions; and they may lose money due to unintended violations of a warranty agreement, unexpected early termination fees, or other unexpected charges. In a survey of European Community citizens (n=6,045) (Elshout et al. 2016), 9 per cent said they experienced regret about not reading the terms and conditions involved in an online purchase. However, we should treat this result with caution because of possible social desirability biases (A. Edwards 1957; Hoskin 2012), such as respondents feeling that they should have read the terms and conditions. In surveys (n=1,012) of Polish and Dutch consumers (ibid), 26.6 per cent of respondents said they had experienced problems in the past year because of insufficient understanding of the terms and conditions involved in a purchase or use of a service or product.

Consumers who do not understand contractual terms are more likely to select sub-optimal contractual arrangements. Even in competitive markets, the price of add-ons can be shrouded and have large mark-ups (Gabaix and Laibson 2006), which sophisticated consumers may avoid but naive consumers either do not notice or understand. For example,

Bergstresser and Beshears (2010) find that households selecting adjustable-rate mortgages (ARMs) during the recent decade were disproportionately those who may have had difficulty understanding complicated ARM features that were commonplace prior to the financial crisis.

Improving consumer engagement with contractual terms and privacy policies

The following section summarises the existing evidence on which techniques have the potential to increase engagement with online contracts and privacy notices. We define engagement as opening or reading contractual terms or privacy policies. This can be measured empirically by tracking open rates and time spent on web pages or through self-reported measures where consumers report whether they read the contractual terms or privacy policy.

To structure this section, we have used the Behavioural Insights Team's EAST framework (Behavioural Insights Team 2014), a toolkit for policymakers to apply the behavioural sciences literature to policy problems. This section details the evidence for how presentation techniques increase engagement with contracts and privacy notices under the headings of making it easy, attractive, social and timely.

Make it easy

- **Default exposure** - One way to encourage consumers to read terms and conditions and privacy policies is to provide the full text on screen by default. In an online lab study (n=9,953), Elshout et al. (2016) found that 9.4 per cent of website visitors opened the terms and conditions of mock websites when doing so was optional. When scrolling through the terms and conditions was the default option, 77.9 per cent report they at least scanned the terms. Note the different measurement methods between those statistics. The click rates are measured behaviour, whereas the reading rates are reported by participants, where they answer how much they read the terms by choosing between the choices 'Not at all', 'Scanned', 'More than half', and 'Read all'. In the online environment, businesses have flexibility in creating default exposure of terms and conditions and privacy policies. However, forcing consumers to scroll through terms and conditions or privacy policies is likely to add friction to the customer journey and may reduce conversion (the completion of a customer journey, such as signing up to a membership or purchasing a product). When researching forced exposure in the context of pop-up ads, S. M. Edwards, Li, and Lee (2002) varied the intrusiveness of pop-ups and the similarity of the pop-ups' content to participants' tasks, and then surveyed participants (n=379) about their experience of the ads. They found that website users were less annoyed by pop-ups

when they were not presented in the middle of a task, when the pop-up ads were relevant to what they were already doing, and when the ads provided some value. Similarly, consumers may be more interested in engaging with terms when they do not interrupt a process and when they provide information that is timely and useful (see our discussion of just in time explanations on p. 23 of this report).

Make it attractive

- **Reading cost cues** - Letting readers know how long something will take to read can drive increased engagement, much in the way medium.com and other publication and news sites note 'reading time' for articles. Where opening the terms and conditions was optional rather than the default, Elshout et al. (2016) found opening rates in an online experiment with fictional websites increased from 9.4 per cent to 19.8 per cent if consumers were shown a message that informed them that 'reading the terms and conditions takes less than five minutes'. In an interview with journalist Maria Konnikova (Konnikova 2013), psychologists Claude Messner and Michaela Wänke's speculated that estimated reading times reassure overwhelmed readers suffering a 'paradox of choice' when browsing online (though note that paradox of choice is itself an idea with a mixed replication record (Chernev, Böckenholt, and Goodman 2015)). One question regarding using reading cost cues to increase people's engagement with contractual terms and privacy policies is whether the reading cost cue could backfire if the estimated reading time is perceived to be too long by readers. We did not find any research into how the length of time displayed in a reading cost cue interacts with open rates.
- **Financial incentives** - Giving readers the chance to win a prize in exchange for reading privacy policies or terms and conditions may increase reading rates. Whilst we did not find research into lottery incentives increasing consumer engagement with terms and conditions or privacy policies, studies from other domains suggest it may be an effective approach. Many examples of the power of lotteries to influence behaviour come from the health policy area. Lottery incentive schemes have improved weight loss (Volpp, John, et al. 2008), medication adherence (Volpp, Loewenstein, et al. 2008) and health risk assessment completion (Haisley et al. 2012). The traditional explanation for the effectiveness of lotteries relates to the nonlinear weighting of probabilities - moving the chance of winning from 0 per cent to 5 per cent (creating a possibility) is more attractive than a change from 5 to 10 per cent (Tversky and Kahneman 1981) - and participants' tendency to focus more on the prize than their chance of winning. However, lotteries are not always as effective as simple financial incentives. For example, Niza, Rudisill, and Dolan (2014) used a randomised controlled trial to measure strategies to encourage chlamydia screening and found that a lottery for a £200 prize increased responses, but only by 1.3 per cent; by comparison, they found that a £5 voucher increased responses by 21.3 per

cent. Financially incentivising customers to read terms and policies may be cost-effective for firms insofar as doing so may prevent costs from future complaints, disputes, or customer confusion.

- **Using opt-out rather than opt-in choice design** - It is possible that leaving contractual terms or privacy policies unticked, and requiring consumers to actively register their agreement, will increase engagement with these policies. However, no study has yet looked at whether consumers are more likely to engage with contractual terms or privacy policies based on whether their agreement is 'pre-ticked' or 'unticked'. Strong evidence exists to suggest that presenting boxes as ticked or unticked can lead to different levels of participation when opting in or out. For example, in two online experiments (n=277 and n=235) (Johnson, Bellman, and Lohse 2002) participants who had taken a survey were asked if they would like to be notified about more surveys. An opt-out design led to higher participation rates than opt-in designs: a tickbox with the label 'Notify me about more health surveys' induced 48 per cent participation when the box had to be ticked to opt in, but 74 per cent participation when the box had to be unticked to opt out. In other words, only 26 per cent of people unticked the box in the opt-out condition, even though a majority had not ticked to participate in the opt-in condition. See Figure 1 for more detail on how framing of the question affected participation.

Figure 1: Four ways of asking for participation (Johnson, Bellman, and Lohse 2002)

Question	Percent Participating
(1) <input type="checkbox"/> Notify me about more health surveys.	48.2
(1) <input type="checkbox"/> Do NOT notify me about more health surveys.	96.3
(3) <input checked="" type="checkbox"/> Notify me about more health surveys.	73.8
(4) <input checked="" type="checkbox"/> Do NOT notify me about more health surveys.	69.2

- **Scarcity and urgency cues** - Creating urgency to read the privacy policy or contractual terms may increase consumer engagement with these policies. Phishing scams, wherein scammers obtain sensitive information through fraudulent means, have long employed urgency cues to increase conversion (Naidoo 2015). Climate change communication strategists employ urgency to increase the persuasiveness of the need for emissions reductions (Dilling and Moser 2004; Moser 2010), although even these authors note that these strategies have mixed success and call for further research into how to use urgency appeals without overwhelming audiences. People impose deadlines on themselves to improve their own motivation to finish tasks

(Ariely and Wertenbroch 2002). Contractual terms and privacy policies could also use these techniques to drive engagement, e.g. 'this is your last chance to see these terms before we process your order / start using your data'. However, we did not find research that has investigated this idea in the domain of contractual terms.

- **Personalisation** - Website designers can address users by name. To our knowledge, no researchers have tested the effect of this technique on opening rates. BIT has used personalisation to increase car tax compliance. When letters to non-payers included a picture of the offending vehicle, payment rates rose from 40 to 49 per cent (Behavioural Insights Team 2014). Sending texts that included the name of the individual increased payment rates by two to three times, although texts that specified the amount the person owed triggered similar (slightly lower) effects (Behavioural Insights Team 2014). It is possible that a similar effect could drive higher engagement with terms and conditions and privacy policies.

Make it social

- **Social norms** - Indicating that other users read contractual terms and/or privacy policies may drive increased engagement. In many other domains, researchers have found that the visibility of others' actions modulate the extent to which social norms influence people's behaviour (Nyborg et al. 2016). Where the overall percentage of people reading the privacy policy or terms and conditions is low, alternative strategies include displaying absolute numbers such as the number of people who have read the policy that day or week, the percent that think reading terms is important, or the percent that regret not reading terms at this stage in the customer journey.
- **Trusted messenger** - Conveying contractual terms and privacy policies through a trusted messenger may encourage more consumers to engage with them. Many studies have demonstrated the influence of a 'trusted messenger' on people's willingness to believe and act upon a given message (Moser 2010). However, in the experimental study conducted by the European Community (Elshout et al. 2016) an expert endorsement of the terms by well-reputed professors of consumer law caused lower purchase intentions, though endorsement from consumer organisations had positive effects. Unfortunately, the study did not look at how these quality cues influenced engagement or comprehension - they only looked at how they influenced consumers' self-reported trust in the company and its terms and conditions. Also, some caution in interpreting the study's results is warranted due to multiple comparison issues - although consumer organisation quality cues increased trust more than other quality cues, the multitude of comparisons makes it likely that at least a few of the trialled quality cues would have an effect, if only by chance.

Make it timely

- **Prompts** - Timely prompts have the potential to increase consumer engagement with contractual terms and privacy policies. Privacy policy best practice is to alert consumers when their data is going to be used in a way that would surprise them (Harris 2013). For example, operating systems that use location data can warn users just before collecting the data and provide them a chance to prevent the practice. Prompts have been shown to create behaviour change in a range of other domains, such as avoiding overdraft charges (Garavito, Hunt, and Kelly 2015) and increasing academic attendance and achievement for sixth-form college students (Hume et al. 2018). However, see Ben-Shahar and Chilton (2016) (discussed in more depth in the section below on using timely reminders to improve comprehension) for an example of where a timely warning did not change consumer behaviour.

Improving consumer comprehension of contractual terms and privacy policies

The following section summarises the existing evidence on which techniques have the potential to increase consumer comprehension of online contracts and privacy notices. By comprehension we mean consumers correctly understanding the terms that they are agreeing to when making a purchase or signing up to an ongoing contract. This can be measured empirically by asking consumers multiple-choice questions to discern if they have correctly understood key terms, or through self-reported measures where consumers report whether they found the contractual terms or privacy policy hard or easy to understand.

To structure this section, we have used the Behavioural Insights Team's EAST framework (Behavioural Insights Team 2014) - detailing the evidence for how presentation techniques and formats increase understanding of contracts and privacy notices under the headings of making it easy, attractive, social and timely.

Make it easy

- **Shortening** - Shortening terms and conditions and privacy policies has been shown to increase consumer understanding and is considered a best practice (Harris 2013; Grannis 2014). In the study with 12 European Community member states, researchers found that shortening and simplifying (see next point) terms and conditions increased both reading rates and understanding (Elshout et al. 2016). However, care must be taken when shortening terms into summaries, as this can lead to an increase in use of jargon and unclear wording. Two recent online experiments by the Behavioural Insights Team and Money Advice Service (2018) looked at how credit card companies present the key terms to consumers online

when they are applying for credit cards. The first study found that the way three large credit card companies present credit card terms leads to low comprehension (participants answered a third of questions about the costs associated with the credit card correctly, regardless of which provider's web page they viewed). The second study found that changing the presentation format of a credit card application webpage into 'six key facts' could almost double comprehension of key terms such as the charges associated with using the card.

- **Simplifying** - Simplification is a commonly cited best practice (Harris 2013; Grannis 2014). The US Department of Defense uses the Flesch Reading Ease score to test the readability of its forms (Luo and Callan 2001). Various US states use readability scores in regulation of many insurance policies (McClure 1987). The empirical evidence for the effectiveness of simplification in increasing comprehension is positive, but not uniformly so. A randomised experiment (N=141) tested a new explanation of an HIV vaccine that had been illustrated, restructured, and rewritten to have shorter words and sentences (Murphy et al. 2007). The new version showed significantly higher comprehension scores amongst women who saw the simplified version compared to women who saw the standard version. We should note that this effect could be driven by the restructuring and illustration in addition to - or instead of - the reading level reduction. In an experiment redrafting legal documents (N=48), texts with simplified words and sentence structures yielded higher comprehension than the original documents (Masson and Waldron 1994). However, in an experiment rewriting four documents related to social services (N=52, all 60+ years old), participants did not achieve higher comprehension in any of the four documents rewritten by readability formula (Walmsley, Scott, and Lehrer 1981). They only scored better comprehension on the document that had been simplified subjectively by skilled writers. In recent years there has also been a rise in the use of 'legal design', a collaboration between designers and lawyers to improve the design of legal documents and processes to make them more 'human-centred' (Haapio et al. 2018).
- **Displaying numbers in natural frequencies** - Where contractual terms and privacy policies discuss percentages, they could improve comprehension by using 'natural frequencies'. For example, '3 out of 100 people' in lieu of '3 per cent'. In medical contexts (Ahmed et al. 2012; Hoffrage et al. 2000), displaying numbers in natural frequencies instead of percentages increases comprehension and accurate risk estimation. In the context of payday loans, an experiment (n=1,451 across 77 payday loan stores) of interventions to reinforce the costliness of payday loans found that an intervention that highlighted the dollar fees incurred when rolling over loans reduced the take-up of future payday loans by 11 per cent in the subsequent 4 months (Bertrand and Morse 2011). This reduction may be due to customers better understanding - or more closely focusing on - the costliness of the loans. We did not

find research into whether the use of whole numbers and natural frequencies improves comprehension of contractual terms or privacy policies.

- **Standardised formats** - Using a standardised format for privacy policies, such as a grid marking how a company treats different categories of information, could help consumers understand companies' policies and more easily compare policies to each other. Carnegie Mellon's CyLab Usable Privacy and Security Laboratory developed a 'nutrition label for privacy' that increased comprehension of privacy policies (Kelley et al. 2010, 2009). Each section of the privacy policy is standardised, much as nutrition labels show ingredients and nutrient information. In their final report to the Federal Trade Commission, the Kleimann Communication Group (Kleimann Communication Group, Inc. 2009) proposed a privacy notice that included a front page outlining key facts and a standardised box explaining how and when personal information was shared (see Figure 2, below). The Internet Foundation In Sweden, an independent organization that promotes the 'positive development of the internet', has sponsored work to help firms standardise their terms as part of a 'common terms', which automatically creates previews with a uniform layout and common, short headings.² The Danish Competition and Consumer Authority designed a summary box for retail websites (see Figure 3, below) and tested the redesign against anonymised websites' current presentations (n=100). Participants who viewed the current presentations correctly answered an average of 3.44 out of five questions, whereas participants who viewed the redesigned terms correctly answered an average of 4.67 of the questions (Danish Competition and Consumer Authority 2018). Closely related ideas include the recommended use of a 'warning box' that only includes terms that do not meet consumer expectations (Ayres and Schwartz 2014) and guidance from the California Attorney General to minimise surprise (Harris 2013).

Figure 2: Web-based financial privacy notice prototype (Kleimann Communication Group, 2009)

² See <http://www.commonterms.net/beta/>.

- 1 – Title
- 2 – Instruction box
- 3 – Fact boxes
- 4 - Table
- 6 – Definition links
- 7 - FAQs
- 8 – Questions

What does [name of financial institution] do with your personal information? Rev. [insert date]

Three steps to find out:

1. Click on each fact to learn what financial companies do with your **personal information**.
2. Use the table to understand [name of financial institution]'s sharing practices and if it offers the option to limit sharing.
3. Read the **frequently asked questions** for additional information.

Click on each fact → to highlight a section of the table

Fact 1

Financial companies can share customers' personal information for particular reasons.

Fact 2

All financial companies share customers' personal information to run their everyday business.

Fact 3

Financial companies choose the reasons they share customers' personal information.

Fact 4

If your financial company shares your personal information, you may have the option to limit sharing.

Reasons we can share your personal information	Does [name of financial institution] share?	Can you limit this sharing?
For our everyday business purposes <small>such as to process your transactions, maintain your account(s), respond to court orders and legal investigations, or report to credit bureaus</small>		
For our marketing purposes <small>to offer our products and services to you</small>		[Yes] Limit >
For joint marketing with other financial companies		[Yes] Limit >
For our affiliates' everyday business purposes <small>information about your transactions and experiences</small>		[Yes] Limit >
For our affiliates' everyday business purposes <small>information about your credit-worthiness</small>		[Yes] Limit >
For our affiliates to market to you		[Yes] Limit >
For nonaffiliates to market to you		[Yes] Limit >

Frequently Asked Questions
Expand all | Collapse all

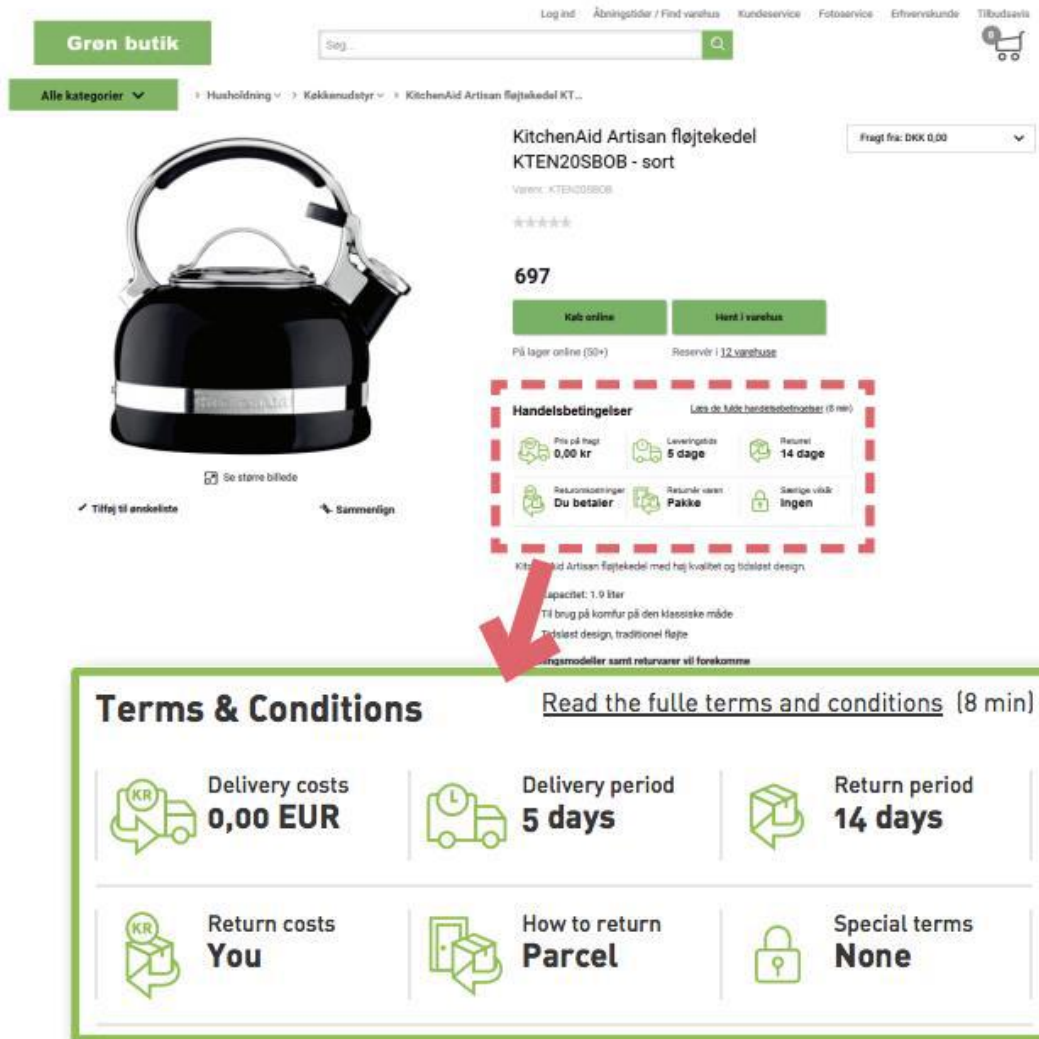
- [-] Who is providing this notice?
- [-] Why is [name of financial institution] providing this notice?
- [-] What types of personal information does [name of financial institution] collect and share?
- [-] How do I limit sharing?
- [-] When does [name of financial institution] begin sharing my personal information if I am a new customer?
- [-] Why can't I limit all sharing?
- [-] What happens when I limit sharing for an account I hold jointly with someone else?
- [-] What does [name of financial institution] do with my personal information when I am no longer a customer?
- [-] How does [name of financial institution] protect my personal information?
- [-] How does [name of financial institution] collect my personal information?

[return to top](#)

Questions?

Print version (PDF)

Figure 3: Summary box with icons created by the Danish Competition and Consumer Authority



Make it attractive

- Images, diagrams and animation** - Using images, diagrams, and animation could help consumers better understand privacy policies and terms. Informing consumers in a visual manner has been previously suggested to be best practice (Harris 2013; Grannis 2014), and the ICO recommends using visual guides as well as prose (Information Commissioner's Office 2018). BIT has worked with local government to improve complex consent processes and found improved comprehension through both simplification and the use of images and graphics to convey key messages (Hollingsworth and Britton 2017). Graphics increased customers' understanding of car finance contracts (McElvaney et al. 2018) and civil servants' understanding of legal instructions (Passera 2017). In South Africa, researchers developed a comic (see

Figure 4, below) to explain how to cancel a credit agreement (Botes 2017). They asked four questions about the cancellation process to 50 buyers of pre-owned vehicles, 46 of whom responded. Researchers then showed participants the comic and asked the questions again. Participants' scores improved from 78 per cent correct to 96.7 per cent correct across the four questions.

Figure 4: Credit agreement cancellation process comic (Botes 2017)

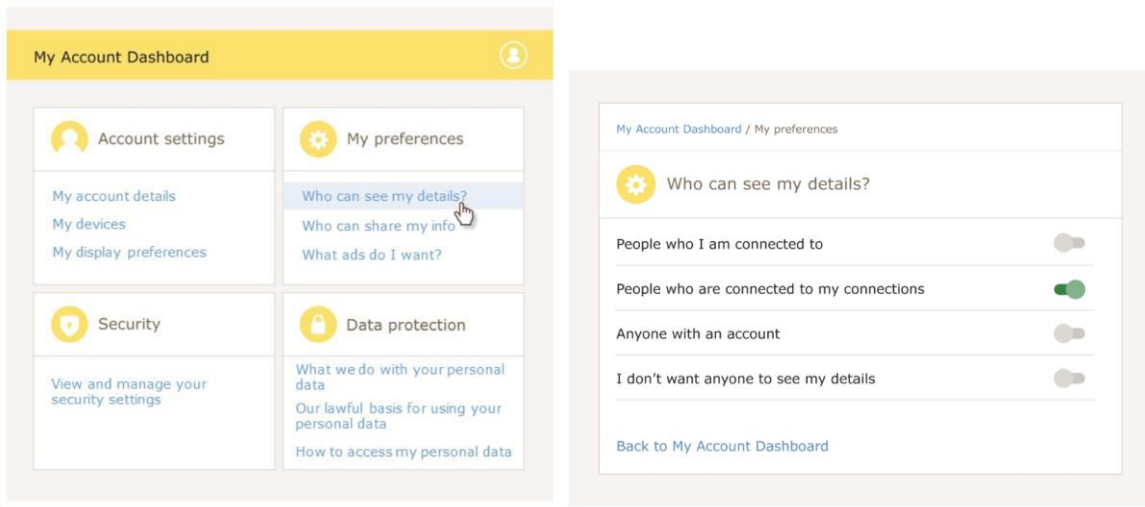


- **Incentives for correct understanding** - It is conceivable that it would be effective to pay consumers to read and understand policies, such as by giving customers the opportunity to answer five questions about the terms after making a purchase, with each correct answer earning them a monetary or in-kind reward. This idea is relevant given the high time costs associated with reading privacy policies (McDonald and Cranor 2008). However, no studies have been conducted that compare understanding of contractual terms or privacy policies between a control group and comprehension-compensated one.
- **Ordering effects** - It makes sense for designers to put the most important points and sections first or last, given that people are more likely to recall things that occur at the beginning (primacy) and the end (recency) of lists and forms (Murdock 1962; Welch and Burnett 1924). It is also clear that consumers skim policies because of

their length, which may increase the importance of ordering effects (as well as other design choices that give emphasis and importance cues). These considerations also inform design of summary boxes, whose first and last points may be the ones customers look at most closely.

- **Personalisation** - Personalising policies is an important lever to increase consumer comprehension - and usefulness to consumers.
 - a. First, website designers can build functionality such that each privacy policy or contractual terms sheet is customised according to the particular user's situation. Instead of a one-size-fits-all terms for every user of a company's products and services, companies could show consumers only the terms that relate to their specific purchases and circumstances. The OECD report on using behavioural insights to improve online disclosures notes that this sort of personalisation 'could improve disclosures by removing irrelevant information, highlighting pertinent information and could even pick up personal preferences about what, where and when to disclose' (Barker 2018), p. 9).
 - b. Another type of personalisation involves giving consumers control and influence over the data sharing involved in the use of a product. Previous policy guidance has recommended granular consent where possible (Harris 2013). The ICO recommends organisations give users a dashboard (see Figure 5, below) from which they can manage their personal data settings. Some research suggests that consumers are more likely to read contracts if they feel they can influence the contracts' terms (Becher and Unger-Aviram 2009). Despite that, experimental evidence suggests a 'control paradox' (Brandimarte, Acquisti, and Loewenstein 2013). People respond to the experience of greater control, even when the control is limited, by revealing more information. In an experiment (n=134) where participants taking a survey with intrusive questions obtained varying (between four conditions) degrees of control over the publication of their answers (Brandimarte, Acquisti, and Loewenstein 2013), on average, participants with more control over publication answered more questions, particularly the more intrusive questions. This behaviour does not have a clear connection to comprehension, but it is important to consider this paradox when crafting policy recommendations.

Figure 5: An example from the ICO of a dashboard to manage personal data settings



- **Vignettes** - Giving brief, engaging stories of how specific contractual terms or privacy policies would work in practice has the potential to help people to better understand them. Research among elderly people (n=70) found that presenting informed consent information on high and low risk medical procedures was better understood in a storybook format using vignettes compared to when information was presented as plain, factual text (Tymchuk et al. 1988). Using stories to explain complex information may also help people to remember it. In the same study, after following up with participants after one week, the researchers found that people who had seen the storybook format recalled significantly more than those who saw the plain, factual information.

Make it social

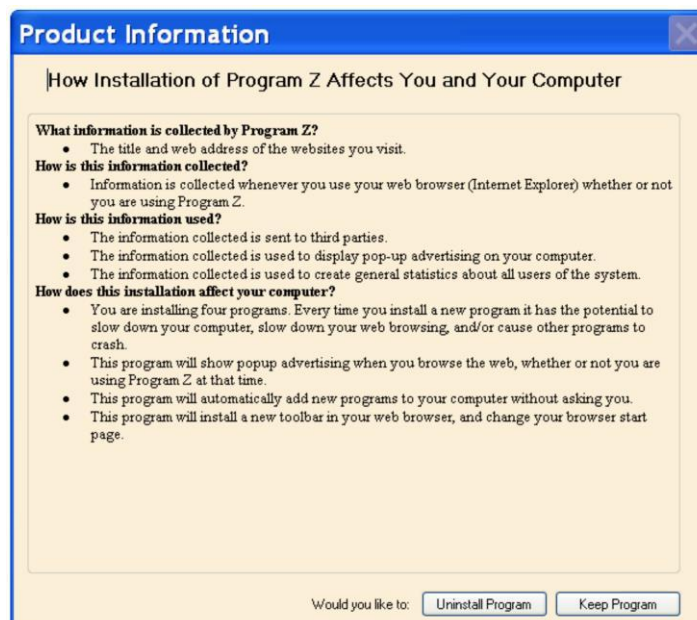
- **Trusted messenger** - Conveying policies through a trusted messenger may increase comprehension by increasing concentration and motivation to read the document. Though persuasion is qualitatively different from comprehension, people are persuaded to varying degrees depending on the trust they put in the communicator of a message. People are more influenced by people who are perceived as experts (Wilson and Sherrell 1993) and by sources who are demographically similar to them (Cabinet Office 2010). Researchers find that the presence and presentation of website privacy policies have a direct effect on consumer trust in the website (Casaló, Flavián, and Guinalú 2007). However, to our knowledge, researchers have not investigated whether consumers' comprehension of privacy policies increases when they trust the website itself. The European Commission study discussed in this review (see p. 12) looked at comprehension and trust separately (Elshout et al. 2016). While trusted messengers could increase comprehension, backfire effects are also possible. For example, when consumers have high trust in a website, they may

be less likely to closely read contractual terms and privacy policies, as they assume them to be favourable.

Make it timely

- **Summaries** - Summarising information is closely related to the sections above describing shortening terms and standardising formats. Experimental evidence shows that summarising contractual terms can improve consumer behaviour (suggesting they have understood the terms better). For example, a laboratory experiment with 222 participants downloading fictional adware applications found that summaries (see Figure 6, below) reduced downloads of spyware and increased installation cancellations. Participants in the control could read a long end-user licence agreement, but they did not see a summary of the agreement. An average of 17 per cent of people in the control cancelled installations, while 56 per cent of participants who saw a summary version of the end-user licence agreement before installation cancelled the installation, and 62 per cent of participants who saw this summary after installation took the opportunity to uninstall the programme (N. S. Good et al. 2007).

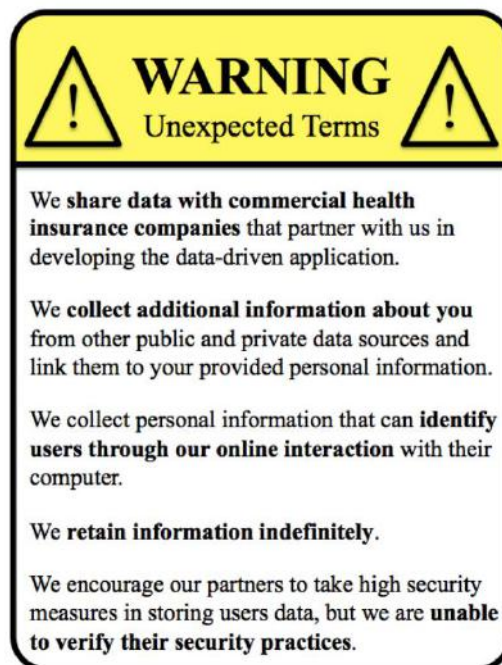
Figure 6: End user licence agreement summary (N. S. Good et al. 2007)



However, another online study found that a salient summary presented as a warning did not affect behaviour in relation to sharing sensitive information. Ben-Shahar and Chilton (2016) found that participants (n=1,484) shared sensitive personal data to a fake company that explicitly promised to be irresponsible with the data at similar rates regardless of whether they saw a control privacy policy or one written in a

simplified manner. The researchers used a ‘warning’ box showing only the five most unexpected items from the privacy policy (see Figure 7, below), in line with best practice guidance to draw users’ attention to data practices that may be unexpected (Harris 2013; Ayres and Schwartz 2014). Participants’ comprehension improved slightly - participants in the summarised warning box treatment correctly answered 1.53 questions, out of 5, compared to an average of less than 1 for the other treatments. However, participants who saw the summarised warning box treatment shared their information at similar rates to those who saw the control privacy policy.

Figure 7: Warning label style disclosure (Ben-Shahar and Chilton 2016)



- **Just in time explanations** - By giving consumers information when it is most pertinent to them, pop-up ‘warnings’ or inline comments could drive improved comprehension of relevant terms and policies. The ICO recommends this in its guide for organisations on how to provide privacy information to individuals (see Figure 8, below). In their guidance to organisations, they write: ‘Just in time notices are particularly useful when people provide personal data at different points of a purchase or interaction, often on an organisation’s website, when filling in a form. People may not think about the impact that providing the information will have at a later date. Just in time notices help to resolve this issue by providing relevant and focused privacy information in such situations’ (Information Commissioner’s Office

2018, para. 4). Just in time explanations may improve comprehension in similar ways to other ‘timely’ interventions. For example, prompting with information at a time when the information is relevant has been shown to be effective at encouraging hand washing after people have just used the toilet (Webb and Sheeran 2006). The explanations also break up the information into bite-sized chunks, which BIT has previously found to be effective at increasing comprehension of financial information by mitigating information overload (Behavioural Insights Team 2018). Prompts create behaviour change in a range of other domains, such as avoiding overdraft charges (Garavito, Hunt, and Kelly 2015) and increasing academic attendance and achievement for sixth-form college students (Hume et al. 2018).

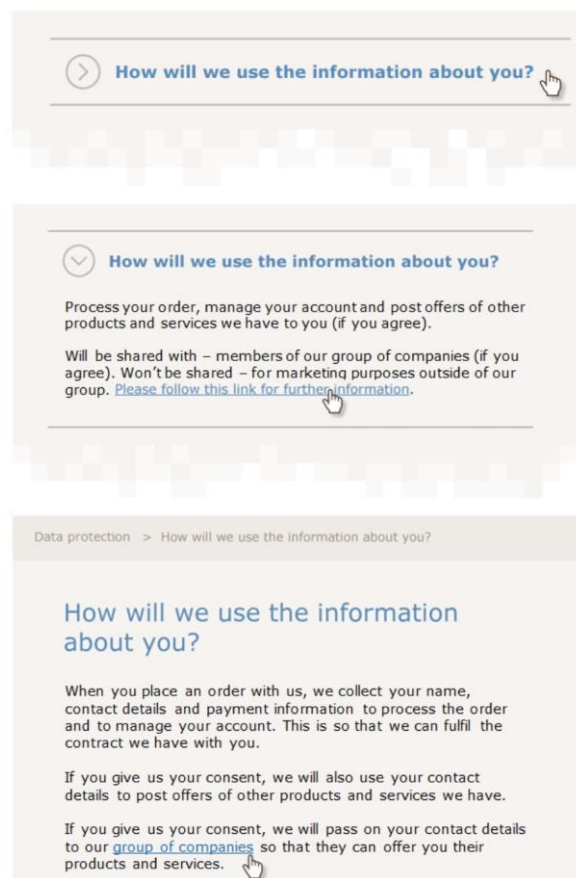
Figure 8: An example from the ICO of a just in time explanation of data use

The image shows a 'Create an account' form with the following fields: Title (dropdown menu with 'Mr' selected), Name (text input with 'Joe Bloggs'), Email address (text input with a lock icon), Username (text input), Password (text input), and Confirm password (text input). A yellow callout box points to the email address field with the text: 'We use your email address as part of allowing you access to your account, and in order to contact you with important information about any changes to your account. [Please follow this link for further information.](#)' A yellow 'Create account' button is at the bottom.

- **Layering information** - The ICO recommends layering privacy policy information (see Figure 9, below), noting: ‘A layered approach is useful as it allows you to provide key privacy information immediately and have more detailed information available elsewhere for those that want it. This is particularly valuable when there is limited space to provide more detail, or if you need to explain a complicated information system to people’ (Information Commissioner’s Office 2018, para. 2). Layered terms and privacy policies, where consumers see a summary before looking over the whole policy, and/or see a searchable table of contents, has been cited as best practice in creating more useful privacy policies (discussed in more depth in Kelley et al. (2010) and referenced as a good design practice in Hintze (2016)). The European Insurance

and Occupational Pensions Authority discusses the usefulness of layering information by importance to the consumer, such that all consumers understand key aspects of a policy (Financial Conduct Authority 2014). In the literature, the phrase ‘layered summaries’ or ‘layering’ usually refers to the concertina-style design of a summary, but sometimes the reference is to the use of a summary in general. We did not find a study that looked at the effect on comprehension of the concertina-style design of a summary.

Figure 9: An example from the ICO of layered explanation of data use



Conclusion

In conclusion, we found a number of behaviourally informed techniques could hold promise in encouraging consumers to engage with and understand contractual terms and privacy policies. To increase engagement, promising techniques include: the use of social norms, reading cost cues, financial incentives, personalisation, appeals to urgency, timely prompts and trusted messengers. To increase comprehension, promising techniques include: the use of summaries such as standardised summary tables, shortening, improved readability, layering of terms within a hierarchical/concertina structure, just in time explanations of terms and policies, and comics, cartoons, and other visual icons and graphics. This literature

review will help BIT and BEIS to design evidence-based interventions to test within six online experiments. The results of this literature review, and the subsequent online tests, will form the basis of a best practice guide for businesses on how to present online contractual terms and privacy policies to consumers online.

Appendix

The following search terms were run through the Google Scholar database:

"terms and conditions" comprehension

"terms and conditions" clarity

"privacy policy" comprehension

"privacy policy" clarity

"contractual terms" comprehension

"contractual terms" clarity

"terms and conditions" engagement

"privacy policy" engagement

"returns policy" comprehension

"cancellation policy" comprehension

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