The EU General Data Protection Regulation: opportunities for grocery retail

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dunnhumby

A note on language: **we don't 'own' data**

Personal data might reflect more than just one person or organisation. This is why we do not refer to 'people's personal data' but instead use 'personal data about them'.

Multiple people can have rights over, and responsibilities for, data. A simple shopping list can be used to guess things about multiple members of a household, for example. Multiple people and organisations might have intellectual property rights due to their contributions to the data. By avoiding possessive pronouns we hope to encourage understanding of the wider network of relationships involved in data collection and use.

Contents

This report was commissioned by dunnhumby and produced by the Open Data Institute.

About the ODI

ODI works to build a strong, fair and sustainable data economy by helping governments and businesses around the world get data to people who need it. It is independent, nonprofit and nonpartisan, founded in 2012 by Sir Tim Berners-Lee and Sir Nigel Shadbolt. From its headquarters in London and via its global network of startups, members and nodes, the ODI offers training, research and strategic advice for organisations looking to explore the possibilities of data.

About dunnhumby

A world leader in customer science, dunnhumby has pioneered the use of big data to drive growth for retailers and brands since 1989. With 46 offices in 27 countries, dunnhumby's strategic process, proprietary insights and multichannel media capabilities deliver competitive advantage for clients including Coca-Cola, Homeplus, L'Oreal, Monoprix, Procter & Gamble, Raia Drogasil, Raley's, Shoprite, Tesco and Whole Foods Market. Applying insights from 800 million shoppers globally, with specialisms in customer knowledge, customer engagement, pricing and promotions, category management and supplier collaboration – dunnhumby optimises retailer data investment, develops internal expertise and creates tailored solutions that build margin, sales and profit in all competitive environments.

ODI

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Redefining the data landscape for retail

The arrival of General Data Protection Regulation (GDPR) to the EU in May 2018 has the potential to shift the balance of power between retailers and their customers. It brings both challenges and opportunities to organisations that wish to compete and win in the new era of data-driven retail. With many retailers viewing the incoming legislation simply as a compliance issue, there has been surprisingly little dialogue around the positives these changes could bring to the retail industry. The chance to deepen relationships with consumers, through an open, honest and equitable approach to how data is used and shared, could be the catalyst for innovation in the industry – driving growth for business and improving the daily lives of consumers.

To fully understand how retailers, brands and consumers might respond to this new data landscape, we have supported the ODI to undertake independent, wide-ranging industry research to explore how the incoming changes are being viewed. Understanding how behaviours might change in the post-GDPR world – and what that really means for retailers and brands – is key to ensuring the industry remains at the forefront of data-driven development.

A brave new world of data-driven retail is emerging – one in which retailers will create new relationships and experiences with customers, and new ways to achieve business growth. With the arrival of legislation such as GDPR, the time to seize these opportunities is now.

— Guillaume Bacuvier, CEO, dunnhumby

The UK retail sector

Average sales growing by 4% year on year

Size of market in 2017 - estimated value **£184,500,000,000**

£56.80
PER WEEK

Average household spend £56.80 on food and non-alcoholic drinks per week

TESCO	SAINSBURYS	ASDA	MORRISONS
27.8%	**15.7%**	**15.4%**	**10.3%**

ALDI	CO-OP	WAITROSE	LIDL
6.9%	6.3%	5.3%	5.3%

ICELAND	OCADO
2.1%	1.4%

S KOREA	JAPAN	UK
16.9%	7.2%	6.9%
− 1 + Add	− 2 + Add	− 3 + Add
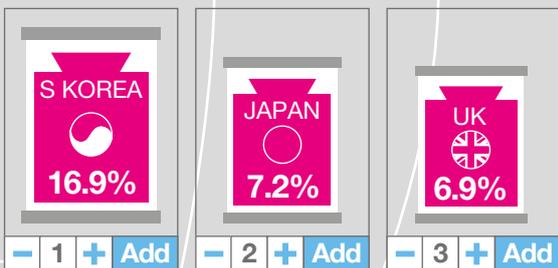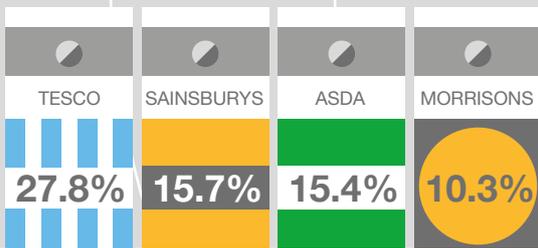
UK is the third-largest global online grocery market

10 retailers occupy 96.4% of grocery market share (with top 4 claiming 69.2% of this share – Tesco, Sainsbury's, Asda and Morrisons)

Executive summary

New laws requiring more openness and transparency will change how organisations collect and use personal data, and give shoppers more control over how data about them is used. The European Union General Data Protection Regulation presents a significant opportunity for the UK grocery retail sector. By proactively informing shoppers about their data rights and how data-driven services benefit them, organisations can build trust and strengthen loyalty, which will create greater buy-in from shoppers for data-enabled innovation.

> Every shopping trip generates data that can be used by retailers. This can be about people's shopping habits, preferred brands or interest in promotions.

By analysing data alone or together with third parties, retailers inform the entire shopping experience, from how to lay out stores and what products to stock, to what promotions to run and what offers to give customers. Among others, price-matching schemes and new delivery services are increasingly being developed using this data. These services can offer benefits to shoppers, helping people save time and money.

However, the UK retail sector must be vigilant in responding to changes in the data landscape. Our research found that while shoppers trust retailers with data more than technology companies, they were still uncomfortable with how retailers shared personal data.

In response to this discomfort, the UK is implementing the General Data Protection Regulation (GDPR) to give citizens more rights and control over personal data. This creates compliance needs but also new ways of engaging shoppers around data.

Our research tested some business models and found interest from significant numbers of shoppers. However, our interviews with industry showed obstacles to seizing this opportunity, including cultural and commercial barriers that stop businesses innovating and sharing data in ways that shoppers want.

Recommendations for retailers and the grocery retail sector

Build trust by communicating with shoppers:

- Run a data literacy campaign for consumers, to build awareness of data use within retail
- Focus on building informed consent and helping shoppers understand the benefits created by data sharing

Create a foundation for data-enabled innovation:

- Open up common reference data, such as products and retail locations
- Develop open standards to facilitate data exchange
- Create open APIs to reduce cost and friction when shoppers request to access and share data

Create a strategic programme for the UK grocery retail sector:

- Form a cross-sector strategic working group on retail data to enable a collaborative response to challenges raised by GDPR
- Create and implement principles around data governance and usage for grocery retail

COMMUNICATION AND TRUST

DATA-ENABLED INNOVATION

CROSS-SECTOR WORKING GROUP
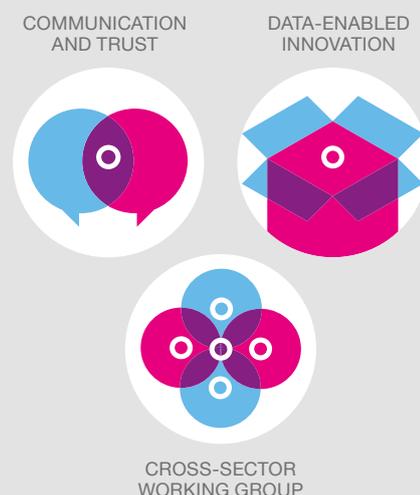
Data and the grocery retail sector

Every shopping trip generates data that can be used by retailers.

This data can be about people's shopping habits, their preferred brands or their interest in promotions. It is 'personal data' because it can be linked to an identifiable individual, often through a loyalty card programme. Retailers also collect and use information about products, supply chains and stores. This data flows between multiple organisations in the sector.

What data does the sector collect?

Data is collected from four primary streams, three of which may contain personal data:[1]

- **Data actively provided by shoppers,** such as their contact information, when they register an online account or sign up for a loyalty card.

- **Data collected from shoppers' activities** online and in-store, such as what they buy and what card is used. For shoppers with loyalty cards like Nectar or Tesco Clubcard, this information is tied to the card's unique identifier in the retailer's system.

- **Data inferred or predicted about shoppers'** lifestyles, households and food needs. This may include publicly available statistics and data collected by third-party aggregators about overall market trends, or statistical models that use past behaviour to predict future behaviour.

- **Reference data** that supermarkets collect about their resources and outputs, such as store size, location and revenue, product information like pack size, price or nutritional content, and information concerning their supply chains and environmental impact.

How does the sector use data?

Once personal data is collected, it is analysed by retailers or specialist third parties. Data analysis helps retailers inform the entire shopping experience, from how to lay out the store and what products to stock to what promotions to run and what offers to give customers. Data is usually used at an anonymised and aggregated level, except for targeting communications where customers receive personalised offers.

Third parties such as payment networks perform vital functions in the transaction process and also collect and use data. Providers like Visa receive data about transaction values and merchant names, which enables them to provide better merchant services. Other third parties are the data analytics providers and aggregators – notably dunnhumby, IRI and Nielsen – who may receive loyalty-card or till-transaction data, which is turned into aggregated customer, retailer or market insight. These companies help retailers make sense of large quantities of data in order to respond to customer needs and market trends.

Fast Moving Consumer Goods (FMCG) often have very little customer data, since they do not usually sell direct to consumers. Companies such as Unilever and Procter & Gamble will often buy insights built from aggregated data to better understand their shoppers' behaviour and profiles, and use this data to drive marketing or product development.

How is data creating value for the sector?

The use of personal data is creating value for shoppers, retailers and shareholders in the sector.

For shoppers, data is traditionally used to shape the entire shopping trip. Increasingly, new services such as price-matching schemes or new payment or delivery services are developed, tested and measured using shopping data. These services can offer benefits to shoppers, helping people save time and money.

Using data well and creating a better experience for shoppers results in increased visits. This drives sales and market share, delivering value for shareholders.

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1   Article 29 Working Party (2016), Guidelines on the right to data portability, ec.europa.eu/newsroom/document.cfm?doc_id=43822

How personal data is collected online and offline

IN-STORE

ONLINE

LOYALTY CARD

Information
> Card number
> Store location
> Item level spend

TILL SYSTEM

Information
> Card number
> Merchant
> Item level spend

PAYMENT CARD

Information
> Card number
> Merchant
> Total spend

RETAILER

Information
> Loyalty card registration information linked to loyalty card number

RETAILER

Information
> EPOS data provides view of rest of sales

PAYMENTS PROVIDER

Information
> No personal data
> Only total sale at merchant level

PERSONAL BANK

Information
> Name and address
> Can link transactions to card number

SPECIALIST ANALYSIS COMPANIES

Analysis
> Grouped shopper insight to retailer
> Grouped shopper insight to retailer's suppliers

DATA AGGREGATORS

Analysis
> Market insight to retailer
> Market insight to retailer's suppliers

Aggregated market insights

SUPPLIERS

The data landscape is changing

With organisations increasingly relying on data collection and use to drive value in UK grocery retail, the sector must be vigilant in responding to changes in the data landscape.

How shoppers feel about the collection and use of personal data

Shoppers' comfort around data practices varies. Our research (explained in the Methodology section) found roughly one-third valued data-enabled services and 23% felt uncomfortable with current data practices across sectors. This discomfort is linked to feeling 'out of control' and uninformed of how data about them is used and shared.

Shoppers feel uncomfortable about sharing personal data with third parties

Among those surveyed, 62% felt uncomfortable with third-party organisations having access to personal data about them, and nearly all of the 23% of shoppers uncomfortable with current data practices were also uncomfortable sharing data with third parties. Many shoppers felt unable to control which organisations could use data about them and for what. 43% were concerned that third-party organisations may compromise their privacy.

'*It's all about choice. I didn't choose for them to have access to my data.*'

— Early adopter, 36–60, Manchester

Shoppers felt happier sharing data with identified third parties when they were actively choosing to share this data.

Shoppers trust grocery retail about as much as government, but considerably more than technology companies

Food retailers are about as trusted as government when it comes to collecting data.[2] Roughly one-third are comfortable, one-third uncomfortable and one-third are neutral. However, retailers are significantly more trusted than social media and technology companies. Only 13% of shoppers are comfortable, with 60% actively uncomfortable.

Shoppers' trust varies on the type of data collected

Shoppers' comfort levels varied depending on the type of data collected. Almost three quarters felt comfortable with supermarkets holding data on their grocery shopping habits, while over half felt comfortable with food retailers holding data often considered sensitive, such as marital status and ethnicity. However, only 15% of shoppers were comfortable with retailers holding their internet browser history.

Among those who felt generally uncomfortable with current data practices, that fell to 4%.

The new European Union General Data Protection Regulation (GDPR) law reflects – and intends to address – the wider feeling of concern around current data practices, in retail and other sectors.

'*GDPR is an opportunity to start having conversations with customers to build trust.*'

— Head of Data Governance, major retailer

How new laws can empower shoppers

New laws are being applied across the European Union that will change the way retailers collect, protect and use data about shoppers, by giving people more control over data about them.[3]

GDPR will apply in all current EU countries, including the UK, from May 2018. It strengthens the rights of individuals to access data that is held about them, move data from one organisation to another, and delete data about them. The UK is bringing in a new Data Protection Bill, released in draft in September 2017, which will implement GDPR rights. The law will impact how the grocery retail sector collects, uses and holds data to provide services. The race to ensure compliance by 2018 has brought the issue of personal data up the list of priorities for many supermarkets and third parties.
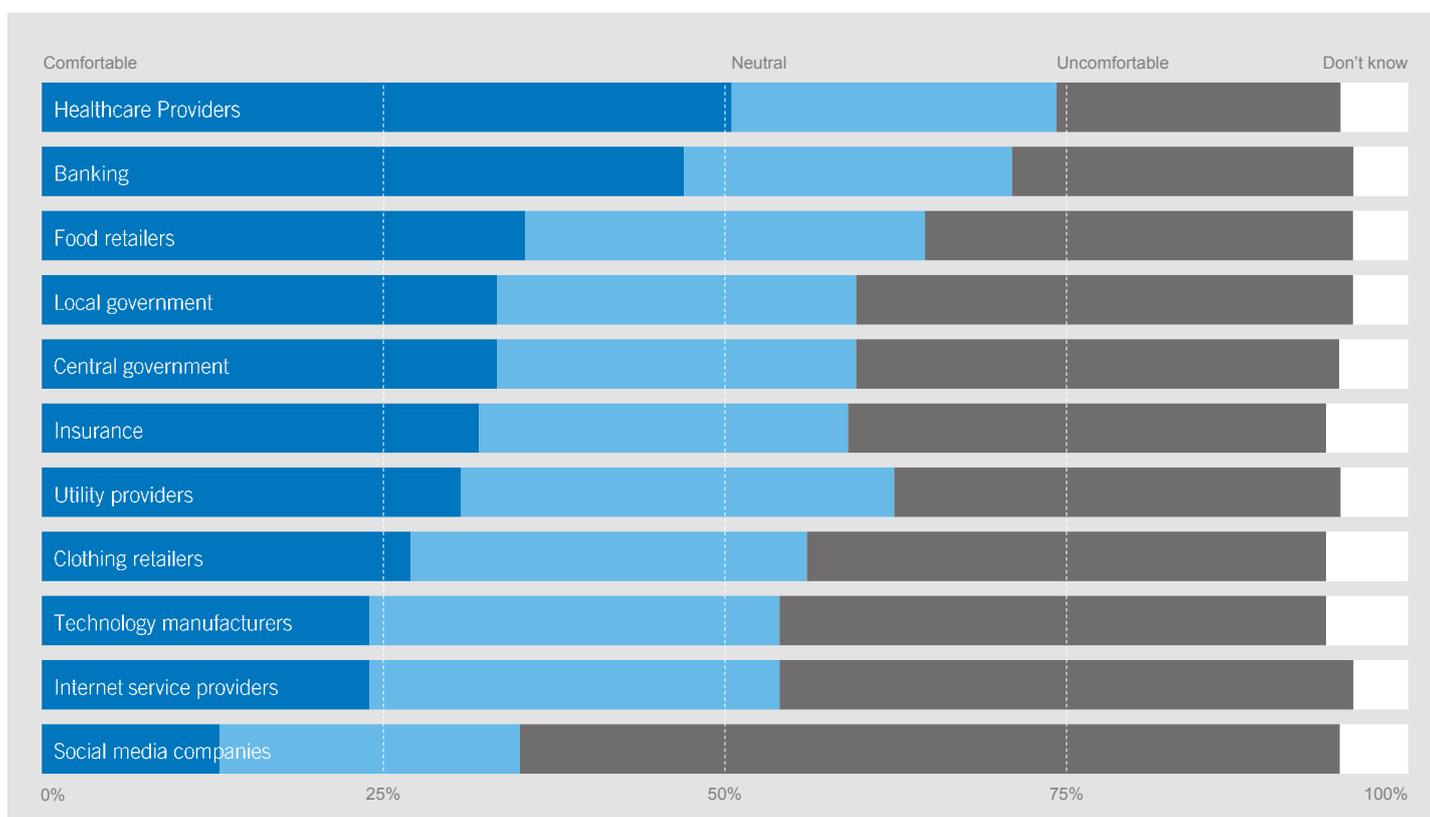
Comfortable | Neutral | Uncomfortable | Don't know

- Healthcare Providers
- Banking
- Food retailers
- Local government
- Central government
- Insurance
- Utility providers
- Clothing retailers
- Technology manufacturers
- Internet service providers
- Social media companies

0% 25% 50% 75% 100%

Figure 1. Shoppers' level of comfort with different organisations collecting data about them (source: Britain Thinks, 2017).

Almost 75% of shoppers feel comfortable with retailers holding data on their shopping habits... but only 15% were comfortable with retailers holding their internet browser history

GDPR expands the definition of personal data to include IP addresses. The Information Commissioner's Office (ICO), responsible for monitoring and enforcing compliance with data-protection laws in the UK, states that the expansion 'reflect[s] changes in technology and the way organisations collect information about people'.[4]

The potential regulatory fines under GDPR are huge, with businesses liable for up to 4% of their total annual global turnover or (if higher) €20 million. However, as the ICO says: 'thinking that GDPR is about crippling financial punishment misses the point [...] it's about putting the consumer and citizen first'.[5]

4   Information Commisioner's Office (hereafter ICO) (September 2017), 'Overview of the General Data Protection Regulation', https://ico.org.uk/for-organisations/data-protection-reform/overview-of-the-gdpr

5   Elizabeth Denham, ICO Blog (August 2017), 'GDPR – sorting the fact from the fiction', https://iconewsblog.org.uk/2017/08/09/gdpr-sorting-the-fact-from-the-fiction

How will GDPR affect the sector?

GDPR specifies that data controllers – namely organisations who control the 'purposes and means' of processing personal data – are primarily responsible for ensuring compliance with data protection laws. Supermarket retailers are generally data controllers, but other organisations handling data about shoppers, such as data aggregators, could also be considered controllers.

GDPR introduces new accountability requirements that will affect how controllers handle and process data about shoppers. Data controllers must implement the principles of data protection by design and by default into their processes, including minimising the data they collect, ensuring good governance regarding personal data processing and providing evidence of compliance. In situations deemed high-risk, data controllers must carry out Data Protection Impact Assessments (DPIAs).

> *'It is all about strengthening trust and updating the law to the 21st century.'*
>
> — Garreth Cameron, Policy and Engagement Group Manager, ICO

Data controllers may use third-party processors to help process personal data, including organisations who provide data storage or analytics services, such as Amazon Web Services, Experian, dunnhumby and Nielsen. For the first time, processors will have direct data-protection

Right	Description	Did it exist already?	What are its key changes and elements?
The right to be informed	Organisations must provide individuals with 'fair processing information' about the use of personal data about them, primarily through privacy notices.	Yes	The information provided must be concise, transparent and written in clear and plain language.
The right of access (subject access right)	Grants individuals access to data that an organisation holds about them.	Yes	A £10 charge has been removed: information must be provided free of charge for the first copy, unless the request is 'manifestly unfounded' or repetitive. The data must be provided without undue delay, generally within one month after receiving the request for data.
The right to data portability	Allows an individual to obtain a copy of personal data for reuse across other services.	No	This is a new right under GDPR. It will only apply in specific situations where data was processed automatically, and the justification for processing the data was that the individual had consented to that use, such as loyalty-card data.

Shoppers on whether they are likely to use their right to data access and portability
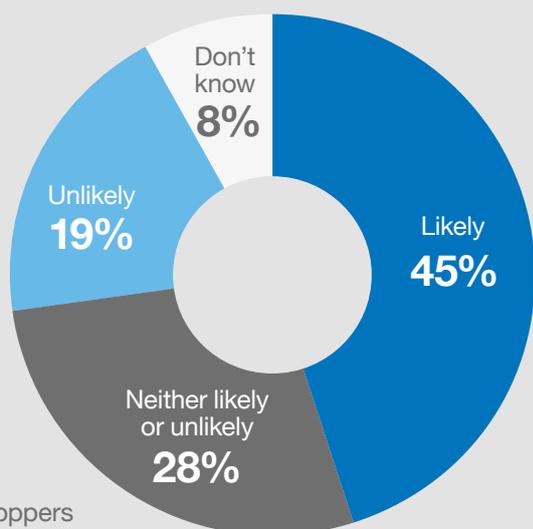
Are shoppers likely to use their right to data access?

Don't know 8%
Unlikely 19%
Likely 45%
Neither likely or unlikely 28%
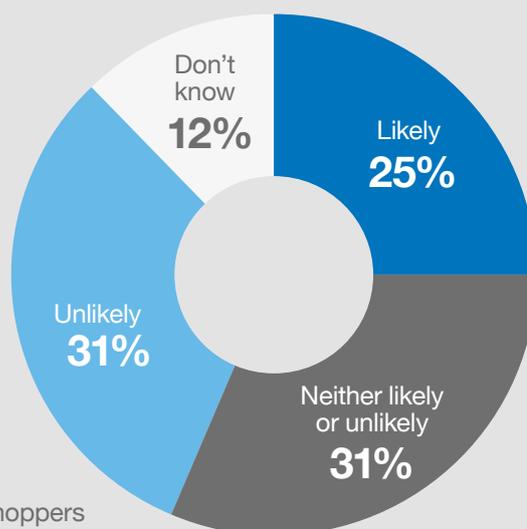
Are shoppers likely to use their right to portability?

Don't know 12%
Likely 25%
Unlikely 31%
Neither likely or unlikely 31%

Figure 2. Percentage of all respondents who shop at least once a fortnight on the likelihood that they will use their right to data access and portability (source: Britain Thinks, 2017).

responsibilities and liabilities.

GDPR creates new rights and strengthens others that already exist under the Data Protection Act.[6]

The views of relevant regulators, like the ICO will be important in working out how to apply the new law.

Shoppers welcome these changes

Despite initially not knowing much about data protection laws, when given information about GDPR, many shoppers supported its principles.

'It gives you more control over your data.'

— Mainstream consumer, from a rural area

Many of the shoppers we surveyed felt that GDPR would address their concerns by forcing companies to make information about how data is collected, used and shared easier to understand. Changes that would give individuals more power to control data about them were well-received, with 45% saying they were likely to use their right to data access, and 25% their right to data portability.

How changes could present challenges for the sector

Discomfort among shoppers with current data practices and the introduction of GDPR may present challenges for the sector.

People exercising their data rights will incur costs to retailers

With 45% of shoppers stating that they would like to make use of their new right to access data under GDPR, the sector must equip itself to handle these requests efficiently and effectively.

Consumer campaigns and businesses that provide services built on these new data rights may create even more demand from shoppers for access to data about them. Retailers will have to bear both the costs of servicing these requests and the reputational impact if they fail to do so quickly and well.

Lack of data literacy fuels distrust in the sector

Our research showed that shoppers who understood less about how data is used were more uncomfortable with how organisations might use it. A lack of knowledge about third parties and a lack of understanding about what they do with information both worried 17% of shoppers. Retailers who are unable to clearly articulate how they use personal data risk

6   ICO (September 2017), 'Overview of the General Data Protection Regulation', https://ico.org.uk/for-organisations/data-protection-reform/overview-of-the-gdpr

7   London Economics (2017), 'Research and analysis to quantify the benefits arising from personal data rights under the GDPR', https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/635701/PersonalDataRights_LE_-_for_Data_Protection_Bill__1_.pdf

Without strengthening data infrastructure and building innovative new services, organisations risk loss of revenue, market share and brand reputation

losing shoppers to a competitor perceived to be more trustworthy. There is also a risk that the sector as a whole will gain a bad reputation for handling data, resulting in shoppers withdrawing consent from retailers to use it.

Scepticism delaying innovation in the sector

Low shopper awareness around data rights has led some organisations to be sceptical about the opportunities that GDPR presents for innovation.

During interviews with the ODI, some industry leaders expressed skepticism, seeing greater opportunities for innovation in sectors such as telecoms and insurance.

This represents a general feeling across sectors, with only 9% of professionals expecting GDPR to impact profitability.[7] Many in grocery retail were still focused on compliance and had yet to turn their attention to the possibilities for innovation. Although one supermarket told the ODI they were exploring opportunities for creating standards to port data, generally organisations were focused on refining their internal data processes to avoid fines.

'[The retail sector] all monitor prices on a real-time basis. The biggest advantage [for shoppers] will be arbitrage – can you buy the same for less elsewhere?'

— Data Lead, major retailer

This scepticism may be self-fulfilling, with those organisations missing out on potential opportunities and delaying innovation, while companies who have better data capabilities – and are open to building new services for the 45% of shoppers who want to use these new rights – grab the advantage.

Organisations struggling to modernise and innovate using data

The opportunities of GDPR may be missed by organisations who lack resources or decide not to invest in data, in favour of other priorities.

Without action, the disparity between 'bricks and mortar' organisations and those using data and technology to drive commercial operations is likely to increase. Organisations risk ignoring opportunities for data-enabled products and services and losing competitive advantage, as large, agile technology companies move to fill that space. Online retailers

such as Amazon are using technology and individual shopper preferences to provide innovative services, such as the Amazon Dash button and Amazon Go shops. Without strengthening data infrastructure and building innovative new services, organisations risk loss of revenue, market share and brand reputation.

Cultural and commercial barriers exist to opening and sharing data

With the average grocer making 2% profit, thin margins mean the sector leans towards a closed and competitive culture.[8] In this environment, organisations may fear that data sharing and collaborating on common problems will mean losing competitive advantage and market share.

The ODI saw tendencies towards a closed culture when discussing GDPR with the UK grocery retail sector. Many industry leaders are focused on ensuring accountability and security in the face of large fines. GDPR is seen as a set of risks to mitigate, rather than opportunities to collaborate.

'We are overcoming tensions in changing our culture to one of innovation by implementing principles and training across the organisation.'

— Guy Johnson, Head of Corporate BI strategy, Marks and Spencer

Without working together, the sector will not be able to answer increasingly important questions about common issues such as data governance, ethics and infrastructure. There will also be benefit for all in collaborating to create common product reference data, which does not require personal data. When it comes to shopper data, the reality is that shoppers will be able to choose who they share data with, regardless of any reluctance from the sector to do so. While we need to balance investing in sharing data with the perceived commercial losses from sharing, not exploring these trade-offs will mean that data remains locked inside individual organisations, and its full value will not be realised.

'Those who treat GDPR as just ticking the box will have missed an opportunity.'

— Shruti Malani Krishnan, co-founder, Powr of You

8   McKinsey and Company (June 2017), The future of grocery in store and online, http://www.mckinsey.com/industries/retail/our-insights/the-future-of-grocery-in-store-and-online

9   The Open Data Institute has published a guide on openness for organisations handling personal data: https://theodi.org/guides/openness-principles-for-organisations-handling-personal-data

New laws and opportunities for the sector

> The UK grocery retail sector must now consider how to confront these challenges in order to create a future that benefits shoppers, shareholders and the wider sector.

Our research found that shoppers would like to be informed of how data about them is collected and used in order to give meaningful consent, feel in control of what is done with data about them and benefit from sharing that data. By addressing shoppers' concerns and desires for future services, the sector can use GDPR as an opportunity to drive innovation and value for shoppers and shareholders.

Building trust with shoppers

Inform shoppers of how data is collected and used

Our research found that shoppers would like to be more informed of how personal data is collected and used in grocery retail.[9] GDPR can prompt the sector to evaluate whether they are currently meeting shoppers' needs and address those feeling uninformed or disempowered.

45% of shoppers who were uncomfortable with current data practices felt that a service informing them about what data companies held about them would be beneficial; this rose to 57% among shoppers who already felt comfortable. In focus groups, shoppers felt more comfortable sharing data when they understood a third party's identity and purpose for using personal data.

'We want to see confident consumers who understand their rights and apply them intelligently, and businesses that are open, transparent and fair'

— Garreth Cameron, Policy and Engagement Group Manager, ICO

A number of retailers the ODI spoke with considered trust to be a fundamental part of their brand and business model. For these retailers, and for the sector in general, being trusted with data is likely to become an essential consideration in the

near future. By giving shoppers more information, the sector can ease discomfort and enable shoppers to make more informed choices, which may influence both where and how consumers choose to shop, and how the sector uses data.

A sector that is open about its data practices will encourage data sharing, and build trust that personal data is handled ethically and beneficially for shoppers. Organisations such as the Co-op have been exploring how this might be achieved in future.

Give shoppers greater control over data about them

Shoppers want to feel in control of how data about them is used. Organisations should investigate models that meet this need in order to stand out in the market.

Personal Information Management Services (PIMS) present one way of increasing individual control. PIMS services like mydex, digi.me and Bits About Me aim to increase control by storing data in one central locker and mediating access by third parties.[10] Alternatively, Powr of You provide shoppers with a share of the profits made from selling aggregated and anonymised data about their browsing and purchase activity. There are passionate debates about the monetisation of data in this way.[11]

'We are the part-time custodian of data about our customers.'

— Data Lead, major retailer

Organisations should also experiment with open APIs that allow shoppers to securely access and port data about them directly to other organisations, rather than maintaining a separate locker. This is likely to prove more convenient for shoppers and provide an alternative to mediating power through a third party. Projects by If provide a possible application of this in their prototype portable shopping list.[12]

Provide shoppers with services that benefit them

We found shoppers were comfortable sharing data where they see clear benefits and value, particularly around helping them save money or increasing control over personal data.

Those we surveyed who were comfortable with current data practices in general were more likely to see innovations as

beneficial, with 42% feeling comfortable sharing data if it would help them save money, and 26% if they received a product or service in return for this data.

Case study: Being trusted with data: the Co-op

The Co-op is taking active steps to build trust around personal data with shoppers, based on three principles:[13]

- **Transparency:** understanding what processes, habits and tools should be adopted to meet shoppers' needs around transparency

- **Integrity:** exploring how to implement data standards and regulatory requirements in a way that is consistent with the wider data governance community

- **Meaningful consent:** starting conversations with shoppers about data consent through surveys and events

By engaging customers to understand their needs, the supermarket discovered that 70% of respondents were happy to share data if it benefited their community.[14] More widely, the sector can help extend the benefits of data sharing by encouraging shoppers to contribute data to public good causes, such as food waste reduction, and by volunteering aggregated data to bodies such as the Office of National Statistics to inform the census.

'Maximising trust helps empower our members.'

— Catherine Brien, Data Science Director, the Co-op

Scenarios for the future of data in grocery retail

During focus groups with shoppers, we described potential products and services that depended on access to data about them. The two scenarios described here were the most popular, with roughly half of the shoppers feeling that these services would be beneficial to them.[15]

Helping shoppers save money

- **Product:** service that prices your shopping list up from different supermarkets

Roger is a student who cannot afford to spend much money on food shopping and needs to save where possible. By sharing his previous transactions with Tesco to this service, it determines his standard 'shopping list' and brand preferences to price up his list amongst participating retailers. He can also indicate where he would like to spend more to ensure quality. Using this information, organisations can offer him coupons and incentives for frequently purchased goods, helping Roger make decisions to save money.

52% of shoppers viewed this as beneficial and 47% were comfortable with this service.

10   Ctrl-Shift (July 2014), 'Executive summary: Personal Information Management Services: An analysis of an emerging market', https://www.ctrl-shift.co.uk/news/general/2014/07/28/executive-summary-personal-information-management-services-an-analysis-of-an-emerging-market

11   The ODI (September 2015), 'Comment: What would a paid data future look like?', https://theodi.org/blog/comment-paid-data-future

12   Projects by If (undated), 'Designing for new digital rights; portable shopping list', https://newdigitalrights.projectsbyif.com/portable-shopping-list

13   The Co-op Digital Blog (April 2017), 'Being trusted with data', https://digitalblog.coop.co.uk/2017/04/24/being-trusted-with-data

14   The Co-op Digital Blog (May 2017), 'Speaking to our members about how their personal data is used', https://digitalblog.coop.co.uk/2017/05/15/speaking-to-our-members-about-how-their-personal-data-is-used

15   52% and 50% of consumers respectively found the first and second scenarios beneficial (scored 7/10 on a 1–10 scale)

Understanding what data retailers have about you

- **Product:** Dashboard that shows your personal data

Mary wants to know what data retailers have about her. She usually shops at Tesco but doesn't know what data Tesco has collected about her. She gave her name and birthday to the retailer, but is not aware of other data. With the dashboard, she can access her shopping history, analyse her shopping habits and decide to edit, delete or transfer data to improve the services of another organisation she uses.

50% of shoppers viewed this as beneficial and 45% were comfortable with this service.

Opportunities to innovate will benefit shoppers and shareholders

Nearly half of the shoppers we surveyed planned to use their right to data access, and a quarter their right to data portability, so the UK grocery retail sector must be prepared to respond efficiently and effectively to comply, but also go further in providing trusted services that shoppers value.

'I'm excited about data portability because it will give people an opportunity to take control of how data about them is used'

— Sarah Gold, Founder, Projects by If

Innovating to provide new and improved offerings

GDPR gives the UK grocery retail sector the opportunity to explore how to provide new and improved services that meet shoppers' needs.

One organisation exploring the opportunities that personal data presents is Tesco, through the Tesco Labs initiative. By running Hackathons and working with third parties like If This Then That – which helps users do more with their apps and devices – the supermarket is innovating with data to provide new and improved products. Others in the sector should explore how to invest in similar initiatives to find potential products and services that could be built around access and portability rights.

'It's not good enough to feel 'fairly confident' that the data held is being used in the interests of the customer. It's a requirement that new levels of scrutiny are applied here, and the customer's perspective is the be-all and end-all guide to whether you are getting it right.'

— Rebecca Hennessy, Director of Data Quality Market Strategy, Experian

Explore opportunities to innovate with data governance and standards

Meeting the increased demand for data access and data portability with current processes is likely to be costly. Satisfying that demand efficiently requires open Application Programming Interfaces (APIs) to enable shoppers to access the data held about them.[16]

Case study: Using APIs to improve communication, collaboration and competition in Amazon

APIs are powerful tools for increasing internal communication around data, building data literacy and encouraging partnerships across teams. By introducing APIs in the early 2000s, Amazon was able to become service-oriented and experienced massive growth.

This move meant all teams within Amazon had to interact technically using APIs, with no other internal communication or back-door technical processes. While intended for internal use, Amazon encouraged these interfaces to be designed so they could eventually be exposed externally.

The move encouraged partnership across the company, as teams had to understand each other's needs in order to build useful APIs. Opening these APIs up to external developers led to a greater understanding of the needs of both the market and end-users, enabling the company to make better strategic decisions about new products.

To maximise the benefit of APIs, organisations will need to work together to develop standards that encourage innovation and address shoppers' needs.

Open standards for APIs and other things can create and change markets. They are both a great leveller and a platform to foster innovation and competition. There is historical precedent to indicate the impact of open standards: standard railway gauges and shipping containers brought about historical change in industry, and open standards underpin the internet, web and many of the services built on top of them. The best standards are developed openly, developed by organisations who are working together and delivering services that use them.
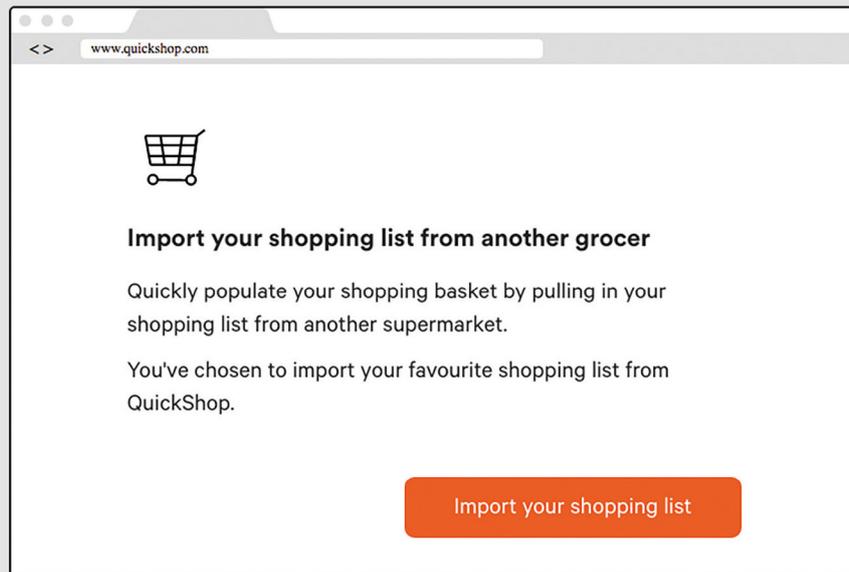
16   OpenStand (undated), 'Principles', https://open-stand.org/about-us/principles

Figure 3. Project by If's prototype of a portable shopping list.
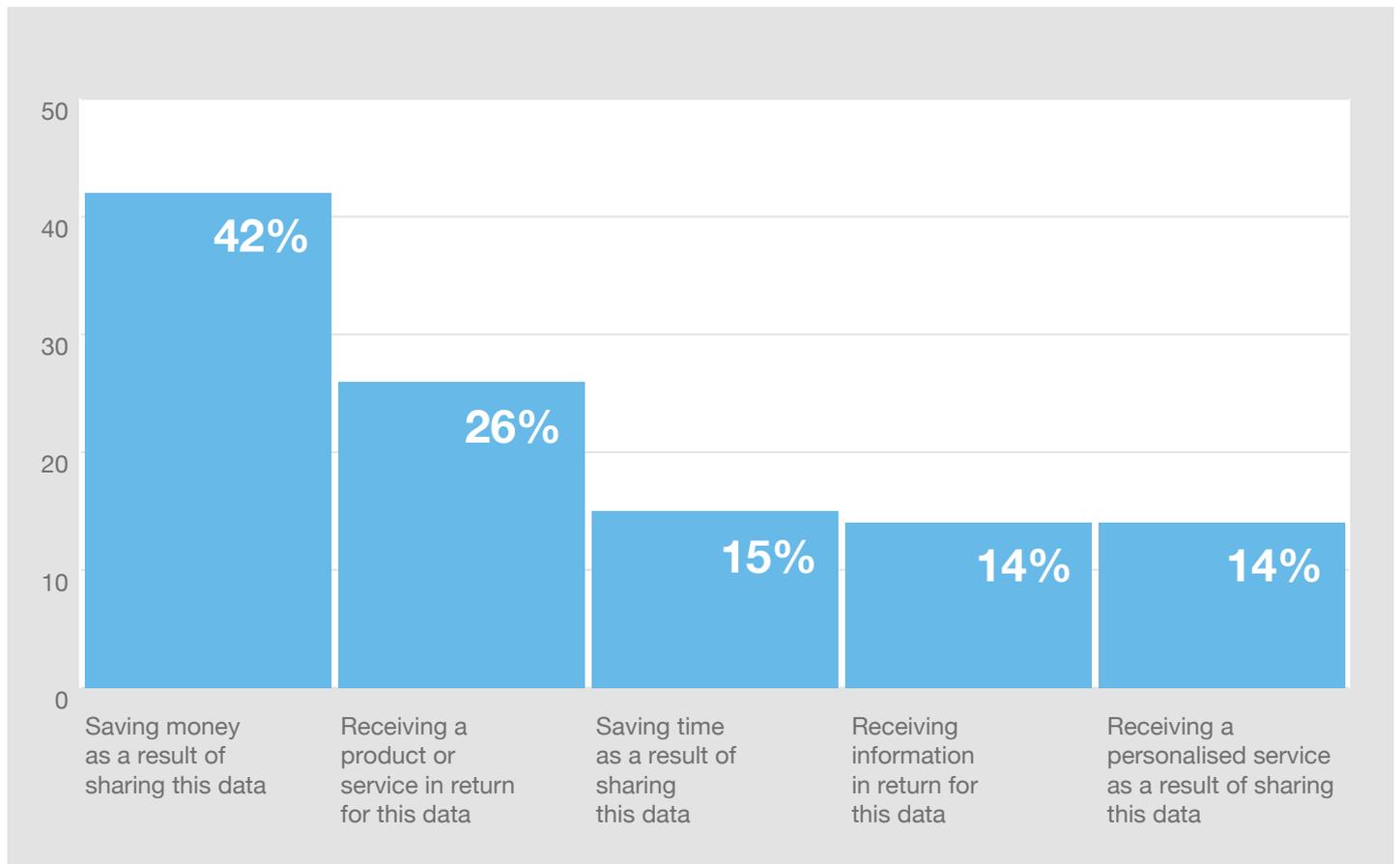

Figure 4. When respondents felt happy sharing data about them (source: Britain Thinks, 2017).

Collaborating to solve problems: a view from other sectors

As organisations respond to new laws and trends in the data landscape, they will experience common challenges – such as building trust with shoppers, improving data literacy and strengthening data infrastructure. Investing in common initiatives, such as a sector-wide data working group, could help the sector respond to these trends in a stronger, more cost-effective and collaborative way.

A data working group could address and encourage the sharing of non-personal data, such as product reference data or the location of physical stores. Sharing this would help build a culture of open innovation by getting retail sector organisations to work together to publish data, and by connecting them with external organisations that could use the data to build valuable new products and services. In other sectors, we have seen existing businesses both surprised and inspired by what external organisations do with data previously held behind closed doors: the release of open laser mapping data from the Department for Environment, Food and Rural Affairs (Defra) was used by growers in the wine industry to identify places to grow new and better quality grapes.[17]

Case study: Collaboration in the banking sector: implementing open data and open APIs

The UK government has mandated the nine major retail banks to implement both open data and open APIs for customer data, in order to encourage competition and make it easier for new providers to create innovative services.[18] Both open data about products and branch locations and open APIs for customer data were needed to drive the desired change. It is not possible for innovators to make most use of customer data without the reference data that makes it understandable and useable.

The Open Banking Implementation Entity is implementing this mandate by developing the necessary data and API standards with a range of stakeholders in the sector.[19] Over time, this will develop into an ongoing open process that continually improves accessibility to retail bank data for the benefit of consumers and industry.

Organisations across the UK grocery retail sector would benefit from more data-literate shoppers who understood the benefits of sharing data and felt comfortable sharing data in exchange for services they value. The sector is in a position to collaborate to raise public awareness around data, drawing from initiatives such as the Safer Internet Day or Lloyd's Digital Champions.[20] Increasing data literacy and trust around the sector's activities is likely to make shoppers more comfortable with how data about them is used for benefits they receive.

17   Department for Environment, Food and Rural Affairs, 'Bubbling English wine boosted by new laser data', https://www.gov.uk/government/news/bubbling-english-wine-boosted-by-new-laser-data

18   The Economist (March 2017), 'New European rules will open up retail banking', http://www.economist.com/news/leaders/21719476-dangers-privacy-and-security-are-outweighed-benefits-new-european-rules-will-open

19   Open Banking, https://www.openbanking.org.uk

20   UK Safer Internet Centre (2017), 'Safer Internet Day 2017', https://www.saferinternet.org.uk/safer-internet-day; Good Things Foundation (December 2016), 'Lloyds Digital Champion Programme', https://www.goodthingsfoundation.org/news-and-blogs/case-studies/lloyds-digital-champion-programme

Recommendations

The following recommendations guide the first steps toward maximising opportunities from GDPR.

Build trust by communicating with shoppers

Run a data literacy campaign for shoppers, to build awareness of data use within retail

The sector should collaborate to run a data literacy campaign to educate shoppers about data use in retail. Data literacy will help shoppers to give informed consent when sharing personal data and build trust.

Focus on building informed consent and helping shoppers understand the benefits created by data sharing

The sector should proactively engage shoppers to build understanding around how they want to exercise their rights under the new laws, particularly in giving consent. Retailers should ensure they communicate the benefits that shoppers would receive by continuing to share their data, such as personalised services. Organisations that engage with shoppers will be able to understand their needs, direct resources to ideas with most potential, and set themselves apart in the market.

Create a foundation for data-enabled innovation

Open up common reference data, such as products and retail locations

The sector uses large amounts of reference data – for example, the information on a product's label (product reference data) or a store's location, that are not openly licensed. This prevents its use by third parties and stifles innovation in the sector. Publishing this information openly will help third parties find opportunities to provide a more streamlined service for organisations and shoppers.

Develop open standards to facilitate data exchange

Open standards will be necessary for shoppers to exercise their new rights and for the sector to benefit from sharing non-personal data. The sector should build upon the work of organisations like standards body GS1 UK in creating standards for product data, and explore how implementing open standards in other parts of the sector could help build a culture of open innovation.

Create open APIs to reduce cost and friction when shoppers request to access and share data

The sector should help shoppers to exercise control over data about them through providing open APIs. Enabling shoppers to efficiently and securely access data and transfer it between organisations will increase the flow of data between all parts of the sector, unlocking innovation and delivering better services, as well as enabling the sector to comply with new laws.

Create a strategic programme for the UK grocery retail sector

Form a cross-sector strategic working group on retail data to enable a collaborative response to challenges raised by GDPR

The sector should form a working group to address GDPR and broader sector trends in an open and collaborative way. This will help stakeholders to implement the requirements of the new law, such as creating common standards to permit data portability.

Many in the sector have already expressed support for working collaboratively to address the logistical issues arising from GDPR. Given the other products many retailers offer, such as furniture and electronics, some organisations were also willing to work with organisations beyond the grocery retail space to implement similar standards and principles. It is likely that other sector working groups will emerge in response to similar pressures. Any working group or other collaboration should draw lessons from the success of Open Banking and Open Active,[21] similar initiatives in the banking and sports sectors.

Create and implement principles around data governance and usage for grocery retail

Some shoppers feel uninformed and uncomfortable with how the sector uses data about them. Overcoming these concerns and building trust will require the sector to collaborate to implement common principles around data collection and use, using tools like the ODI's Data Ethics Canvas.[22]

These changes will enable the sector to respond to new laws and thrive in the new data landscape, providing value for shoppers, stakeholders and the wider UK population.

21 Open Active, https://www.openactive.io
22 The Data Ethics Canvas, https://theodi.org/the-data-ethics-canvas

Methodology

This report was supported by three strands of research, funded by dunnhumby and supported by consultancy Britain Thinks.

The ODI conducted desk research to assess the current data landscape and the implications of GPDR for the sector, consulting legislation, supermarket and third-party websites, and previous consumer research. A GDPR expert was consulted to ensure the accuracy of information, although this should not be taken as legal advice.

Interviews were conducted with supermarkets, third parties, trade bodies and startups in the sector to gain an industry perspective. Each interview lasted half an hour, discussing current data practices and the expected effects of GDPR on their service and product offerings and communications.

Britain Thinks was commissioned to conduct consumer research with shoppers to understand how shoppers viewed personal data and its use in the grocery retail sector. The research consisted of a qualitative phase followed by a quantitative survey across the general population.

In the qualitative phase, four two-hour focus groups were held with shoppers, split between Watford and Manchester. Focus groups were structured by age and attitude to technology use, split into early adopters and mainstream consumers. Six in-depth interviews were conducted with special interest groups, including older people and those who had experienced a data breach or fraud, to explore the views of potentially vulnerable consumers.

The quantitative phase consisted of a 10-minute online survey involving 1,970 shoppers. This was weighted to be nationally representative of the UK adult population aged over 18, with participants screened to ensure they were regular shoppers. Questions were designed using insights from the qualitative phase, such as using language and terminology that were intuitive to shoppers.

Application Programme Interface (API)

A proven technology that can help provide access to open data (such as a list of products that a bank provides) and secure shared access to private data (such as a list of the transactions in an individual's bank statements). Data accessed via an open API may be closed, shared or open. Open APIs, for the applications described herein, need to be supported by robust security, legal and governance frameworks.

Data aggregator

An organisation that brings together large amounts of data, including information about products, stores and channels to provide a high-level view of the grocery retail sector.

Data analytics provider

An organisation that provides analytical services to help other organisations (generally supermarkets) extract more value from their products and brands.

Data controller

An organisation that controls how and why personal data is processed. They are responsible for ensuring compliance with data protection laws, such as GDPR.

Data infrastructure

Data infrastructure consists of data assets, the organisations that operate and maintain them and guides describing how to use and manage the data. It includes technology, processes and organisations. Trustworthy data infrastructure is sustainably funded and has oversight that provides direction to maximise data use and value by meeting the needs of society.

Data processor

An organisation that processes personal data on behalf of data controllers.

Early adopter

A person who is among the first of their friends and family to try out new products, services and technology.

General Data Protection Regulation (GDPR)

EU regulation on the handling of EU citizens' personal data by public and private sector organisations. It is scheduled to come into force in the UK on 25 May 2018.

Mainstream consumer

A person who is likely to wait for products, services and technology to become popular and widely used before using it themselves.

Machine-readable format

Publishing data as machine readable includes (1) established standard vocabularies, (2) enriching the HTML resources with metadata, semantics and identifiers, and (3) implementing simple, manageable and stable Uniform Resource Identifiers (URIs).

Open data

Data that anyone can access, use and share. For data to be considered 'open', it must be accessible (which usually means published on the web); available in a machine-readable format; and licensed for anyone to access, use and share, commercially and non-commercially.

Personal data

Data from which a person can be identified, including data that can be combined with other information to identify a person.

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