European Commission

Consumer market study on online market segmentation through personalised pricing/offers in the European Union

Request for Specific Services 2016 85 02 for the implementation of Framework Contract EAHC/2013/CP/04

Annexes

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GLOSSARY

Terminology abbreviations

CPA	Consumer Protection Authorities
DPA	Data Protection Authorities
DSM	Digital Single Market
EAA	European Advertising Alliance
GDPR	General Data Protection Regulation
JRC	Joint Research Center
KPI	Key Performance Indicators
OFT	UK Office of Fair Trading (note: closed down in April 2014 and responsibilities were passed to the Competition and Market Authority (CMA) and Financial Conduct Authority (FCA))
OTT	Over-the-Top communication services
UCPD	Unfair Commercial Practices Directive
WTP	Willingness-to-pay

Country codes

BE	Belgium	LU	Luxembourg
BG	Bulgaria	HU	Hungary
CZ	Czech Republic	MT	Malta
DK	Denmark	NL	Netherlands
DE	Germany	AT	Austria
EE	Estonia	PL	Poland
IE	Ireland	PT	Portugal
EL	Greece	RO	Romania
ES	Spain	SI	Slovenia
FR	France	SK	Slovakia
HR	Croatia	FI	Finland
IT	Italy	SE	Sweden
CY	Cyprus	UK	United Kingdom
LV	Latvia	IS	Iceland
LT	Lithuania	NO	Norway

Annex 1 Methodology & questionnaires

A1.1 Stakeholder consultation

A1.1.1 Methodology for the stakeholder consultation data collection

The legal desk research at EU level aimed at performing an overall analysis of the EU regulatory framework in order to get an in-depth understanding of the legal aspects related to the functioning of the online market and practices related to personalised pricing/offers used by online firms. As such, the legal review gave the first insights on the applicable legislation while the literature review provided further details on the market functioning.

Besides the literature and regulatory review as a main source of data collection, an additional method of data gathering was performed through a stakeholder consultation (data collection through surveys) and a dedicated survey addressed to business operators.

A1.1.2 Survey design

The stakeholder consultation consists of the design and deployment of targeted surveys addressed to the following stakeholder groups across the 30 countries in scope of the study:

- Data Protection Authorities (DPAs);
- Consumer Protection Authorities (CPAs); and
- National Experts.

The purpose of the surveys was to collect data in order to identify which practices of personalised pricing/offers are used by online business operators, how these practices impact the overall market functioning and the consumer and to assess compliance of online sellers/providers in the countries of scope with the existing EU and national legislation in the area of online personalisation practices and data privacy/consumer protection.

The advantage of conducting these surveys was to receive insights from a divergent range of stakeholder groups.

It was decided that consumer organisations (members of DG JUST's European Consumer Consultative Group) were also contacted (at a later stage) in order to provide their valuable inputs to the study[1].

Survey design questions

The surveys comprised a mixture of open-ended and closed questions. Each survey included separate questions customised for the target group. Its design aimed at including as many quantitative questions as possible (i.e. either binary responses (Y/N) or scales) because this enables the study to cover a wider variety of topics and most importantly, it simplifies the comparability between the responses. At the same time, the response rate for these types of questions is higher than for more time-consuming open-ended questions. The open-ended questions included in the surveys give the respondents the opportunity to provide specific explanations on a given issue and refer to additional information and documents (See Annex A1.2 for a detailed list of all relevant questionnaires).

[1] This was not originally envisaged by the Consortium in their tender proposal.

The design of the survey questions has been drafted based on desk research and literature review and in collaboration with the legal and the subject matter experts, who provided feedback following their in-depth knowledge of the market.

The principles of good survey design were followed:

- Simple language was used throughout the questionnaire;
- Clear and simple instructions for completion were provided;
- Survey was structured around key themes and was cohesive; and
- Surveys were of a pre-coded prompted nature, used where appropriate.

It has to be noted that in practice and based on the different rounds of survey revision with the European Commission, the scripted surveys tended to be **quite lengthy**, which might have had an impact on the overall survey response rate.

Data Protection Authorities and Consumer Protection Authorities

For the purpose of the study, DPAs were selected as key actors to discuss relevant personalisation practices related to the functioning of the online market, as they have a thorough understanding of the national and European regulatory framework for data protection issues. In addition, the ePrivacy Regulation proposal makes DPAs clearly responsible for matters relating to ePrivacy (currently not all national DPAs are responsible for the ePrivacy Directive). CPAs, on the other hand, have a key role to ensure the well-functioning of the online market from a consumer perspective, and to provide the oversight in relation to unfair commercial practices, problems experienced by consumers, as well as consumer complaints etc.

The surveys addressed to these stakeholders aim at obtaining insights on the incidence of current market practices related to online personalisation and whether these are non-compliant with EU legislation and are detrimental to consumers. They also focus in particular on obtaining the stakeholders' view on how these market practices are contributing to a better online market for consumers.

The topics addressed in the surveys and the associated sub-topics covered per topic are included in the table below.

Because of their central role to ensure that the interests of European consumers are defended, BEUC (the European Consumer Organisation), as well as consumer organisations who are currently members of the Commission's European Consumer Consultative Group (ECCG) were also sent the same questionnaire that was addressed to CPAs.

Table 1 : Topics and sub-topics covered by the surveys to DPAs, CPAs and consumer organisations

Topic	Sub-topics covered per topic
Relevant national legislation and range of personalised practices exerted by online business operators	• National legislation relative to personalised pricing/offers that may go beyond the current EU regulatory framework in terms of consumer protection and data protection • Personalised pricing/offers practices employed by online business operators • Methods by which consumers receive personalised pricing/offers • Identification of goods and services most prevalent for online personalisation
Consumer awareness and perception of online personalisation practices	• Consumer awareness of personalised pricing/offers • Possible advantages of personalised pricing/offers
Personal data collection and transparency	• Consumer awareness of means by which online firms collect and process personal data and data about their online behaviour • Consumer concerns on personal data collection used for personalised pricing/offers • Level of transparency towards the consumer regarding the data collection practices and processing of consumers' personal data • Types of data collected on the consumer in order to build consumer profiles
Consumer complaints	• Frequency of receiving consumer complaints regarding personalised pricing/offers practices • Types of consumer complaints regarding such practices • Examples of consumer detriment
Benefits and concerns in relation to personalised pricing/offers	• Benefits of personalised pricing/offers as perceived by consumers • Benefits of personalised pricing/offers as perceived by companies using these practices
General questions	• Deficiencies in the existing regulatory framework with regard to consumer protection in the online market in relation to personalisation • Initiatives performed by the stakeholders in relation to consumer or data protection around personalised pricing/offers practices

National Experts

Subject matter experts at national level are another type of key stakeholders contacted in order to obtain their direct views on how personalised pricing and offers may impact the overall functioning of the online market and how these practices contribute to a better online environment for consumers. When compared to the DPA and CPA surveys, more technical questions were included in this survey related to for example the cost perspective of personalised pricing/offers techniques and details on technologies used for personalisation practices.

The profiles of the experts were selected in such a way that their areas of expertise are complementary compared to one another, in order to cover as many aspects as possible through the survey. Research groups from academia in the countries included in the scope of this study were shortlisted and experts working in the private sector. For example, experts with a background in data protection and consumer protection law; in matters related to e-commerce and marketing as well as experts with technical background in data analytics and digital marketing for ecommerce.

The topics addressed in the survey to national experts and the associated sub-topics covered are included in the table below.

Table 2 : National experts survey topics and sub-topics covered

Topic	Key research areas covered per topic
Relevant national legislation and range of personalised practices exerted by online business operators	• National legislation relative to personalised pricing/offers that may go beyond the current EU regulatory framework in terms of consumer or data protection • Personalised pricing/offers practices employed by online business operators • Methods by which consumers receive personalised pricing/offers • Identification of goods and services most prevalent for online personalisation
Personal data collection and transparency	• Level of transparency towards the consumer regarding the data collection practices and processing of consumers' personal data • Means of communication and frequency of data collection practices by online business operators • Techniques used to collect data from consumers by online business operators • Types of data collected on the consumer in order to build consumer profiles • Availability of consumer data at online marketplaces by business operators
Technology used for personalised pricing/offers	• Parameters used in order to develop/build personalised pricing/offers

Topic	Key research areas covered per topic
	• Potential evolution of personalisation techniques and tools in relation to emerging technologies
Benefits and concerns in relation to personalised pricing/offers	• Benefits of personalised pricing/offers, as perceived by consumers • Consumer concerns with respect to personalised pricing/offers practices • Benefits of personalised pricing/offers for online business operators who use such practices • Benefits for consumers of personalised pricing/offers, as perceived by companies which make use of such practices
Questions on personalised pricing/offers market characteristics	• Type of cost(s) incurred by online business operators to engage in personalised pricing/offers to consumers • Overall costs required for online retailers to engage in these practices • Level of competition affected in the market by these practices • Impact of these practices on market innovation • Impact of these practices on the ability of consumers to decide, choose and switch supplier
General questions	• Deficiencies in the existing regulatory framework with regard to consumer protection in the online market in relation to personalisation

A1.1.3 Data collection

Mapping of stakeholders

The three stakeholder groups across the countries in scope were contacted through e-mail in order to be invited to participate to the survey.

The table below summarises the methodology on how different stakeholders were identified as well as the number of contacted stakeholders for each group:

Table 3 : Identification of stakeholders

Stakeholder group	Methodology for identification	Number of stakeholders contacted	Number of stakeholders replied to the stakeholder consultation
Data Protection Authorities (DPAs)	• DPAs were identified through desk research (e.g. by consulting the DG JUST webpage on national data protection authorities as well as the individual DPA websites for each country) • The list of DPAs was developed in close collaboration with the EC	28	13
Consumer Protection Authorities (CPAs) and Consumer Organisations	• For each country, CPAs were identified through desk research • The CPAs contacted include for example the Ministries of Justice and Economy, the Consumer Ombudsman or Consumer Complaints Committee etc. Moreover, for each country, the ECC-Net (European Consumer Centre Network) and CPC (Consumer Protection Cooperation) network were identified as key stakeholders in collaboration with the EC • The Consumer Organisations include European and national consumer organisations and associations (including the European Consumer Consultative Group of the European Commission)	58 (Including members of the CPC and ECC networks) Approx.30	19
National subject matter experts / National Experts	The national experts were primarily identified through desk research, based on the following sources: • Participants listed on websites of past e-commerce events and workshops at EU and national level, with a focus on relevant subject matter experts from the academia, the public or private sector • Relevant academic and research papers on the topic whose authors were been contacted to participate in the	Approx.70	3 + 7 = 10 The 7 above refers to phone interviews with national experts that were additionally organised

Stakeholder group	Methodology for identification	Number of stakeholders contacted	Number of stakeholders replied to the stakeholder consultation
	survey and/or a phone interview • Authors of other online materials (blogposts, articles, interviews online etc.)		

Survey deployment

The surveys were sent to the stakeholders on **20 April 2017**. Survey participants were given up to 3 weeks to respond to the initial survey request. Two further reminders were sent to the stakeholder groups, extending the overall survey completion deadline in order to collect an adequate level of information.

The respondents were assured that the surveys are strictly anonymous – it was stressed that the participants' name will not be shared for the purposes of this study, neither will participants be identified with any quotation from the survey integrated in the report. In addition, participants were provided with the option to choose their name to be shared in the Final report, as a participant in the study. In all cases, the confidentiality of the survey participants personal and contact details was respected.

Furthermore, the project team performed specific actions aimed at achieving a higher response rate for each of the three surveys.

The approach to raise response rate for the surveys included the following actions:

- A .pdf version of the questionnaire was provided in advance (if requested) to survey participants, which allowed respondents to prepare their responses before submitting the replies in the online survey tool. In total, **5 requests** were received (from 4 CPAs and 1 DPA respondent) to share the pdf version;
- CPA stakeholders (including ECCG ones) were invited to participate to the survey through a dedicated email drafted and branded by the Commission (DG JUST). As noted, the Commission has close relations to their CPC, ECCG and DPA networks and the Commissions' branded email helps to link the survey directly to the Commission and not to Deloitte;
- One or multiple alternative email addresses were identified for those authorities, agencies or individuals for which the email was not delivered (delivery failure);
- Two reminders were sent via e-mail to survey participants in order to kindly remind them to participate to the survey. These reminders were sent between the **9th and the 10th of May** and between the **16th and 19th of May 2017**;
- The distribution of the second reminders was coordinated with the Commission in order to highlight the importance of the regulators' participation in the surveys and to increase the response rate. Therefore, reminders were distributed to the CPC network and to the DPAs through the DG JUST Units responsible for these dedicated networks;
- The reminder emails were personalised to the national experts survey participants. By personalising their invitation, a higher response rate could be achieved; and
- Follow-up phone calls were conducted to kindly remind respondents to take the survey or to invite them to share their insights via alternative format such as conference call interviews.

In addition, the table below displays in more details the actions taken to increase the response rate.

Table 4 : Risk mitigation for the stakeholder consultation

Risk	Description	Risk Mitigation
Low response rate to the surveys	Although multiple contacts were identified per stakeholder group, an overall low response rate was perceived in completing the surveys. This was mainly observed for the surveys distributed to National Experts. The low response rate could be partially due to the limited time at disposal of the participant, the fact that there was limited interest to participate or not enough knowledge on all topics covered or the fact that the survey was overall somehow lengthy.	The project team performed specific actions aimed at achieving a higher response rate for each of the three surveys (i.e. CPAs, DPAs and national experts). Up to two reminders were sent via e-mail to survey participants to kindly remind them of completing the survey. In addition, Deloitte performed phone calls to directly stress the importance of the study for participants and kindly remind them individually to participate to the surveys. In a number of cases with national experts, the project team implemented additional data collection methods as phone interviews. Experts selected for the study were invited for a 1-hour phone interview with the project team to gather qualitative and quantitative data for the surveys, following the topics covered in the questionnaires.
Missing data due to low response rate	Missing or insufficient information to key research questions due to the limited number of replies received.	In case of incomplete information for crucial questions of the surveys, Deloitte implemented measures to increase the response rate such as inviting a selection of national experts to phone interviews and/or contact alternative participants (in addition to the ones to whom the survey invitations were initially sent). The project team performed 7 phone interviews with national experts.

A1.1.4 Additional data collection methods

In addition to the surveys sent as part of the stakeholder consultation, a limited number of **phone interviews** were organised **with national experts.** The interviews encompassed a range of more customised and topic-specific questions and allowed for gathering of more in-depth insights, based on the respondents' expertise. In particular, these phone interviews allowed to discuss the study topics in a more informal manner.

Expert interviews offered value to the study in many ways:

- Collected ground level perspectives and captured nascent trends which were not yet established enough through the surveys;
- Gathered off-the-record comments which respondents were unable to put in writing (for legal reasons, complexity of the topic or due to fear) and were more willing to share during phone interviews;
- Allowed to obtain personal reflections on the areas in scope and to collect data which is publicly not available;
- Allowed to customise the questions addressed during the phone interview according to the respondent. Phone interviews further allow a high level of flexibility to ask additional sub-questions on the spot depending on the responses of the expert; and
- Different experts may need to be approached differently within the context of the consultation, taking into account the differences in resources, roles and experience in the market. Therefore, interviews were tailored to the respondent category while many common questions from the stakeholder surveys were asked to the experts. They were also encouraged to submit additional information, such as supporting data or documentation.

Following the approach of the mapping of national experts, also for the phone interviews, the profiles of the experts were selected in such a way that their areas of expertise were complementary compared to one another. Particularly, when a low level of data was collected on a specific topic included in the survey, we aimed to collect this type of data during the phone interviews.

The questions discussed with the experts during the interviews were aligned with those included across the stakeholder surveys and the survey to national experts in particular. In order to ensure an efficient and relevant discussion, the questions were customised according to the respondents' area of expertise and industry. In that perspective, the format of the phone interviews is a complementary data collection method to the stakeholder surveys where occasionally the length and the type of questions displayed to respondents (e.g. not directly relating to their profession) may discourage participants from completing the survey.

The questions covered during the phone interviews with national experts largely cover the same topics addressed to national experts (as indicated in Table 2).

A1.1.5 Methodology for the Business Operators data collection

As noted in the Methodology for the stakeholder consultation, surveys were designed and deployed to **online business operators**, in order to obtain more detailed insights from those actively engaging in personalised practices.

By online business operators, we mean e-commerce websites, including marketplaces and those online sellers that may also have an offline activity, as well as other relevant actors on the market, e.g. vendors and buyers of advert space, data analytics companies, companies that provide services and tools for personalisation.

Survey design

The Business operators' survey consists of the design and deployment of **two separate surveys** addressed to online sellers and providers active within the sectors and/or the product categories identified for the study across the 30 countries. In particular, the surveys were distributed to:

1. Business Operators active as e-commerce websites; and
2. Business Operators active as technology companies involved in the development of the actual personalisation practices.

These types of business operators, though complementary, are different in the nature of their activities. For example, technology companies mainly offer personalisation software, data analytics solutions or are involved in the advertising business (e.g. offering ad spaces etc.) whereas e-commerce firms have mainly B2C core activities and offer goods/services to consumers online, making use of personalised practices to better target consumers. Therefore separate questionnaires were developed that include a set of common questions, as well as a set of questions specifically targeting the business model of both types of companies.

The aim of both surveys was to assess to what extent these types of business operators are aware and are compliant with existing EU and national legislation and to review the most common personalisation practices used. More specifically, the objectives of these surveys were to assess in particular the following issues:

- Compliance of business operators with the existing EU and national legislation related to consumer protection and data protection in relation to personalisation practices in online markets (where applicable);

- Means of collecting users' personal data and the mechanisms behind the algorithms used to build up consumer profiles, as well as the sensitivity of the data collected from individuals;

- Challenges and barriers (e.g. costs) faced by business operators when engaging in personalised pricing/offers practices or when trying to ensure compliance with the existing EU and national regulatory framework;

- Differences in online personalisation techniques by country/region, by market sector or by company size; and

- Factors that drive online firms to employ personalised pricing/offers and the way the use of these practices is communicated to consumers; assessment on whether there is more discrimination in markets where competition is stronger or less.

Survey design approach

The design of these surveys was conducted at a later phase in order to leverage on the preliminary results of the stakeholder consultation so as to better customise the questions to be addressed to business operators. Hence, questions were asked in relation to those topics for which data was not yet collected in the previous stakeholder consultation.

Survey design questions

A similar methodology was applied as the one detailed for the previously discussed stakeholder consultation.

Business operators survey: E-commerce websites

The topics addressed in the survey to e-commerce websites and the associated sub-topics covered per topic are included in the table below.

Table 5 : Topics and sub-topics covered by survey to online firms

Topic	Sub-topics covered per topic
Questions in relation to the respondents' company	• Main channels and technologies the company uses to sell its products and services online • Types of good and services the company offers
Commercial practices used by online business operators in relation to personalisation practices	• The most common personalised pricing/offers practices used by business operators • The goods and services for which personalised pricing/offers practices are most prevalent
Improvement of consumers' online experience due to personalisation practices	• Benefits of personalised pricing/offers for consumers or specific consumers' demographic groups (senior citizens, students, handicapped people)
Data collection and tools used for personalisation practices	• Means of data collection that business operators use to obtain consumer data in order to personalise their prices/offers (via own means or through other companies that specialise in data collection such as data technology companies) • Practices of data sharing between online marketplaces and e-commerce websites
Questions concerning the specific practices of the respondent's company	• The use of personalised pricing/offers by the respondent's company to improve the consumer shopping experience • Benefits for the respondent's company as a result of personalised pricing/offers • The type of costs incurred by the company to engage in personalisation practices or to ensure compliance with the existing national and EU regulatory framework related to consumer protection and data protection • Compliance with national and EU regulatory framework
Consumer awareness	• Awareness of consumers of the personalisation practices occurring and the way the respondent's company informs consumers of their data being collected and used for personalisation
Future evolution of the online market enabled by new technologies	• The impact of new technologies such as "Artificial Intelligence", "Internet of Things" and "Data Analytics" on personalised practices in the future

Business operators survey: technology companies which offer personalisation solutions

The topics addressed in the survey to technology companies and the associated sub-topics covered per topic are included in the table below.

Table 6 : Topics and sub-topics covered by survey to technology companies that offer personalisation tools

Topic	Sub-topics covered per topic
Questions in relation to the respondents' company	• Type of goods/services for which the respondent's company offers software tools/solutions for online personalisation
Commercial practices used by online business operators in relation to personalisation practices	• The most common personalised pricing/offers practices used by business operators • The goods and services for which personalised pricing/offers practices are most prevalent
Data collection and tools used for personalisation practices	• Type of users' data needed for technology companies to develop their services/software tools and means of obtaining consumer data (via their own tools or through third parties) • Type of algorithms and tracking methods that technology companies use to create consumer profiles in order to develop their personalisation tools, subsequently offered to online firms • Practices of data sharing between online marketplaces and e-commerce websites
Benefits of personalised practices for online business operators and consumers	• Benefits of personalised pricing/offers for consumers or specific consumers' demographic groups (senior citizens, students, handicapped people) • Benefits of personalised pricing/offers for online business operators
Costs incurred by business operators in relation to personalisation practices	• Costs borne by business operators to engage in personalisation practices • Costs borne by business operators to transparently inform consumers of personalisation practices and to ensure compliance with the existing EU data protection and consumer protection regulatory framework • Typical costs involved in buying advert space on websites • Costs borne by business operators to engage in online targeted advertising
Future evolution of the online market enabled by new technologies	• The impact of new technologies such as "Artificial Intelligence", "Internet of Things" and "Data Analytics" on personalised pricing/offers in the future

Mapping of stakeholders

For the two types of Business Operators, a list of stakeholders to be contacted was compiled across the countries in scope. The table below summarises the methodology by how different stakeholders were identified, as well as the number of contacted stakeholders for each group:

Table 7 : Mapping of stakeholders

Respondent group	Methodology for identification	Number of stakeholders contacted*	Survey addressing respondent group
E-commerce websites and E-commerce associations	• The list of e-commerce websites and e-commerce associations was identified, based on a consultation with experts and on desk research. • We contacted between 10 to 20 e-commerce firms in each country in the scope of this study.	Approx. 550 contacted directly Several hundred through E-commerce Europe and their national member associations	Business Operators survey to e-commerce websites
• **Data analytics companies** • **Companies offering personalisation software and tools to online businesses** • **Advertisers, vendors of advert space, platforms**	• The list of data analytics and personalisation software companies was identified, based on interviews with experts and on desk research • The list of companies in the advertising business was elaborated based on desk research and additional respondents were included in collaboration with the Commission (e.g. the European Interactive Digital Advertising Alliance)	Approx.150	Business Operators survey to Technology companies

In total, approximately **700 companies in the EU** were contacted directly through their e-mail address to participate to the survey.

Survey deployment

The surveys were initially sent to **a first set of approximately 100 companies** on the **31st of July and subsequently to a second set of approximately 600 companies** between the **7th and 13th September.** Survey participants were given up to 2 weeks to respond to the initial survey request after which 2 reminders were sent.

Experience shows that surveys of business operators usually suffer from a low response rate as companies have little incentive to cooperate because:

1) They see little interest in spending time to complete the survey as the study does not represent a business opportunity for them; or

2) The questions might cover their internal business operations (which are considered often as highly confidential).

The approach to mitigating this risk and raising the response rate for the two surveys included the following actions:

- Directly within the survey tool, respondents had the possibility to extract a .pdf version of the questionnaire, which would allow them to prepare their responses before submitting the replies in the online survey tool;
- The tool allows to start completing the survey and to continue at any other moment in time according to the availability of the survey respondent;
- Two reminders via e-mail were sent up to survey participants in order to kindly remind them to participate to the survey;
- Approximately 150 companies out of the list of 700 targets were contacted via phone. It was noted **that 114 (or 76%) explicitly refused** to participate in the survey;
- Approximately **33 companies (or 22%)** out of the contacted companies **tentatively accepted** to participate in the survey and subsequently, were contacted via email to offer them a choice between 1) completing the survey and 2) participating in a short phone interview.

In the end, despite the efforts described above, only 10 companies agreed to contribute, either by filling in the survey or during phone interviews.

A1.1.6 Research questions from the stakeholder consultation and the business operators surveys

A set of detailed research questions was developed to respond to the following general objectives of this consumer market study: (1) identification of the main personalisation practices by online sellers and providers in the EU online environment and their impact on consumers; (2) assessment of online sellers and providers' level of awareness and compliance with EU and national legislation; and (3) assessment of the economic value and detriment of personalisation practices for consumers and online sellers/providers via economic modelling and how the costs/benefits are divided between them.

In the table below one can see for which **research questions** described in the ToR it was possible to collect responses through the stakeholder consultation and business operators and in turn, have analysed the data collected in order to provide the findings.

The table indicates whether the research question was addressed through:

- Survey to DPAs;
- Survey to CPAs;
- Survey to National Experts;
- Survey to Business operators; and
- Additional data collection methods (phone interviews with National Experts and business operators)

Table 8: Research Questions covered by the different data collection methods

Research Question (based on the Tender Specifications)	Survey to DPAs	Survey to CPAs	Survey to National Experts	Additional data collection methods (Interviews)	Survey to Business Operators
1. What are the different practices in personalised pricing/offers used by online firms (e.g. price discrimination, price steering, targeted discounts to certain consumer groups, targeted ads, targeted emails)?	✓	✓	✓	✓	✓
2. What type of personal data do online firms collect in order to provide personalised prices/offers to consumers? How sensitive is this information?	✓		✓	✓	✓
3. What are the means of collecting this information? Is this done by the online firms themselves or do they procure it from other companies which specialise in such collection?	✓		✓	✓	✓
4. Are companies using these techniques transparent about their data collection methods and the (further/subsequent) use of consumers' personal data? How exactly do they communicate about their pricing methods? Do companies that collect data for personalised pricing/offers transmit this data? If yes, to whom? Do companies transmit the consumer profiles relating to their consumers?	✓	✓	✓	✓	✓
6. Are businesses which monitor consumers' online behaviour and use this information to offer personalised prices/offers complying with consumer laws and the existing EU regulatory framework?	✓	✓	✓	✓	✓
7. Which consumer profiles are used across online markets for personalising prices/offers, which parameters are used and how are they interpreted? How are algorithms built? Are they built in house or outsourced? Do businesses target certain types of consumers more or differently? How dynamic are the consumer profiles? Do they continuously/frequently change over time, adapting to new personal data?	✓		✓	✓	✓

Research Question	Survey to DPAs	Survey to CPAs	Survey to National Experts	Additional data collection methods (Interviews)	Survey to Business Operators
8. Are there differences in price personalisation techniques by country/region, by market sector or by company size?	✓	✓	✓		
9. What benefits for consumers are companies which make use of personalised pricing/offers claiming? What are the benefits for the firms themselves? What are the benefits/drawbacks at market level?		✓	✓	✓	✓
11. How are personalisation techniques likely to evolve, especially with the emergence of the Internet of Things and of Artificial Intelligence? Are personalised pricing/offers likely to further develop in the near future and become the typical pricing model of online sellers or is it likely to remain a pricing method limited to a small minority of online sellers.			✓	✓	✓
13. To which extent are consumers aware about whether an offer is personalised or not? Are consumers aware of having paid a higher price or being shown different products than others as a result of online firms having tracked their behaviour or otherwise used their personal data? If so, do they link the personalisation to the device they were using, the operating system, their history of clicks/purchases etc.?	✓	✓	✓	✓	
14. What are the benefits that consumers perceive as a result of personalised pricing/offers?		✓	✓	✓	
16. How do personalised offers affect consumer choice? To which extent can personalised pricing/offers confuse consumers with misleading, unreliable or rapidly changing information that prevents them from making informed choices?		✓	✓	✓	

17. Do consumers feel comfortable about their personal data being used by online firms in order to provide them with personalised offers and how concerned are they with such practices? Would they feel less satisfied if they learnt about the nature of the pricing techniques used by online firms?	✓	✓	✓	✓	
18. To what extent do consumers know and understand what companies and online traders do with the personal data gathered about them and how the information is subsequently exploited?	✓	✓	✓	✓	
20. Assessment of the nature, frequency and scale of problems consumers encounter with personalised pricing/offers (including unfair commercial practices experienced and issues related to data privacy).	✓	✓	✓		
21. Are consumers that belong to certain socio-demographic groups more negatively affected by such practices? Can we observe any typical differences between EU Member States/regions in this regard?	✓	✓	✓	✓	✓
23. Have consumers suffered any financial detriment caused by purchasing a product/service which was a result of personalised pricing/offer?		✓	✓	✓	
24. Do consumers complain about the targeted marketing/personalised offers they receive and if so to whom? What is the outcome of these complaints?	✓	✓	✓		
25. What is the cost to online firms to engage in offering personalised pricing/offers to final consumers?			✓	✓	✓
26. When engaging in personalised pricing/offers, to what extent do businesses differentiate (increase/decrease) the prices and choice they offer to individual consumers and/or alter the (ranking of) offers?			✓	✓	
27. How (potential) new entrants perceive entry barriers and/or the competitive advantage of incumbents related to the use of consumer data?			✓	✓	

A1.2 Stakeholder questionnaires

A1.2.1 Data Protection Authorities Survey

Introduction and purpose

The European Commission (EC) is conducting a market study on online market segmentation through personalised pricing and offers by online business operators in the European Union. The study follows the advance in data gathering and processing techniques that have allowed companies to embrace innovative marketing strategies, such as personalised pricing.

The **objective** of the study is to understand the nature and prevalence of personalised pricing / offers practices for EU consumers as a result of online firms tracking and profiling consumer online behaviour. Personalised pricing/offers can be defined by any of the following practices: (a) charging different prices to different consumers for the same goods/services (personalised pricing); (b) presenting different results when consumers search for the same products online (price steering); and (c) targeting advertisements (e.g. via pop ups, banner adverts, emails etc. For example, an advert for a hotel that one could come across whilst browsing online his/her favourite news site that clearly relates to their earlier online searches for hotels).

In particular, the study aims to:

1. Assess the economic value of personalised pricing/offers;
2. Explore to what extent sellers are aware and comply with national and EU legislation;
3. Identify the personalisation practices on the market and the problems that consumers experience (e.g. transparency issues, data protection issues, unawareness how data is collected and used etc.)

By online business operators, we mean e-commerce websites, including marketplaces and those online sellers that may also have an offline activity, as well as search engines and price comparison tools.

Data Protection Authorities are one of the key actors to discuss relevant practices related to the functioning of the online market within the national and European regulatory framework. Online personalised pricing/offers are driven by data analytics insights, based on information collected on consumers' online behaviour with the help of cookies and other means of user identification. These data collection and exploitation practices have created many challenges for the protection of consumers' personal data and privacy. We are therefore interested in understanding the practices regarding personalised pricing that exist in your country and your views on the potential privacy and transparency issues these practices can pose for consumers.

Therefore, this consultation invites and seeks to encourage as wide a range of comments as possible. Given that any **change** to the applicable EU legislation may have an impact on your national legislation and change the provisions for data protection and consumer protection in the online environment, we encourage you to give your feedback to this important study.

Closing date

The closing date for submissions is [……]. If you believe that you will need more time to respond, please contact Dr Carlo Duprel at epricingstudy@deloitte.lu.

Queries

Queries to the content and use of this survey and the market study should be sent to Dr Carlo Duprel, Contractor responsible for Study Consultation, Deloitte, Tax & Consulting, 560, rue de Neudorf, L-2220 Luxembourg, Grand Duchy of Luxembourg, epricingstudy@deloitte.lu. +352 451 45 4498.

Please send queries to the EC on the context of this study to Konstantinos Zisis (Konstantinos.Zisis@ec.europa.eu).

Confidentiality

This survey intends to collect information on the position of the national data protection authority and its experiences gathered on the topic. Deloitte will only share the views of the institution and not personal details about the individual respondents. In any case, you may wish that your/your institution's input remains anonymised. Please, do not hesitate to contact us for more detailed information on confidentiality and data protection issues.

Thank you in advance for your cooperation!

Identification of institution

Name of the institution	
Name (Optional)	
Position (Optional)	
Email (Optional)[2]	
Country	

[2] The email you provide in this section may be used to inquire for further details or to send you a copy of the answers you have provided in PDF or a copy of the final report of the study in PDF. Please refer to the final section of the survey to choose the latter option.

Questions on relevant legislation and the practices exerted by online business operators

1. Is there any national legislation relative to personalised pricing/offers which goes beyond the current EU regulatory framework in terms of data protection?

	Yes	No	Dont know
Personalised pricing (i.e. charging different prices to different consumers for the same goods/services)	☐	☐	☐
Price steering (i.e. presenting different results when consumers search for the same products online)	☐	☐	☐
Targeting advertisements (i.e. for example via pop ups, banner advert, emails etc.)	☐	☐	☐
Other (please specify)	☐	☐	☐

1.1. If yes, could you please specify and provide a link or attach the documents? (if they are available in English please send us/include the English version)

[Link or document]

2. According to your information, which personalised pricing/offers practices are employed by online business operators in your country and how widespread do you estimate these to be?

	Nearly all websites use it	Most websites use it	Some websites use it	Very few websites use it	I don't think any websites use it	Dont Know
Personalised pricing (charging different prices to different consumers for the same goods/services)	☐	☐	☐	☐	☐	☐
Price steering (presenting different results when consumers search for the same products online)	☐	☐	☐	☐	☐	☐

Targeted advertising (for example via pop ups, banner adverts, etc.)	☐	☐	☐	☐	☐	☐	☐
Targeted discounts (special offers set to certain consumer groups e.g. students)	☐	☐	☐	☐	☐	☐	☐
Targeted emails (marketing messages sent via email to targeted consumers)	☐	☐	☐	☐	☐	☐	☐

3. For which goods and services is online personalisation most prevalent in your country?

- ☐ Books/magazines
- ☐ Car rentals
- ☐ Clothes/ footwear
- ☐ Computer software and games
- ☐ Electronics and computer hardware (e.g. TV, smartphone)
- ☐ Films/music
- ☐ Financial services (e.g. shares, insurance)
- ☐ Food/groceries
- ☐ Holiday accommodation (e.g. hotel room)
- ☐ Toys and childcare articles
- ☐ Electrical household appliances (e.g. microwave)
- ☐ Telecom services (e.g. broadband, mobile)
- ☐ Tickets for events or offline leisure
- ☐ Travel services (e.g. airline tickets)
- ☐ Cosmetics and healthcare products
- ☐ Sports and outdoor equipment
- ☐ Non-electrical household goods and interior design
- ☐ Other (please specify)

4. Are you aware of typical differences in the way consumers in your country are targeted by personalised pricing/offers practices in different market sectors or by companies of different size?

- ☐ Yes
- ☐ No

4.1 If yes, could you please specify?

[Description text]

5. Are there any other relevant issues or practices related to personalised pricing/offers in your country, you would like to share?

- ☐ Yes
- ☐ No

5.1. If yes, could you please specify?

[Description text]

6 Would you be of the opinion that personalised pricing/offers could be considered to produce legal effects or similar significant (positive or negative) effects on consumers in some cases?

[Description text]

6.1. If yes, could you please specify?

[Description text]

Questions on personal data collection and transparency

7. To what extent do you think consumers are aware of the ways in which online firms collect and process personal data and data about their online behaviour? Please rate on a scale of 1-5.

☐	☐	☐	☐	☐

8. How concerned do you think consumers are about their personal data being used by online business operators for personalised pricing/offers?

- ☐ Extremely concerned
- ☐ Very concerned
- ☐ Somewhat concerned
- ☐ Little concerned
- ☐ Not concerned
- ☐ Dont know

9. To your knowledge, how exactly do online business operators collect the information needed in order to provide personalised practices to citizens? Do they do it themselves (if so, how exactly) or do they procure it from other companies that specialise in such practices?

[Description text]

10. To your knowledge, what type of data is collected on the consumer in order to build up a consumer profile and how sensitive is this data?
[description box]

11. Are you aware of practices where online business operators buy[3] consumer profiles from other companies (e.g. data brokers) which specialise in personal data collection?

- ☐ Yes
- ☐ No

[3] Please note that the questionnaires attempt to capture current market practices and hence often use language accessible to respondents without a legal or technical background (i.e. the terms "sharing/transferring/selling" are often used instead of "transmitting", whereas "buying" is often used as opposed to "collecting" data or profiles).

11.1. If yes, please explain these practices:

[Description text]

12. To your knowledge, are personal data collection practices and the subsequent processing of citizens' personal data (including data on their online behaviour) by online business operators transparent to citizens?

- ☐ Yes
- ☐ Usually yes
- ☐ Usually no
- ☐ No

12.1. If yes, through which communication means, how detailed and how frequent, are these practices communicated to citizens in your country by online business operators?

[Description text]

13. Do online business operators who collect personal data for personalised pricing/offers transmit consumer data/profiles to third parties?

- ☐ Yes
- ☐ No

13.1. If yes, could you please specify to whom in your experience?

[Description text]

Questions on compliance of online business operators with national and EU data protection regulatory framework and complaints

14. To what extent do you receive complaints from <u>citizens</u> in your country about personalised pricing/offers practices by online business operators?

- ☐ Very frequently
- ☐ Frequently
- ☐ Occasionally
- ☐ Rarely
- ☐ Never [please skip next question]

14.1. In case there are online business operators in your country whose personalised pricing/offers practices are not compliant with the EU data protection regulatory framework, how do they deviate from it?

[Description text]

15. To what extent do you receive complaints from companies in your country about personalised pricing/offers practices by competing companies?

- ☐ Very frequently
- ☐ Frequently
- ☐ Occasionally
- ☐ Rarely
- ☐ Never [please skip next question]

15.1. If yes, could you please explain the main issues raised in the complaints by companies?

[Description text]

16.From your information, of those consumers in your country who complain about personalised pricing/offers practices, which of the following issues do they complain about? Please provide details on the frequency of each issue.

Issue	**Frequency of the issue**					
	Very frequently	Frequently	Occasionally	Rarely	Never	Dont Know
Receiving (viewing) the same offer as others but with higher prices (or lower discounts)	☐	☐	☐	☐	☐	☐
Not being able to view all results that correspond to the customer's search but a limited "steered" selection.	☐	☐	☐	☐	☐	☐
Paying higher prices	☐	☐	☐	☐	☐	☐
Being offered products they were no longer interested in	☐	☐	☐	☐	☐	☐
Lack of transparency on how personal data/data on online behaviour is processed & communicated	☐	☐	☐	☐	☐	☐
Transfer of their personal data/online profiles to 3rd parties	☐	☐	☐	☐	☐	☐

without their knowledge/consent						
Their personal data being used for other purposes (e.g. illegal)	☐	☐	☐	☐	☐	☐
Receiving embarrassing or inappropriate adverts	☐	☐	☐	☐	☐	☐
Discomfort for being tracked online and hence profiled	☐	☐	☐	☐	☐	☐
Websites not allowing to "opt-out of"/refuse cookies	☐	☐	☐	☐	☐	☐
Other (please, specify)	☐	☐	☐	☐	☐	☐

Questions on regulatory and enforcement actions

17. How many enforcement actions on data protection related to personalised pricing/offers do you launch per year?

In 2014:

In 2015:

In 2016:

17.1 If any, could you please specify these initiatives (i.e. the format, the type of initiative, the scope, whether in cooperation with other relevant bodies)?

[Description text]

17.2. What is the average number of enforcement actions on data protection issues that you launch per year? [not linked to personalised practices]

In 2014:

In 2015:

In 2016:

17.3 Have you performed any awareness-raising campaigns or other initiatives for consumers on data protection in relation to personalised pricing/offers?

- ☐ Yes
- ☐ No

17.4. If yes, could you please specify these initiatives (i.e. the format, the type of initiative, the scope, whether in cooperation with other relevant bodies such as Consumer Protection Authorities etc.)?

[Description text]

18. Are there any other related relevant documents (reports, survey results, academic literature, articles, etc.) you would like to share which are relevant for the topic of personalised pricing/offers?

[Description text]

Final note

Thank you very much for your participation in this study.

Please, tick the box below if you would like to receive (in the email provided in the identification page) in a PDF form:

- ☐ the answers you have provided to this survey
- ☐ a copy of the study's final report

A1.2.2 Consumer Protection Authorities Survey

Introduction and purpose

The European Commission (EC) is conducting a market study on online market segmentation through personalised pricing and offers by online business operators in the European Union. The study follows the advance in data gathering and processing techniques, which have allowed companies to embrace innovative marketing strategies, such as personalised pricing.

The **objective** of the study is to understand the nature and prevalence of personalised pricing / offers practices for EU consumers, as a result of online firms tracking and profiling their online behaviour. Personalised pricing/offers can be defined by any of the following practices: (a) charging different prices to different consumers for the same goods/services (personalised pricing); (b) presenting different results when consumers search for the same products online (price steering); and (c) targeting advertisements (e.g. via pop ups, banner advert, emails etc. For example, an advert for a hotel that one could come across whilst browsing online his/her favourite news site, that clearly relates to their earlier online searches for hotels).

In particular, the study aims to:

1. Assess the economic value of personalised pricing/offers;
2. Explore to what extent sellers are aware and comply with national and EU legislation;
3. Identify the personalisation practices on the market and the problems that consumers experience (e.g. transparency issues, data protection issues, unawareness how data is collected and used etc.)

By online business operators, we mean e-commerce websites, including marketplaces and those online sellers that may also have an offline activity, as well as search engines and price comparison tools.

Consumer Protection Authorities on national and EU-level can be key actors to ensure the well-functioning of the online market, and provide the oversight in relation to unfair commercial practices, consumer complaints, etc. Specifically, the emergence of the online market has created many challenges for consumer protection, such as unfair commercial practices including misleading advertising or price discrimination. We are therefore interested in understanding the practices regarding personalised pricing that exist in your country and your views on how these practices are contributing to a better online market for consumers.

Therefore, this consultation invites and seeks to encourage as wide a range of comments as possible. Given that any change to the applicable EU legislation may have an impact on your national legislation and change the provisions for consumer protection in the online environment, we encourage you to give your feedback to this important study.

Closing date

The closing date for submissions is […..]. If you believe you will need more time to respond, please contact Dr Carlo Duprel at epricingstudy@deloitte.lu.

Queries

Queries to the content and use of this survey and the market study should be sent to Dr Carlo Duprel, Contractor responsible for Study Consultation, Deloitte, Tax & Consulting, 560, rue de Neudorf, L-2220 Luxembourg, Grand Duchy of Luxembourg, epricingstudy@deloitte.lu. +352 451 45 4498.

Queries to the EC on the context of this study should be sent to Konstantinos Zisis (Konstantinos.Zisis@ec.europa.eu)

Confidentiality

This survey is intended at collecting information on the position and experiences of the consumer protection authority on the topic. Deloitte will only share the views of the institution and not personal details about the individual respondents. In any case, you may wish that your/your institution's input remains anonymised. Please, do not hesitate to contact us for more detailed information on confidentiality and data protection issues.

Thank you in advance for your cooperation!

Identification of the institution

Name of the institution	
Name (Optional	
Position (Optional)	
Email (Optional)[4]	
Country	

[4] The email you provide in this section may be used to inquire for further details or to send you a copy of the answers you have provided in PDF or a copy of the final report of the study in PDF. Please refer to the final section of the survey to choose the latter option.

Questions on relevant legislation and the practices exerted by online business operators

1. Is there any national legislation regarding personalised pricing/offers which goes beyond the current EU regulatory framework in terms of consumer protection?

	Yes	No	Dont know
Personalised pricing (i.e. charging different prices to different consumers for the same goods/services)	☐	☐	☐
Price steering (i.e. presenting different results when consumers search for the same products online)	☐	☐	☐
Targeting advertisements (i.e. for example via pop ups, banner advert, emails etc.)	☐	☐	☐
Other (please specify)	☐	☐	☐

1.1. If yes, could you please specify and provide a link or attach the documents? If they are available in English, please send us the English versions.

[Link or document]

2. According to your information, which personalised pricing/offers practices are employed by online business operators in your country and how widespread do you estimate these to be:

	Nearly all websites use it	Most websites use it	Some websites use it	Very few websites use it	I don't think any websites use it	Dont Know
Price discrimination (charging different prices to different consumers for the same goods/services)	☐	☐	☐	☐	☐	☐
Price steering (presenting different results when consumers	☐	☐	☐	☐	☐	☐

search for the same products online)						
Targeted advertising (for example via pop ups, banner advert)	☐	☐	☐	☐	☐	☐
Targeted discounts (special offers set to certain consumer groups e.g. students)	☐	☐	☐	☐	☐	☐
Targeted emails (marketing messages sent via email to targeted consumers)	☐	☐	☐	☐	☐	☐

3. According to your information, via which of the following means do consumers receive personalised pricing/offers? Please rate the frequency for each one.

Means	**Very frequently**	**Frequently**	**Occasionally**	**Rarely**	**Never**	**Dont Know**
When searching in a search engine	☐	☐	☐	☐	☐	☐
Via pop ups on websites	☐	☐	☐	☐	☐	☐
Via targeted emails	☐	☐	☐	☐	☐	☐
Through banner advertising on websites	☐	☐	☐	☐	☐	☐
When searching in e-commerce sites	☐	☐	☐	☐	☐	☐

When searching in price comparison tools	☐	☐	☐	☐	☐	☐
Other [please specify]	☐	☐	☐	☐	☐	☐

4. For which goods and services is online personalisation most prevalent in your country?

☐ Books/magazines
☐ Car rentals
☐ Clothes/ footwear
☐ Computer software and games
☐ Electronics & computer hardware (e.g. TV, smartphone)
☐ Films/music
☐ Financial services (e.g. shares, insurance)
☐ Food/groceries
☐ Holiday accommodation (e.g. hotel room)
☐ Toys and childcare articles
☐ Electrical household appliances (e.g. microwave)
☐ Telecom services (e.g. broadband, mobile)
☐ Tickets for events or offline leisure
☐ Travel services (e.g. airline tickets)
☐ Cosmetics and healthcare products
☐ Sports and outdoor equipment
☐ Non-electrical household goods and interior design
☐ Other (please specify)

5. Are you aware of typical differences in the way consumers in your country are targeted by personalised pricing/offers practices in different market sectors or by companies of different size?

☐ Yes
☐ No

5.1 If yes, could you please specify?

[Description text]

Questions on consumer awareness & perception of such practices

6. To your knowledge, to what extent is the average consumer aware whether offers are personalised or not? Please rate on a scale of 1-5.

☐	☐	☐	☐	☐

7. In your opinion, personalised pricing/offers:

- ☐ Generally lead consumers to make informed choices
- ☐ Generally have little or no influence on consumers' informed choices
- ☐ Generally prevent consumers from making informed choices
- ☐ Generally mislead consumers
- ☐ Don't know

Questions on personal data collection and transparency

8. To what extent do you think consumers are aware of the ways in which online firms collect and process personal data and data about their online behaviour? Please rate on a scale of 1-5.

☐	☐	☐	☐	☐

9. How concerned do you think consumers are about their personal data being used by online business operators for personalised pricing/offers?

- ☐ Extremely concerned
- ☐ Very concerned
- ☐ Somewhat concerned
- ☐ Little concerned
- ☐ Not concerned
- ☐ Dont know

10. To your knowledge, are personal data collection practices and the subsequent processing of consumers' personal data (including data on their online behaviour) by online business operators transparent to consumers?

- ☐ Yes
- ☐ Usually yes
- ☐ Usually no
- ☐ No

Questions on consumers' complaints

11. To what extent do you receive complaints from consumers in your country about personalised pricing/offers practices by online business operators?

- ☐ Very frequently
- ☐ Frequently
- ☐ Occasionally
- ☐ Rarely
- ☐ Never [please skip next question]

12. To your information, of those consumers in your country who complain about personalised pricing/offers, which of the following issues do they complain about? Please rate the frequency of the complaints received for each issue.

	Very frequently	Frequently	Occasionally	Rarely	Never	Dont Know
Receiving (viewing) the same offer as others but with higher prices (or lower discounts)	☐	☐	☐	☐	☐	☐
Not being able to view all results that correspond to the customer's search but a limited "steered" selection.	☐	☐	☐	☐	☐	☐
Paying higher prices	☐	☐	☐	☐	☐	☐
Being offered products they were no longer interested in						
Lack of transparency on how personal data/data on online behaviour is processed & communicated	☐	☐	☐	☐	☐	☐
Transfer of their personal data/online profiles to 3rd parties	☐	☐	☐	☐	☐	☐

without their knowledge/consent						
Their personal data being used for other purposes (e.g. illegal)	☐	☐	☐	☐	☐	☐
Receiving embarrassing or inappropriate adverts	☐	☐	☐	☐	☐	☐
Discomfort for being tracked online and hence profiled	☐	☐	☐	☐	☐	☐
Websites not allowing to ”opt-out of”/refuse cookies	☐	☐	☐	☐	☐	☐
Other (please, specify)	☐	☐	☐	☐	☐	

13. According to your information, do consumers experience any detriment when purchasing a good or service resulting from personalised pricing/offers?

☐ Yes
☐ No
☐ Dont know

13.1 If yes, could you please describe what detriment consumers can suffer due to personalisation?

[Description text]

13.2. Can you provide an estimate of the average financial detriment a consumer may suffer due to personalisation?

[Description text]

13.3. Do you have any research, data or literature that you could share regarding consumer detriment due to personalisation?

[Description text]

14. Are there certain socio-demographic groups which are more negatively affected by personalised pricing/offers?

- ☐ Yes
- ☐ No
- ☐ Dont know

14.1. If yes, could you please specify?

[Description text]

15. In case there are business operators that are not compliant with consumer law and the EU regulatory framework in relation to personalised pricing/offers practices, how do they deviate from it?

[Description text]

Questions on benefits with personalised pricing/offers

16. What are the benefits of personalised pricing/offers <u>as indicated by consumers</u>? Please tick all options that apply.

- ☐ See the products that they might be interested in
- ☐ See products for the best available price
- ☐ Choosing the products that best suit their needs is easier
- ☐ Makes searching more enjoyable for the consumer
- ☐ Receive special price discounts/promotions
- ☐ Receive relevant recommendations to similar products
- ☐ Save time when searching online
- ☐ No benefits
- ☐ Other (please, specify)
- ☐ Dont know

17. What are the benefits for consumers as <u>indicated by companies</u> that make use of personalised pricing/offers? Please tick all the options that apply.

- ☐ Allow consumers to see products that they might be interested in
- ☐ Allow consumers to see products for the best available price
- ☐ Allow consumers to choose more easily the products that best suit their needs
- ☐ Makes searching more enjoyable for the consumer
- ☐ Offer special price discounts/promotions to targeted client segments
- ☐ Send more relevant recommendations to similar products
- ☐ Allow consumers to save time when searching online
- ☐ Other (please, specify)
- ☐ Dont know

General questions

18. According to your personal opinion, is there a need to further regulate the current market practices in order to protect/better inform consumers in relation to personalised pricing/offers?

[Description text]

19. How many enforcement actions on consumer issues related to personalised pricing/offers do you launch per year?

In 2014:

In 2015:

In 2016:

19.1 If any, could you please specify these initiatives (i.e. the format, the type of initiative, the scope, whether in cooperation with other relevant bodies)?

[Description text]

19.2. What is the average number of enforcement actions on consumer issues that you launch per year? [not linked to personalised practices]

[Description text]

20. Have you performed any awareness-raising campaigns or other relevant initiatives for consumers on protection/information issues when it comes to personalised pricing/offers?

- ☐ Yes
- ☐ No

20.1 If yes, could you please specify these initiatives (i.e. the format, the type of initiative, the scope, whether in cooperation with other relevant bodies such as Data Protection Authorities etc.)?

[Description text]

21. Please provide links or attach any other related documents (reports, survey results, academic literature, articles, etc.) that are relevant to this topic.

[Description text/URL box]

Final note

Thank you very much for your participation in this study.

Please, tick the box below if you would like to receive (in the email provided in the identification page) in a PDF form:

- ☐ the answers you have provided to this survey
- ☐ a copy of the study's final report

A1.2.3 National Experts Survey

Introduction and purpose

The European Commission (EC) is conducting a market study on online market segmentation through personalised pricing and offers by online business operators in the European Union. The study follows the advance in data gathering and processing techniques which have allowed companies to embrace innovative marketing strategies, such as personalised pricing.

The **objective** of the study is to understand the nature and prevalence of personalised pricing / offers practices for EU consumers as a result of online firms tracking and profiling their online behaviour. Personalised pricing/offers can be defined by any of the following practices: (a) charging different prices to different consumers for the same goods/services (personalised pricing); (b) presenting different results when consumers search for the same products online (price steering); and (c) targeting advertisements (e.g. via pop ups, banner adverts, emails etc. For example, an advert for a hotel that one could come across whilst browsing online his/her favourite news site that clearly relates to their earlier online searches for hotels).

In particular, the study aims to:

1. Assess the economic value of personalised pricing/offers;
2. Explore to what extent online sellers are aware and comply with national and EU legislation;
3. Identify the personalisation practices on the market and the problems that consumers experience (e.g. transparency issues, data protection issues, unawareness how data is collected and used etc.)

By online business operators, we mean e-commerce websites, including marketplaces and those online sellers that may also have an offline activity, as well as search engines and price comparison tools.

Subject matter experts at national level are one of the key actors to discuss relevant practices related to the functioning of the online market. Specifically, the emergence of the online market has created many challenges for consumer protection, such as unfair commercial practices including misleading advertising or price discrimination but also a large potential in terms of services that customers need. We are therefore interested in understanding your inputs and views on the situation in the market in your country regarding personalised pricing and offers.

Therefore, this consultation invites and seeks to encourage as wide a range of comments as possible. Given that any change to the applicable EU legislation may have an impact on your national legislation and change the provisions for consumer protection in the online environment, we encourage you to give your feedback to this important study.

Closing date

The closing date for submissions is [to be updated]. If you believe you will need more time to respond, please contact Dr Carlo Duprel at epricingstudy@deloitte.lu.

Queries

Queries to the content and use of this survey and the market study should be sent to Dr Carlo Duprel, Contractor responsible for Study Consultation, Deloitte, Tax & Consulting, 560, rue de Neudorf, L-2220 Luxembourg, Grand Duchy of Luxembourg, epricingstudy@deloitte.lu. +352 451 45 4498.

Queries to the EC on the context of this study should be sent to Konstantinos Zisis (Konstantinos.Zisis@ec.europa.eu).

Confidentiality

This survey is **strictly confidential** – Deloitte will not share your name, or identify you with any quotation you may make in the survey. However, we give you the option at the end of the survey to opt out of this default option, in which case your name could be listed as a participant in the study. Please, do not hesitate to contact us for more detailed information on confidentiality and data protection issues.

Thank you in advance for your cooperation!

Identification

Name	
Name of the institution/company	
Email[5]	
Your function	
Country	

[5] The email you provide in this section may be used to inquire for further details or to send you a copy of the answers you have provided in PDF or a copy of the final report of the study in PDF. Please refer to the final section of the survey to choose the latter option.

Questions on relevant legislation and the practices exerted by online business operators

1. In your country, is there any national legislation relative to personalised pricing/offers which goes beyond the current EU regulatory framework in terms of data protection or consumer protection?

	Yes	No	Dont know
Personalised pricing (i.e. charging different prices to different consumers for the same goods/services)	☐	☐	☐
Price steering (i.e. presenting different results when consumers search for the same products online)	☐	☐	☐
Targeting advertisements (i.e. for example via pop ups, banner advert, emails etc.)	☐	☐	☐
Other (please specify)	☐	☐	☐

1.1. If yes, could you please specify and provide a link or attach the documents? (if they are available in English please send us/include the English version)

[Link or document]

2. To your knowledge, which personalised pricing/offers practices are employed by online business operators and how widespread do you estimate these to be?

	Nearly all websites use it	Most websites use it	Some websites use it	Very few websites use it	I don't think any websites use it	Dont Know
Price discrimination (charging different prices to different consumers for the same goods/services)	☐	☐	☐	☐	☐	☐
Price steering (presenting different results when consumers search for the same products online)	☐	☐	☐	☐	☐	☐
Targeted advertising (for example via pop ups, banner adverts, etc.)	☐	☐	☐	☐	☐	☐
Targeted discounts (special offers set to certain consumer groups e.g. students)	☐	☐	☐	☐	☐	☐
Targeted emails (marketing messages sent via email to targeted consumers)	☐	☐	☐	☐	☐	☐

3. For which goods and services is online personalisation most prevalent in your country?

- ☐ Books/magazines
- ☐ Car rentals

- ☐ Clothes/ footwear
- ☐ Computer software and games
- ☐ Electronics & computer hardware (e.g. TV, smartphone)
- ☐ Films/music
- ☐ Financial services (e.g. shares, insurance)
- ☐ Food/groceries
- ☐ Holiday accommodation (e.g. hotel room)
- ☐ Toys and childcare articles
- ☐ Electrical household appliances (e.g. microwave)
- ☐ Telecom services (e.g. broadband, mobile)
- ☐ Tickets for events or offline leisure
- ☐ Travel services (e.g. airline tickets)
- ☐ Cosmetics and healthcare products
- ☐ Sports and outdoor equipment
- ☐ Non-electrical household goods and interior design
- ☐ Other (please specify)

4. Are you aware of typical differences on how consumers in your country (or in the EU28) are targeted by personalised pricing/offers practices in different market sectors or by companies of different size?

- ☐ Yes
- ☐ No

4.1. If yes, could you please specify?

[Description text]

5. Are there any other relevant issues or practices related to personalised pricing/offers in your country or in the EU28 that you would like to share?

- ☐ Yes
- ☐ No

5.1. If yes, could you please specify?

[Description text]

Questions on personal data collection and transparency

6. According to your information, are personal data collection practices and the subsequent processing of consumers’ personal data (including data on their online behaviour) transparent to consumers?

- ☐ Yes

- ☐ Usually yes
- ☐ Usually no
- ☐ No

6.1. If yes, through which communication means, how detailed and how frequently are these practices communicated to consumers by online business operators?

[Description box]

7. According to your information, how exactly do online business operators collect the information needed in order to provide personalised practices to consumers? Do they do it themselves (if so, how exactly) or do they procure it from other companies which specialise in such practices?

[Description box]

8. Are you aware of practices in your country or in the EU28 where online business operators buy[6] consumer profiles from other companies which specialise in personal data collection (e.g. data brokers)?

- ☐ Yes
- ☐ No
- ☐ Dont know

8.1. If yes, please explain these practices / examples:

[Description text]

9. To your knowledge, what type of data is collected on the consumer in order to build up a consumer profile and how sensitive is this data?

[Description box]

10. How frequently do online business operators which collect personal data for personalised pricing/offers transfer or sell consumer data / profiles to 3rd parties? Please rate on a scale of 1-5.

☐	☐	☐	☐	☐

10.1. Could you please specify to whom are personal data and consumer profiles transferred/sold?

[6] Simplified language. See above[3] (equally applies to Questions 10-11 and their sub-questions)

[Description text]

10.2. Could you please specify which type of information on the consumer is shared/transferred/sold?

[Description text]

11. In the case where business operators make use of online marketplaces to sell their products, is consumer data at the disposal of the online marketplace shared/transferred/sold, partially or entirely, to the sellers on that marketplace?

- ☐ Yes
- ☐ No
- ☐ Dont know

11.1. If yes, please explain these practices, detailing what information is shared, how it is shared and how transparent the marketplace is vis-à-vis consumers regarding the sharing of consumer data:

[Description text]

11.2. If no, how is the data used for personalised pricing on that marketplace collected by that seller?

[Description text]

11.3. Please share any other relevant practices related to the use of personalised pricing on marketplaces.

[Description text]

12. Are certain socio-demographic groups of consumers more negatively affected by personalised pricing/offers?

- ☐ Yes
- ☐ No
- ☐ Don’t know

12.1. If yes, could you please specify which group(s) is/are affected the most?

[Description text]

13. Are there typical differences on how consumers are targeted by personalised pricing/offers between different EU Member States?

- ☐ Yes
- ☐ No
- ☐ Dont know

13.1 If yes, could you please specify?

[Description text]

Questions on technology used for personalised pricing/offers

14. On which parameters are the actual algorithms, used for personalising prices and offers, based on? Are they built in house or outsourced?

[Description text]

15. How are personalisation techniques and tools likely to evolve in relation to emerging technologies such as the Internet of Things and Artificial Intelligence?

[Description text]

15.1. Please provide any further information, document or link that you deem relevant to understand the development of personalisation techniques.

[Description text]

Questions on benefits and concerns about personalised pricing/offers

16. To your knowledge, what are the benefits of personalised pricing/offers as <u>perceived</u> by <u>consumers</u>? Please tick all the options that apply:

- ☐ See the products that they might be interested in
- ☐ See products for the best available price
- ☐ Personalisation makes searching more enjoyable
- ☐ Choosing the products that best suit their needs is easier
- ☐ Receive special price discounts/promotions
- ☐ Receive relevant recommendations to similar products
- ☐ Save time when searching online
- ☐ No benefits
- ☐ Other (please, specify)
- ☐ Dont know

17. To your knowledge, what are the concerns consumers have with such practices? Please tick all the options that apply:

- ☐ Receiving (viewing) the same offer as others but with higher prices (or lower discounts)

- ☐ Not being able to view all results that correspond to the consumer's search but a limited "steered" selection.
- ☐ Paying higher prices
- ☐ Being offered products they were no longer interested in
- ☐ Lack of transparency on how personal data/data on online behaviour is processed & communicated
- ☐ Transfer[7] of their personal data/online profiles to 3rd parties without their knowledge/consent
- ☐ Their personal data being used for other purposes (e.g. illegal)
- ☐ Receiving embarrassing or inappropriate adverts
- ☐ Discomfort for being tracked online and hence profiled
- ☐ Websites not allowing to ”opt-out of”/refuse cookies
- ☐ Other (please, specify)
- ☐ Don’t know

17.1. Please explain why you selected the options you did.

[Description text]

18. To your knowledge, what are the benefits <u>for online business operators</u> when making use of personalised pricing/offers? Please tick all the options that apply:

	Raise profitability	**Raise market share over competitors**	**Reduce costs for advertising**	**Raise impact of advertising**	**Other (please specify)**	**Dont Know**
Price discrimination (charging different prices to different consumers for the same goods/services)	☐	☐	☐	☐	*Text*	☐
Price steering (presenting different results when consumers search for the same products online)	☐	☐	☐	☐	*Text*	☐
Targeted advertising (for example via pop	☒	☐	☐	☐	*Text*	☐

[7] Simplified language. See above[3]

ups, banner advert,)						
Targeted discounts (special offers set to certain consumer groups e.g students)	☐	☐	☐	☐	*Text*	☐
Targeted emails (marketing messages sent via email to targeted consumers)	☐	☐	☐	☐	*Text*	☐
Other (please specify)						☐

19. To your knowledge, what are the benefits <u>for consumers</u> as <u>indicated by companies</u> that make use of personalised pricing/offers? Please tick all the options that apply:

- ☐ Allow consumers to see products that they might be interested in
- ☐ Allow consumers to see products for the best available price
- ☐ Personalisation makes searching more enjoyable
- ☐ Allow consumers to choose more easily the products that best suit their needs
- ☐ Offer special price discounts/promotions to targeted client segments
- ☐ Send more relevant recommendations to similar products
- ☐ Allow consumers to save time when searching online
- ☐ Other (please, specify)
- ☐ Dont know

20. In your opinion, personalised pricing/offers:

- ☐ Generally lead consumers to make informed choices
- ☐ Generally have little or no influence on consumers' informed choices
- ☐ Generally prevent consumers from making informed choices
- ☐ Generally mislead consumers
- ☐ Don’t know

Questions on personalised pricing/offers market characteristics

21. What is/are the type of cost(s) incurred by online business operators to engage in offering personalised pricing/offers to consumers?

- ☐ Research
- ☐ Data collection
- ☐ Human capital

- ☐ Technology
- ☐ Other (please, specify)

21.1. Could you possibly assess the overall costs (in monetary terms) needed for an online retailer to engage in such practices? – (depending on company size)

[Description text]

21.2. Could you possibly assess the overall costs (in monetary terms) needed for an online retailer that engages in such practices to transparently inform consumers of the use of such practices? – (depending on company size)

[Description text]

21.3. Could you possibly estimate the amount that online business operators spend on targeted advertising? What are the typical costs involved in buying ad space on other websites?

[Description text]

22. How do personalised pricing/offers affect the level of competition in the market (e.g. increasing/decreasing competition)?

[Description text]

23. Is there more discrimination in markets where competition is stronger?

- ☐ Yes
- ☐ No

23.1 If yes, could you please specify?

[Description text]

24. To what extent do online business operators that engage in personalised pricing/offers increase or decrease the prices offered and alter the ranking of offers?

[Description text]

24.1 How significant are the differences in terms of prices and choice from one consumer profile to another?

[Description text]

25. To what extent do personalised pricing/offers limit the ability of consumers to decide, choose and switch supplier?

[Description text]

25.1. What is the impact of personalised pricing/offers on market innovation?

[Description text]

26. How do (potential) new e-commerce entrants perceive entry barriers due to the use of personalised pricing/offers by competitors?

[Description text]

26.1. How do they cope with these barriers?

[Description text]

26.2. How do they cope with the low level of data availability?

[Description text]

General questions

27. Is there, according to you, a need for any future legislation in relation to practices of personalised pricing/offers in order to better protect customers?

- ☐ Yes
- ☐ No

27.1. If yes, could you please specify?

[Description text]

28. Are there any other related documents (reports, survey results, academic literature, articles, etc.) that are relevant for the topic?

- ☐ Yes [Description box/URL box]
- ☐ No

Final note

Thank you very much for your participation in this study.

Please, tick the box below if you would like to receive your answers in PDF:

- ☐ I want to receive my answers in PDF to the email provided in the identification page

Please, tick the box below if you would like your answers to be anonymous:

- ☐ I want my answers to be anonymous and my name not to be disclosed under any circumstance

A1.3 Business Operators questionnaires

Business Operators Survey to E-commerce websites

Introduction

The European Commission (EC) is conducting a consumer market study on online personalisation practices by e-commerce business operators in the European Union. The study follows the advance in data gathering and processing techniques, which have allowed companies to embrace innovative marketing strategies, such as personalised pricing.

The **objective** of the study is to understand the nature and prevalence of personalised pricing / offers practices for EU consumers. Personalised pricing/offers can be defined by any of the following practices: (a) setting different prices to different consumers for the same goods/services (personalised pricing or price differentiation); (b) presenting different results when consumers search for the same products online (price steering); and (c) targeting advertisements (e.g. via pop ups, banner adverts, emails etc. For example, an advert for a hotel that one could come across while browsing online his/her favourite news site that clearly relates to their earlier online searches for hotels).

In particular, the study aims to:

1. Assess the improvement in consumer experience as a result of personalisation practices;
2. Assess the economic value of personalised pricing/offers for EU online businesses and consumers and identify the personalisation practices prevalent in the European market;
3. Identify to what extent the current regulatory framework at national and EU level in relation to personalisation practices benefits and offers enough protection to online businesses and consumers;

The rapid evolution and digitalisation of the online market has created many opportunities as well as challenges for online businesses and consumers alike. We are therefore interested in understanding the commercial practices regarding personalised pricing and offers that exist in your country and your views, as **an online business operator**, on how these practices are contributing to a better online market for European consumers and for your business.

The closing date for submissions is [….]. If you believe, you will need more time to respond, please contact Dr Carlo Duprel at luepricingstudy@deloitte.lu.

Queries

Queries to the content and use of this survey and the market study should be sent to Dr Carlo Duprel, Contractor responsible for Study Consultation, Deloitte, Tax & Consulting, 560, rue de Neudorf, L-2220 Luxembourg, Grand Duchy of Luxembourg, luepricingstudy@deloitte.lu. +352 451 45 4498.

Please send queries to the EC on the context of this study to Konstantinos Zisis (Konstantinos.Zisis@ec.europa.eu).

Confidentiality

This survey is **strictly anonymous** – Deloitte will not share your personal details, nor identify you with any quotation you may make in the survey. However, we give you the possibility below to opt out of this default option, in which case your name/your company's name could be listed as a participant in the study. Please, do not hesitate to contact us for more detailed information on confidentiality and data protection issues.

The estimated time for the completion of this survey is 30 minutes.

Thank you in advance for your cooperation!

Identification

Please note that all information you provide in this field will be treated as confidential, unless you explicitly give us your consent by the end of this section to list the name of your company as a participant in the survey.

Name of your company	
Country	

Additional personal information (Optional)

Your name	
Your function	
Email address[8]	

Questions in relation to your company (Questions 2-3 optional)

1. How many employees (full-time equivalent) does your company currently have?

1-9	10-49	50-249	250-499	500+	Don't Know

2. Approximately what percentage of the value of your company's turnover comes from online sales?

1% -10%	10% - 25%	25% -50%	51%-75%	76%- 100%	Don't Know

3. Approximately what percentage of your company's online sales comes from other EU countries?

1% -10%	10% - 25%	25% -50%	51%-75%	76%- 100%	Don't Know

[8] The email you provide in this section may be used to inquire for further details or to send you a copy of the answers you have provided in PDF or a copy of the final report of the study in PDF. Please refer to the final section of the survey to choose the latter option.

4. Which of the following channels and technologies do you use to sell your goods and/or services online? Please tick all options that apply.

My own website/app	A small commercial platform	A large commercial platform	The company I work for is a marketplace/ platform itself	EDI-type transactions (Electronic Data Interchange, e.g.: XML)	Don't Know

5. Type of goods/services your company offers

[Dropdown menu]

- ☐ Books/magazines
- ☐ Car rentals
- ☐ Clothes/ footwear
- ☐ Computer software and games
- ☐ Electronics & computer hardware (e.g. TV, smartphone)
- ☐ Films/music
- ☐ Financial services (e.g. shares, insurance)
- ☐ Food/groceries
- ☐ Holiday accommodation (e.g. hotel room)
- ☐ Toys and childcare articles
- ☐ Electrical household appliances (e.g. microwave)
- ☐ Telecom services (e.g. broadband, mobile)
- ☐ Tickets for events or offline leisure
- ☐ Travel services (e.g. airline tickets)
- ☐ Cosmetics and healthcare products
- ☐ Sports and outdoor equipment
- ☐ Non-electrical household goods and interior design
- ☐ Other (please specify)

Please tick the box below if you agree that we may quote you or your company in relation to the information that you have provided in the identification section:

- ☐ I agree
- ☐ No, I wish my answers to remain anonymous under any circumstance

Questions on commercial practices used by online business operators

1. To your knowledge, how common is it for online business operators to use the following personalised pricing/offers practices?

	Nearly all websites use it	Most websites use it	Some websites use it	Very few websites use it	I don't think any websites use it	Don't Know
Price differentiation (setting different prices to different consumers for the same goods/services)	☐	☐	☐	☐	☐	☐
Price steering (e.g. showing different products in a search list when different consumers search for the same products online)	☐	☐	☐	☐	☐	☐
Targeted advertising (for example via pop ups, banner adverts, normal ad space etc.)	☐	☐	☐	☐	☐	☐
Targeted discounts (special offers set to certain consumer groups e.g. students)	☐	☐	☐	☐	☐	☐
Targeted emails (marketing messages sent via email to targeted consumers)	☐	☐	☐	☐	☐	☐

2. To your knowledge, for which goods and services are personalised pricing/offers practices most prevalent in the online market? Please tick all the options that apply:

☐ Books/magazines

☐ Car rentals

☐ Clothes/ footwear
☐ Computer software and games
☐ Electronics & computer hardware (e.g. TV, smartphone)
☐ Films/music
☐ Financial services (e.g. shares, insurance)
☐ Food/groceries
☐ Holiday accommodation (e.g. hotel room)
☐ Toys and childcare articles
☐ Electrical household appliances (e.g. microwave)
☐ Telecom services (e.g. broadband, mobile)
☐ Tickets for events or offline leisure
☐ Travel services (e.g. airline tickets)
☐ Cosmetics and healthcare products
☐ Sports and outdoor equipment
☐ Non-electrical household goods and interior design
☐ Other (please specify)
☐ Don't know

Questions on the improvement of consumers' online experience due to personalised practices

3. To your knowledge, what are the benefits of personalised pricing/offers <u>for consumers</u>? Please tick all the options that apply:

☐ Allow consumers to see products that they might be interested in
☐ Allow consumers to see products for the best available price
☐ Personalisation makes searching more enjoyable
☐ Allow consumers to choose more easily the products that best suit their needs
☐ Offer special price discounts/promotions to targeted client segments
☐ Send more relevant recommendations to similar products
☐ Allow consumers to save time when searching online
☐ Other (please, specify)
☐ Don't know

4. To your knowledge, do online business operators use personalised pricing/offers <u>to benefit, inter alia,</u> a specific <u>consumer demographic group</u> (e.g. handicapped people, senior citizens, students etc.)?

☐ Yes *
☐ No

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

* If answer to Q4 is "Yes", display:

5. Please specify: [Description box]

>>>
>

Questions on data collection & tools used for personalisation practices

6. According to your knowledge, how exactly do online business operators collect the information needed in order to provide better personalised prices/offers to consumers? Please tick all options that apply.

☐ They procure it from other companies which specialise in consumer data collection (e.g. data brokers)

☐ They do it themselves*

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
<<

*If answer to Q6 is "They do it themselves", display:

7. What type of information do online business operators collect to personalise their offers/prices and improve the shopping experience for consumers? Please tick all options that apply.

☐ Time of visit to their website

☐ Browsing and previous search history

☐ Purchase history

☐ User's Location

☐ Type of user's operating system/browser

☐ Type of user's device (smartphone/tablet, laptop, desktop etc.)

☐ Exact route into their website (directly or via a price comparison tool)

☐ User's profile on social networks (e.g. "likes", public profile information)

☐ User's log-in via an already existing account on their website

☐ Personal information users fill in online forms

☐ Aggregated online and offline shopping data

☐ Keywords mentioned in users' blogs or social media posts and public communication online

☐ User's IP address

☐ Age group

☐ Gender

☐ Other socio-demographic information (e.g. marital status, education)

☐ Other (please specify)

☐ Don't know

8. What type of profiling and tracking techniques do online business operators mostly use for personalisation? Please tick all options that apply.

☐ Cookies

☐ Web beacons/Fingerprinting

☐ Unique ID

☐ Flash cookies

☐ Web scraping/crawling

☐ Other (please specify)

☐ Don’t know

\>>>

9. Are the algorithms and software tools that combine such data to personalise pricing/offers generally built in-house or outsourced by online business operators?

☐ In-house built

☐ Outsourced (please specify to whom) : [Description text]

☐ Don’t know

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
<<

*If answer to Q9 is “In-house built”, display Q10:

10. If in-house built, what type of algorithms and methods do online business operators generally use for personalisation? Please tick all options that apply.

☐ Regression

☐ Clustering

☐ Decision tree/rules

☐ Visualisation

☐ K-nearest neighbours

☐ PCA

☐ Random Forests

☐ Support Vector Machines

☐ Neuronal Networks

☐ Time series/Sequence

☐ Text mining

☐ Other (please specify)

☐ Don’t know

\>>>
\>

11.Are you aware of practices in your country or within the EU28 where your competitors buy[9] consumer profiles from other companies, which specialise in data collection (e.g. data brokers)?

☐ Yes
☐ No
☐ Don't know

12. If yes, please explain these practices / examples:
[Description text]

13.To your knowledge, how frequently do online business operators in your country or within the EU28 purchase consumer data/profiles to improve their online marketing/personalisation strategies?

1 Never	2 Rarely	3 Occasionally	4 Frequently	5 Very frequently
☐	☐	☐	☐	☐

14.To your knowledge, how frequently do online business operators in your country or within the EU28 sell consumer data/profiles to third parties?

1 Never	2 Rarely	3 Occasionally	4 Frequently	5 Very frequently
☐	☐	☐	☐	☐

Questions on data sharing by online marketplaces

15.Do you make use of an online marketplace to sell your products or is your company an online marketplace itself?

☐ Yes, my company uses an online marketplace to sell our products*
☐ Yes, my company is an online marketplace*
☐ None

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
<<

*If answer to Q15 is "Yes, my company uses an online marketplace to sell our products" or "Yes, my company is an online marketplace", display:

16. Are the consumer data/profiles at the disposal of the online marketplace shared/transferred/sold (partially or entirely) to the online sellers on that marketplace?

☐ Yes*
☐ No**
☐ Don't know

[9] Simplified language. See above[3] (also applies to Questions 13, 14, 16)

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

*If answer to Q16 is "Yes", display:

17. Please explain these practices – a) detailing what information is sharedb) how it is shared and c) how transparent the marketplace is vis-à-vis consumers regarding the sharing of consumer data:

[Description text]

**If answer to Q16 is "No", display:

18. How does the online seller collect the data used for personalised pricing/offers on that marketplace?

[Description text]

>>
>

Questions on your company's practices

19. Do you use any of the below practices as part of your marketing strategy in order to improve the consumer shopping experience? Please tick all the options that apply:

☐ Price differentiation (setting different prices to different consumers for the same goods/services)

☐ Price steering (e.g. showing different products in a search list when consumers search for the same products online)

☐ Targeted advertising (e.g. via pop ups, banner ads or other forms of advertising on websites ad space)

☐ Targeted discounts (special offers set to certain consumer groups e.g. students)

☐ Targeted emails (marketing messages sent via email to targeted consumers)

☐ None

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

If answer to Q19 is **not**: "None", display:

20.Which of the following benefits do you consider for your company when making use of the below practices? Please tick all options that apply:

	Raise profitability	**Raise market share over competitors**	**Reduce costs for advertising**	**Raise impact of advertising**	**Attract new customers**	**Other**	**Non applicable**
Price differentiation (different prices to different consumers for the same goods/services)	☐	☐	☐	☐	☐		☐
Price steering (e.g. showing different products in a search list when different consumers search for the same products online)	☐	☐	☐	☐	☐		☐
Targeted advertising (for example via pop ups, banner adverts, normal ad space etc.)	☐	☐	☐	☐	☐		☐
Targeted discounts (special offers set to certain consumer groups e.g. students)	☐	☐	☐	☐	☐		☐
Targeted emails (marketing messages sent via email to targeted consumers)							

21.If other, please specify:

[Description text]

22. What is/are the type of cost(s) incurred by your company to engage in offering personalised pricing/offers to consumers?

☐ Research

☐ Data collection

☐ Human capital

☐ Technology

☐ Compliance with national/EU legal framework related to data privacy and personal data protection

☐ Compliance with national/EU legal framework related to consumer protection

☐ Other (please, specify)

☐ Don't know

23. What are the overall costs (in monetary terms) needed for an online business operator to engage in such practices?

[Description text]

24. What is the approximate amount you spend on targeted online advertising? (if applicable)

25. What are the typical costs involved in buying ad space on other websites? (if applicable)

[Description text]

26. In case you engage in targeted online advertising practices (e.g. via hiring ad space), do you have any estimate on the percentage of the resultant clicks on such ads that end up in actual online purchases? (if applicable)

Please provide an estimate: [Description box]

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*If answer to Q19 is "None", display:

27. What are the main reasons why you are not using these practices? Please tick all the options that apply:

☐ Too expensive

☐ Technology too complex

☐ Like to maintain an equal treatment to all consumers

☐ There is a negative perception by consumers

☐ Lack of know-how

☐ Lack of human resources or human capital

☐ Compliance costs with national/EU legal framework related to data privacy and personal data protection

☐ Compliance costs with national/EU legal framework related to consumer protection

☐ Other (please, specify)

☐ Don't know

>>
>

28. In case of trading branded products, are such practices allowed/requested/forbidden by the brands/manufacturers? E.g., do brands/manufacturers impose a specific attitude on online traders in relation to these practices?
[Description box]

29. Would you consider using any of the following personalisation practices in the next couple of years? Please tick all the options that apply:

☐ Price differentiation (setting different prices to different consumers for the same goods/services)

☐ Price steering (e.g. showing different products in a search list when consumers search for the same products online)

☐ Targeted advertising (e.g. via pop ups, banner ads or other forms of advertising on websites ad space)

☐ Targeted discounts (special offers set to certain consumer groups e.g. students)

☐ Targeted emails (marketing messages sent via email to targeted consumers)

☐ None

Questions on consumer awareness

30. Do you use cookies on your website? If yes, could you please provide us the link to the privacy policy?
[URL box for link to privacy policy]

31. Is the online consumer required to read the privacy policies on your website?

☐ Yes*

☐ No

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*If answer to Q31 is "Yes", display:

32. Is the online consumer requested to accept the privacy policy?

☐ Yes

☐ No

33. Does the online consumer have the possibility to accept only parts of the privacy policy?

☐ Yes

☐ No

>>

34. Do you provide consumers the option to refuse cookies ("opt-out")?

☐ Yes

☐ No

35. How often do consumers decide to opt-out?

1 Never	2 Rarely	3 Occasionally	4 Frequently	5 Very frequently
☐	☐	☐	☐	☐

36. If they choose to opt-out, can they still access the website/services offered?

☐ Yes

☐ Yes, but not fully [please explain]

☐ No

37. Could you possibly assess the overall costs (in monetary terms) needed for an online business operator like you that engages in personalised pricing/offers practices to transparently inform consumers of the use of such practices? [other than by simply offering them to read the privacy policy]

[Description text]

Questions on the future evolution of the online market, as enabled by new technologies

38. To the best of your knowledge what impact will technologies like the 'Internet of Things', 'Artificial Intelligence' and 'Data Analytics' have on personalised practices in the next 5 years? Please tick all options that apply.

	High Impact	Moderate Impact	Low impact	None	Don't know	Don't know what this is
Internet of Things	☐	☐	☐	☐	☐	☐
Artificial Intelligence	☐	☐	☐	☐	☐	☐
Data Analytics/Machine learning	☐	☐	☐	☐	☐	☐
Virtual Reality/Augmented Reality	☐	☐	☐	☐	☐	☐

39. Are you currently considering the use of any of the above-mentioned technologies?

☐ Yes (please specify which one(s))

☐ No *

☐ Not yet, but planning to*

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*If answer to Q39 is "No" or "Not yet, but planning to", display:

40. What are, in your view, the reasons to not currently use these technologies? Please tick all options that apply.

	Lack of technological maturity	Too little impact on my business model	Too expensive	Lack of clarity in relation to data protection rules	Other	Don't know what this is
Internet of Things	☐	☐	☐	☐	☐	☐
Artificial Intelligence	☐	☐	☐	☐	☐	☐
Data Analytics/Machine learning	☐	☐	☐	☐	☐	☐
Virtual Reality/Augmented Reality	☐	☐	☐	☐	☐	☐

41. If other, please specify : [Description box]

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>

Questions on national regulation and legislation

42. How well-prepared are you with respect to data protection issues that arise in view of the General Data Protection Regulation (to enter into force on the 25 May 2018)?

☐ Ready
☐ Almost ready
☐ Partially ready (started implementing appropriate actions)
☐ Considering ways forward
☐ Not ready

If you have any relevant documents, which you believe could be desirable to be included in the current research, please email these documents to luepricingstudy@deloitte.lu.
Thank you very much for your participation in this study.

Please tick the box below if you would like to receive your answers in PDF:

☐ I want to receive my answers in PDF to the email provided in the identification page

Business Operators Survey to Technology Companies offering online personalisation solutions

Introduction

The European Commission (EC) is conducting a consumer market study on online personalisation practices by e-commerce business operators in the European Union. The study follows the advance in data gathering and processing techniques, which have allowed companies to embrace innovative marketing strategies, such as personalised pricing.

The **objective** of the study is to understand the nature and prevalence of personalised pricing / offers practices for EU consumers. Personalised pricing/offers can be defined by any of the following practices: (a) setting different prices to different consumers for the same goods/services (personalised pricing or price differentiation); (b) presenting different results when consumers search for the same products online (price steering); and (c) targeting advertisements (e.g. via pop ups, banner adverts, emails etc. For example, an advert for a hotel that one could come across while browsing online his/her favourite news site that clearly relates to their earlier online searches for hotels).

In particular, the study aims to:

1. Assess the improvement in consumer experience as a result of personalisation practices;
2. Assess the economic value of personalised pricing/offers for EU online businesses and consumers and identify the personalisation practices prevalent in the European market;
3. Identify to what extent the current regulatory framework at national and EU level in relation to personalisation practices benefits and offers enough protection to online businesses and consumers;

The rapid evolution and digitalisation of the online market has created many opportunities as well as challenges for online businesses and consumers alike. We are therefore interested in understanding the commercial practices regarding personalised pricing and offers that exist in your country and your views, as **a firm actively involved in the online environment by providing personalisation solutions**, on how these practices are contributing to a better online market for European consumers and for your business.

The closing date for submissions is […..]. If you believe you will need more time to respond, please contact Dr Carlo Duprel at luepricingstudy@deloitte.lu.

Queries

Queries to the content and use of this survey and the market study should be sent to Dr Carlo Duprel, Contractor responsible for Study Consultation, Deloitte, Tax & Consulting, 560, rue de Neudorf, L-2220 Luxembourg, Grand Duchy of Luxembourg, luepricingstudy@deloitte.lu. +352 451 45 4498.

Please send queries to the EC on the context of this study to Konstantinos Zisis (Konstantinos.Zisis@ec.europa.eu).

Confidentiality

This survey is **strictly anonymous** – Deloitte will not share your personal details, nor identify you with any quotation you may make in the survey. However, we give you the possibility below to opt out of this default option, in which case your name/your company's name could be listed as a participant in the study. Please, do not hesitate to contact us for more detailed information on confidentiality and data protection issues.

The estimated time for the completion of this survey is 30 minutes.

Thank you in advance for your cooperation!

Identification

Please note that all information you provide in this field will be treated as confidential, unless you explicitly give us your consent by the end of this section to list the name of your company as a participant in the survey.

Name of your company	
Country	

Additional personal information (Optional)

Your name	
Your function	
Email address[10]	

Questions in relation to your company (Optional)

1. How many employees (full-time equivalent) does your company currently have?

1-9	10-49	50-249	250-499	500+	Don't Know

2. What is the company's approximate annual turnover?

[Description box]

[10] The email you provide in this section may be used to inquire for further details or to send you a copy of the answers you have provided in PDF or a copy of the final report of the study in PDF. Please refer to the final section of the survey to choose the latter option.

3. Type of goods/services for which your company offers software tools/solutions for online personalisation to your customers

[Dropdown menu]

- ☐ Books/magazines
- ☐ Car rentals
- ☐ Clothes/ footwear
- ☐ Computer software and games
- ☐ Electronics & computer hardware (e.g. TV, smartphone)
- ☐ Films/music
- ☐ Financial services (e.g. shares, insurance)
- ☐ Food/groceries
- ☐ Holiday accommodation (e.g. hotel room)
- ☐ Toys and childcare articles
- ☐ Electrical household appliances (e.g. microwave)
- ☐ Telecom services (e.g. broadband, mobile)
- ☐ Tickets for events or offline leisure
- ☐ Travel services (e.g. airline tickets)
- ☐ Cosmetics and healthcare products
- ☐ Sports and outdoor equipment
- ☐ Non-electrical household goods and interior design
- ☐ Other (please specify)

Please tick the box below if you agree that we may quote you or your company in relation to the information that you have provided in the identification section:

- ☐ I agree
- ☐ No, I wish my answers to remain anonymous under any circumstance

Questions on commercial practices used by online business operators

1. To your knowledge, how common is it for online business operators to use the following personalised pricing/offers practices?

	Nearly all websites use it	Most websites use it	Some websites use it	Very few websites use it	I don't think any websites use it	Don't Know
Price differentiation(setting different prices to different consumers for the same goods/services)	☐	☐	☐	☐	☐	☐
Price steering (e.g. showing different products in a search list when different consumers search for the same products online)	☐	☐	☐	☐	☐	☐
Targeted advertising (for example via pop ups, banner adverts, normal ad space etc.)	☐	☐	☐	☐	☐	☐
Targeted discounts (special offers set to certain consumer groups e.g. students)	☐	☐	☐	☐	☐	☐
Targeted emails (marketing messages sent via email to targeted consumers)	☐	☐	☐	☐	☐	☐

2. To your knowledge, for which goods and services are personalised pricing/offers practices most prevalent in the online market? Please tick all the options that apply:

☐ Books/magazines
☐ Car rentals
☐ Clothes/ footwear
☐ Computer software and games
☐ Electronics & computer hardware (e.g. TV, smartphone)
☐ Films/music
☐ Financial services (e.g. shares, insurance)
☐ Food/groceries
☐ Holiday accommodation (e.g. hotel room)
☐ Toys and childcare articles

☐ Electrical household appliances (e.g. microwave)
☐ Telecom services (e.g. broadband, mobile)
☐ Tickets for events or offline leisure
☐ Travel services (e.g. airline tickets)
☐ Cosmetics and healthcare products
☐ Sports and outdoor equipment
☐ Non-electrical household goods and interior design
☐ Other (please specify)
☐ Don’t know

Questions on data collection & tools used for personalisation practices

3. In order to personalise better offers/prices that online firms offer to consumers, what type of users’ data do you use to develop your services/software tools? Please tick all options that apply.

☐ Time of visit to their website
☐ Browsing and previous search history
☐ Purchase history
☐ User's Location
☐ Type of user's operating system/browser
☐ Type of user's device (smartphone/tablet, laptop, desktop etc.)
☐ Exact route into their website (directly or via a price comparison tool)
☐ User's profile on social networks (e.g. “likes”, public profile information)
☐ User's log-in via an already existing account on their website
☐ Personal information users fill in online forms
☐ Aggregated online and offline shopping data
☐ Keywords mentioned in users' blogs or social media posts and public communication online
☐ User's IP address
☐ Age group
☐ Gender
☐ Other socio-demographic information (e.g. marital status, education)
☐ Other (please specify)
☐ Don’t know

4. How do you obtain the data you use to develop your services/software tools in order to improve the personalisation of offers/prices, as requested by online business operators? Please tick all options that apply.

☐ You collect it yourself
☐ You procure it from the online business operators themselves or from other companies which specialise in data collection *
☐ We do not collect such data ourselves

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*If answer to Q4 is "You procure it from online business operators themselves or from other companies which specialise in data collection", display:

5. Please specify from what type of companies you obtain these data (e.g. online traders, real-time bidding platforms, E-commerce marketplaces, online advertisers etc.)
[Description box]

>>>
>>

6. Do you further collaborate with other companies that refine the existing consumer data (e.g. by enriching it with additional information or by improving its quality)?

☐ Yes*
☐ No

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*If answer to Q6 is "Yes", display:

7. What kind of services do these companies offer? Please tick all options that apply.

☐ Enrich the data with additional information/keep the data constantly updated
☐ Ensure the data quality (removing noise from the data)
☐ Validate the data
☐ Analyse the data
☐ Consolidate the data
☐ Offer personalisation services

>>>
>

8. What type of algorithms and methods do you use to develop the personalisation tools offered to online firms? Please tick all options that apply.

☐ Regression
☐ Clustering
☐ Decision tree/rules
☐ Visualisation
☐ K-nearest neighbours
☐ PCA
☐ Random Forests
☐ Support Vector Machines
☐ Neuronal Networks
☐ Time series/Sequence
☐ Text mining
☐ Other (please specify)
☐ Don't know

9. In case you also collect consumer data, what type of profiling and tracking techniques do you use for online personalisation? Please tick all options that apply.

☐ Cookies
☐ Web beacons/Fingerprinting
☐ Unique ID
☐ Flash cookies
☐ Web scraping/crawling
☐ Other (please specify)
☐ We don't collect consumer data

10. For which of the following practices do you use the consumer data at your disposal, on behalf of the online business operator? Please tick all the options that apply.

☐ To provide price differentiation (setting different prices to different consumers for the same goods/services)
☐ To provide price steering (showing different results in a search list when consumers search for the same products online)
☐ To provide targeted advertising (for example via pop ups, banner adverts or other forms of advertising on websites ad space etc.)
☐ To provide targeted discounts (special offers set to certain consumer groups e.g. students)
☐ To provide targeted emails (marketing messages sent via email to targeted consumers)
☐ To create consumer profiles which you subsequently sell[11] to your customers (e.g. E-commerce websites or online marketplaces)
☐ To develop the actual personalisation tools/software which you subsequently sell to your customers
☐ None

11. To your knowledge, how frequently do online business operators in your country or within the EU28 purchase consumer data/profiles to improve their online marketing/personalisation strategies?

1 Never	2 Rarely	3 Occasionally	4 Frequently	5 Very frequently
☐	☐	☐	☐	☐

12. To your knowledge, how frequently do online business operators in your country or within the EU28 sell consumer data/profiles to third parties?

1 Never	2 Rarely	3 Occasionally	4 Frequently	5 Very frequently
☐	☒	☐	☐	☐

[11] Simplified language. See above[3] (also applies to questions 11, 12, 15)

13. Do you also provide personalisation services to online business operators who sell their products via an online marketplace?

☐ Yes

☐ No

14. Do you provide personalisation services to online marketplaces themselves?

☐ Yes

☐ No

15. To your knowledge, are the consumer data/profiles at the disposal of online marketplaces shared/transferred/sold (partially or entirely) to the online sellers on that marketplace?

☐ Yes*

☐ No

☐ Don't know

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*If answer to Q15 is "Yes", display:

16. Please explain these practices, detailing what information is shared, how it is shared and how transparent the marketplace is vis-à-vis consumers regarding the sharing of consumer data:

[Description text]

>>
>

17. Could you give us an estimate of what the overall costs (in monetary terms) are for an online business operator to engage in personalisation practices?

[Description text]

18. Could you give us an estimate of the approximate amount required for an online business operator to engage in targeted online advertising?

19. Could you give us an estimate of the typical costs involved in buying ad space on other websites?

20. In case you provide targeted advertising solutions to your clients (e.g. via hiring ad space), do you know what is the percentage of the resultant clicks on such ads that end up in actual online purchases? (if applicable)

Please provide an estimate: [Description box]

21. **Could you tell us who can actually have access on the personalisation data collected from consumers? Please tick all options that apply:**

☐ Your company

☐ Your client (e.g. e-commerce traders or platforms, advertisers etc.)

☐ The consumer whose data has been collected

☐ Third parties (please specify)

☐ Other (please specify)

Questions on the benefits of personalised practices for online businesses and consumers

22. **To your knowledge, what are the <u>benefits</u> for <u>companies</u> when making use of the below practices? Please tick all options that apply:**

	Raise profitability	Raise market share over competitors	Reduce costs for advertising	Raise impact of advertising	Attract new customers	Other	Don't know
Price differentiation (setting different prices to different consumers for the same goods/services)	☐	☐	☐	☐	☐		☐
Price steering (e.g. showing different products in a search list when different consumers search for the same products online)	☐	☐	☐	☐	☐		☐
Targeted advertising (for example via pop ups, banner advert, normal ad space)	☐	☐	☐	☐	☐		☐
Targeted discounts (special offers set to certain consumer	☐	☐	☐	☐	☐		☐

groups e.g. students)							
Targeted emails (marketing messages sent via email to targeted consumers)							

23.To your knowledge, what are the benefits of personalised pricing/offers <u>for consumers</u>? Please tick all the options that apply:

☐ Allow consumers to see products that they might be interested in
☐ Allow consumers to see products for the best available price
☐ Personalisation makes searching more enjoyable
☐ Allow consumers to choose more easily the products that best suit their needs
☐ Offer special price discounts/promotions to targeted client segments
☐ Send more relevant recommendations to similar products
☐ Allow consumers to save time when searching online
☐ Don’t know
☐ Other (please, specify)

24.To your knowledge, do online business operators use personalised prices/offers to <u>benefit, inter alia,</u> a specific <u>consumer demographic group</u> (e.g. handicapped people, senior citizens, students etc.)?

☐ Yes *
☐ No
☐ Don’t know

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*If answer to Q24 is “Yes”, display:

25.Please specify: [Description box]

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Questions on the future evolution of online markets, as enabled by new technologies

26. To the best of your knowledge what impact will technologies like the 'Internet of Things', 'Artificial Intelligence' and 'Data Analytics' have on personalisation practices in the next 5 years? Please tick all options that apply.

	High Impact	Moderate Impact	Low impact	None	Don't know	Don't know what this is
Internet of Things	☐	☐	☐	☐	☐	☐
Artificial Intelligence	☐	☐	☐	☐	☐	☐
Data Analytics/Machine learning	☐	☐	☐	☐	☐	☐
Virtual Reality/Augmented Reality	☐	☐	☐	☐	☐	☐

27. Which of the above-mentioned technologies are you currently using? Please tick all options that apply.

☐ Internet of Things

☐ Artificial Intelligence

☐ Data Analytics/Machine Learning

☐ Virtual reality/Augmented Reality

☐ Other (please specify)

Questions on national regulations and legislations

28. How well-prepared are you with respect to data protection issues that arise in view of the General Data Protection Regulation (to enter into force on the 25 May 2018)?

☐ Ready

☐ Almost ready

☐ Partially ready (started implementing appropriate actions)

☐ Considering ways forward

☐ Not ready

Thank you very much for your participation in this study.

If you have any relevant documents, which you believe could be desirable to be included in the current research, please email these documents to luepricingstudy@deloitte.lu.

Please, tick the box below if you would like to receive your answers in PDF:

☐ I want to receive my answers in PDF to the email provided in the identification page

A1.4 Consumer survey - methodology

The consumer survey covered the 28 EU Member States (EU28) as well as Norway and Iceland. The survey was conducted online in all countries where online penetration is sufficient to ensure the required number of interviews and quality of the sample. This applied to 29 of the 30 countries covered; in Cyprus, the survey was conducted using Computer Aided Telephone Interviewing (CATI).

Fieldwork took place between 27 June and 19 July 2017[12].

A1.4.1 Average time to complete questionnaires

The table below shows the average survey duration per country in minutes. In countries highlighted in grey a behavioural experiment (see Task 5) was carried out in conjunction with the consumer survey.

Table 9 : Survey length per country

Country	Average survey length in minutes
Austria	13
Belgium	12
Bulgaria	14
Croatia	12
Cyprus	17
Czech Republic	29*
Denmark	13
Estonia	14
Finland	11
France	25*
Germany	29*
Greece	13
Hungary	13
Ireland	14
Italy	12
Latvia	14
Lithuania	15
Luxembourg	16
Malta	16
Poland	26*
Portugal	12
Romania	25*
Slovakia	15
Slovenia	13

[12] Except in Iceland, where fieldwork was completed on 31 July.

Country	Average survey length in minutes
Spain	24*
Sweden	24*
Netherlands	12
United Kingdom	23*
Iceland	16
Norway	13
* Countries with a behavioural experiment (see Task 5)	

A1.4.2 Pilot study

Prior to mainstage fieldwork, a pilot study was conducted to test the length of the questionnaire and to identify if respondents had any difficulties answering questions. The pilot was run in the UK as the master documents were designed in English. In total, 451 pilot interviews were completed between 17 May and 22 May 2017 using the Ipsos online panel in the UK.

In line with mainstage fieldwork, quotas were put on age, gender and region, to reflect the structure of the online population as much as possible. The average length of the pilot questionnaire was slightly above 11 minutes; including the behavioural experiment this was 24 minutes (see Annex A1.8).

Based on the pilot results, and in consultation with the Commission, Ipsos implemented a limited number of changes to improve the consumer questionnaire for the main stage. These changes related to the wording of certain questions.

A1.4.3 Translation

After the 'post-pilot' changes were agreed upon and all the materials from the survey were signed off, the questionnaire (and experiment) were translated in the local language(s) of each country. Below is the list of the countries covered by the study with the corresponding language(s) used for the survey:

Table 10 : Languages

Country	Language
Austria	German
Belgium	French and Dutch
Bulgaria	Bulgarian
Cyprus	Greek
Czech Republic	Czech
Denmark	Danish
Estonia	Estonian
Finland	Finnish
France	French
Germany	German
Greece	Greek
Hungary	Hungarian
Ireland	English

Country	Language
Iceland	Icelandic
Italy	Italian
Latvia	Latvian
Lithuania	Lithuanian
Luxembourg	Luxembourgish and French
Malta	Maltese and English
Norway	Norwegian
Poland	Polish
Portugal	Portuguese
Romania	Romanian
Slovakia	Slovakian
Slovenia	Slovenian
Spain	Spanish
Sweden	Swedish
Netherlands	Dutch
UK	English (source)

A1.4.4 Fieldwork execution and panel

The 'on the ground' execution of the online fieldwork was carried out by the Ipsos Interactive Service Bureau (IIS). All the work conducted by IIS was managed centrally, with one scripting, data collection and data delivery process.

The main stage fieldwork was conducted using Ipsos' online panels where possible. In some countries, partner panels were used, either due to Ipsos not currently having a panel in that country, or the Ipsos panel being too small to achieve the required number of interviews. All selected polling institutes are well known for the quality of their network and are involved in numerous multilingual and multinational surveys. All are ESOMAR members. To prevent scripting errors, the same script was used by all panel partners.

The table below shows where IIS and external panels were used:

Table 11 : IIS and external panels

Country	**Panel**
Austria	1 External (Bilendi/ Panelbiz)
Belgium	IIS Panel
Bulgaria	1 External (Data Diggers)
Croatia	1 External (Ipsos Croatia)
Cyprus	CATI
Czech Republic	1 External (Ipsos CZ/Tambor)
Denmark	IIS panel
Estonia	2 Externals (Data Diggers & CINT)
Finland	1 External (CINT)
France	IIS Panel
Germany	IIS Panel
Greece	1 External (CINT)

Country	Panel
Hungary	IIS Panel
Ireland	1 External (Userneeds)
Italy	IIS Panel
Latvia	1 External (Data Diggers)
Lithuania	1 External (Data Diggers)
Luxembourg	1 External (TNS)
Malta	1 External (Misco Malta)
Poland	IIS Panel
Portugal	1 External (CINT)
Romania	IIS Panel
Slovakia	1 External (Ipsos CZ/Tambor)
Slovenia	1 External (Ipsos Croatia)
Spain	IIS Panel
Sweden	IIS + 1 External (CINT)
Netherlands	IIS Panel
UK	IIS Panel
Iceland	2 Externals (MRR + CINT)
Norway	IIS + 1 External (Userneeds)

A1.4.5 CAWI Quality processes

Ipsos has developed an internal four-stage data quality process called iPi4 (Ipsos Panel Integrity). One of these processes is based at the survey level, and implemented whether we use our own or partner sample. The four components, with comparable quality measures, are detailed below.

iPi Pre-panel stage: Before becoming panel members, applicants are scrutinized by a complex validation system. No one can join the panel without successfully passing all the checks. These include checking for duplicates, CAPTCHA security code, screening out individuals who work in market research, validating personal and geographical details.

The external panels have similar processes at panellists' registration. Duplicate detection is implemented on all panels, as are CAPTCHA security codes and deduplicating against a black list. A double opt in recruitment ensures that email and personal details are verified.

iPi Early-panel stage: Shortly after joining the panel, new members are tested again with a short survey. New panellists who are most likely to make intentional or unintentional errors on future surveys are deactivated at an early stage. This survey checks anomalies in answers and detects fraudulent behaviour. Respondents who obtain high anomaly scores or provide a large number of errors are removed from the panel.

The iPi Survey module: This module identifies low engagement behaviour during a survey. The quality of answers is ensured by measures such as duplicate detection using the RelevantID digital fingerprinting, geo-IP validation and speeding. These survey standards are implemented on all surveys IIS manages, no matter the sample source.

- RELEVANTID® removes duplicates from live surveys, based on digital fingerprinting criteria. The module is applied on all surveys conducted by IIS, including those where mixed/external panel sources are used. This ensures that each respondent

will only be selected once for a survey, even if they are a member of more than one panel.
- COUNTRY GEO-IP validation ensures the panellist is in the country we expect them to be in.
- iPi SPEEDERS are monitored for every survey and respondent experience is measured.

iPi Ongoing panel stage: IIS monitors and track panellists' behaviour history across all surveys. IIS employs purging procedures based on behaviour history to remove bad and inactive panellists from our active panel. Reasons for removal include: hard bounce emails, inactivity, fraudulent and inconsistent data.

Ipsos' partners perform many similar checks and cleaning procedures on their panels; they purge respondents with hard bounce emails, inactive respondents and track and monitor inconsistencies which are flagged and removed as appropriate.

All surveys managed by IIS (no matter the sample source) are hosted in Rackspace, a managed hosting facility. The servers and network infrastructure are physically located in the UK. Rackspace guarantees recovery of hardware failure within one hour, ensures zero downtime, its facility security is strictly managed and power back up is guaranteed.

A1.4.6 Sample

The target audience of the consumer survey was the online population, aged 16 and older. Quotas (minimum number of completed interviews per socio-demographic group) were set upon age, gender and region, to ensure that the sample in each country was representative of the online 16+ population.

The quotas were based on Eurostat data of the 16-74 years old online population with "Frequency of internet access: once a week (including every day)"[13]. The 74+ and older population was for feasibility reasons (low internet usage among this group) not targeted with a quota, but people from this age group did participate in the survey.

In all but four countries the target sample size was 800 surveys. In Cyprus, Iceland, Luxembourg and Malta, a sample of 500 surveys was used. The table below presents the target sample size and the number of completed surveys per country.

Table 12 : Sample size

	Target	Achieved
Austria	800	800
Belgium	800	801
Bulgaria	800	814
Croatia	800	802
Cyprus	500	501
Czech Republic	800	811
Denmark	800	801
Estonia	800	804
Finland	800	801
France	800	829
Germany	800	828
Greece	800	800
Hungary	800	801
Ireland	800	801

[13] This definition is most applicable to both respondents in Ipsos' online panel, who are frequent internet users, and the subject of the study. See for data Eurostat [2015, isoc_ci_ifp_fu]: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=isoc_ci_ifp_fu&lang=en

	Target	Achieved
Italy	800	810
Latvia	800	801
Lithuania	800	801
Luxembourg	500	503
Malta	500	503
Poland	800	821
Portugal	800	802
Romania	800	837
Slovakia	800	802
Slovenia	800	804
Spain	800	813
Sweden	800	827
Netherlands	800	802
United Kingdom	800	814
Iceland	500	513
Norway	800	803

A1.4.7 Weighting and outputs

For this survey, the data was weighted[14] in two ways:

1. Within each country the data was weighted by demographic variables to correct for any biases in the achieved sample profile compared to known online population statistics.

2. Across countries, the data was weighted to ensure that each country is represented according to its online population size in the EU-wide results.

[14] The weighting was based on 2015 Eurostat data of the 16-74 years old online population with "Frequency of internet access: once a week (including every day)".

A1.5 Consumer questionnaire

An outline of the questionnaire is provided in this section. Please note that in 8 countries, a 15-minute behavioural experiment was added (for more details about the behavioural experiment, see Annex A1.8) and that some questions were asked specifically for the economic valuation part of Task 1 (which covers the same 8 countries as the experiment).

Final for mainstage

[SHOW ALL]

[INTRO]

Thank you for taking part in this survey conducted by Ipsos, an independent market research company, on behalf of the European Commission in all Member States of the European Union, including Iceland and Norway.

We would like to ask you some questions about your experiences with and opinions about online targeted advertising and personalised offers/pricing when browsing and shopping on the internet for goods and services.

Socio-demographic questions

[SHOW ALL]

[INTRO]

To begin with, please tell us some details about yourself. This is to ensure that we are including a wide range of respondents in this survey.

[ASK ALL]

D1.

How old are you?
[WRITE DOWN - IF REFUSAL, CODE 999]

[ASK ALL]

[D1_recode]

[PROG: HIDDEN. SINGLE ANSWER]

[PROG: IF RESP_AGE = 0-15 SCREEN OUT]

1. 0 – 15 (screen out)
2. 16 - 24
3. 25 - 34
4. 35 - 44
5. 45 - 54
6. 55 – 64
7. 65 +

D2.

What is your gender?
[SINGLE ANSWER]

1. Male
2. Female

[ASK ALL]

D3.

Please select the region where you live:
[DROP DOWN LIST]

[SINGLE ANSWER]

[PROG: IN CASE "PREFER NOT TO ANSWER SELECTED" - SCREEN OUT]

[ASK ALL]

D4.

Which best describes where you live?

[SINGLE ANSWER]

1. Large town or city
2. Small or medium sized town
3. Rural area or village

[ASK ALL]

D5.

What is the highest level of education you have achieved?
[SINGLE ANSWER]

[INSERT EDUCATION LIST PER COUNTRY FROM EXCEL FILE "EDUCATION". RECODE INTO – HIDDEN VARIABLE]

1. Low
2. Medium
3. High

[ASK ALL]

D6.

Which of the following best describes your current work status?
[SINGLE ANSWER]

[RECODE INTO: HIDDEN VARIABLE: CODES 1, 2, 3 AND 9 AS ACTIVE AND CODES 4-8 AS INACTIVE]

1. Employed
2. Self-employed
3. Unemployed but looking for a job
4. Unemployed and not looking for a job
5. Long-term sick or disabled
6. Housewife / Homemaker
7. Retired
8. Pupil / Student / In education
9. Studying in combination with a part-time job

[ASK ALL]

D6_recode

1. *Active (If D6=1,2,3 or 9)*
2. *Inactive (If D6=4,5,6,7,8)*

D7.

Thinking about your household's financial situation, would you say that making ends meet every month is…?
[SINGLE ANSWER]

1. Very easy
2. Fairly easy
3. Fairly difficult
4. Very difficult
5. Prefer not to say

[LOCATION/POSITION OF EXPERIMENT + POST-EXPERIMENT QUESTIONS IN: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28)]

[ASK ONLY IN COUNTRIES WITH EXPERIMENT: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28) AND IF BOUGHT GOODS OR SERVICES ONLINE IN Q1 [Q1_2=1, 2, 3, 4 OR 5]

In this survey, you will also be asked to complete an exercise on a simulated online platform (e.g. a price comparison website, or an online retailer). In this experiment you will have a chance to win extra survey points based on your answers to the follow-up questions that you will be asked. You will receive your survey points for participating in the survey as usual after completing it. In the follow-up questions you will be asked a minimum of 5, and a maximum of 8 objective questions for which you can receive additional survey points for correct answers. For the first 3 correct answers you will be awarded 50 additional points, and for the next two, an additional 50 points. In total during this survey, you have the chance to win 100 additional survey points depending on your answers. Any additional points you win in the experiment will be added to your account after the survey closes. You cannot lose any of your initial survey points for participating in the survey.

Once the survey is closed, you will be notified by e-mail about the number of answers you correctly selected and the total additional points you have won. Please note that it can take up to 8 weeks for you to receive your additional survey points.

Please refer to the terms and conditions for more details.

Questions on internet usage & online shopping

[ASK ALL]

Q1.

How frequently do you use the internet for the following activities?
[SINGLE ANSWER PER ROW. RANDOMISE STATEMENTS 1 TO 8]

[PROGRESSIVE GRID]

1. To look for information on goods/services
2. To buy goods/ services online
3. For online banking and for other financial services
4. To read news or blogs
5. To play games online
6. To watch videos or listen to music online
7. To stream live content, such as a live football match
8. To visit social networking sites (Facebook, Twitter, etc.)

[ANSWER SCALE]

1. At least once a day
2. At least once a week
3. At least once a month
4. At least once every 3 months
5. At least once in the last 12 months
6. Never

[ASK ALL]

Q2.

How often do you use the following methods to protect your online privacy when browsing the internet?
[ONE ANSWER PER LINE. RANDOMISE STATEMENTS 1 TO 4]

[PROGRESSIVE GRID]

1. Ad-blocker
2. The incognito/private mode of my browser
3. Delete cookies
4. Instruments to hide my IP address such as TOR, VPNs etc.
5. Other apps/plugins designed to protect privacy online *[FIX POSITION]*

[ANSWER SCALE]

1. Always
2. Very Often
3. Sometimes
4. Rarely
5. Never
9. Don't know

[ASK IF BOUGHT GOODS OR SERVICES ONLINE IN Q1 [Q1_2=1, 2, 3, 4 OR 5]

Q3.

When searching and shopping online for goods or services, how often do you do the following?
[ONE ANSWER PER ROW. RANDOMISE STATEMENTS 1 TO 8]

[PROGRESSIVE GRID]

1. Switch browsers (for example between Chrome and Firefox)
2. Switch devices (for example between a smartphone and laptop)
3. Search goods or services using a search engine (like Google)
4. Navigate to an e-commerce website (found) via social media
5. Use a price comparison website
6. Buy rather low-end (cheaper) products as opposed to high end (more expensive) ones
7. Delete/prevent cookies
8. Use the incognito/privacy mode of the browser

[ANSWER SCALE]

1. Always
2. Very Often
3. Sometimes
4. Rarely
5. Never
9. Don't know

[ASK IF BOUGHT GOODS OR SERVICES ONLINE IN Q1 [Q1_2=1, 2, 3, 4 OR 5]]

Q4.

When buying goods or services online, have you signed-up to or used any of the following types of loyalty programmes/websites? Select all that apply.
[MULTICODE. RANDOMISE STATEMENTS 1 TO 5]

1. Frequent flyer programmes
2. Retail loyalty cards
3. Registered user of travel booking website
4. Registered user of an e-commerce website
5. Rewards for credit cards
6. No, I did not *[SINGLE ANSWER. FIX POSITION]*
9. Don't know *[SINGLE ANSWER. FIX POSITION]*

[ASK ONLY IN COUNTRIES WITH EXPERIMENT: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28) AND IF BOUGHT GOODS OR SERVICES ONLINE IN Q1 [Q1_2=1, 2, 3, 4 OR 5]

QP1.

Thinking about your recent purchases/shopping online, what would make you **more likely** to purchase a product in the future? Select all that apply.
[MULTICODE. RANDOMISE STATEMENTS 1 TO 4]

1. The products shown matching my requirements or interests
2. Seeing products at the best available price
3. Trusting the brand or online seller/provider
4. Trusting the website to safeguard my personal data
9. Don't know *[SINGLE ANSWER. FIX POSITION]*

[ASK ONLY IN COUNTRIES WITH EXPERIMENT: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28) AND IF BOUGHT GOODS OR SERVICES ONLINE IN Q1 [Q1_2=1, 2, 3, 4 OR 5]

QP2.

Thinking about your recent purchases/shopping online, what would make you **less likely** to purchase a product in the future? Select all that apply.
[MULTICODE. RANDOMISE STATEMENTS 1 TO 4]

1. The products shown not matching my requirements or interests
2. Not seeing products at the best available price
3. Not trusting the brand or online seller/provider
4. Not trusting the website to safeguard my personal data
9. Don't know *[SINGLE ANSWER. FIX POSITION]*

Targeted advertising

[ASK ALL]

[INTRO]

When you're looking online for goods and services, e-commerce websites can potentially access data on your online behaviour (searches, clicks, social media use, etc.), as well as personal information (e.g. age, gender etc.), tracked by themselves or by other websites you visited (e.g. via cookies).

E-commerce websites can use this data to decide which adverts (banner ads, pop-ups, etc.) to show you. For example, an advert for a hotel that you could come across whilst browsing online your favourite news site, that clearly relates to your earlier online searches for hotels.

This is known as online "**targeted advertising**".

[ASK ALL]

Q5.

How much would you say you know about **targeted advertising** used by online firms?
[SINGLE ANSWER]

1. I understand how it works
2. I have some understanding about how it works
3. I have heard about it but don't know how it works
4. I had not heard about it until now
9. Don't know

[ASK ALL]

Q6.

Based on your experience, how widespread do you think that **online targeted advertising** is?
[SINGLE ANSWER]

1. Nearly all websites use it
2. Most websites use it
3. Some websites use it
4. Very few websites use it
5. I don't think any websites use it
9. Don't know

[ASK ONLY IN COUNTRIES WITH EXPERIMENT: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28)]

QTA1.

Thinking about your recent browsing or shopping for products online, did you notice advertisements targeted to you because of your online behaviour?
[SINGLE ANSWER]

1. Yes
2. No
9. Don't know

[ASK ONLY IN COUNTRIES WITH EXPERIMENT: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28) AND IF "YES" IN QTA1 [QTA1=1]]

QTA2.

How did you respond to these advertisements? Select all that apply.
[MULTICODE. RANDOMISE STATEMENTS 1 TO 6]

1. I clicked on advertising because it was relevant to my interests or needs
2. I ignored advertising because it was not (no longer) relevant and continued browsing or shopping in the same window
3. I closed the window and cleared cookies
4. I switched browsers
5. I switched device
6. I used the incognito/privacy mode on my browser
7. Other, please specify____*[OPEN BOX. FIX POSITION]*

[ASK ALL]

Q7.

What do you see as the <u>main benefits</u> of **online targeted advertising** for internet users such as yourself? Select max. 3 answers.
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1 TO 6]

1. I see the products that I might be interested in
2. It reduces the number of irrelevant adverts I see
3. It saves advertisers money, savings which could be passed on to me
4. It helps to fund the internet and allows "free" online content
5. I see products for the best available price
6. It allows e-commerce websites to offer me reductions/promotions
7. I don't see any benefits *[SINGLE ANSWER. FIX POSITION]*
9. Don't know *[SINGLE ANSWER. FIX POSITION]*

[ASK ALL]

Q8.

What are your <u>main concerns</u> with respect to online **targeted advertising**?
Select max. 3 answers.
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1 TO 8]

1. My online data is collected/ a profile is made about me
2. Cookies are installed on my computer
3. My personal data could be used for other purposes and/or I don't know with whom it might be shared
4. It could cause exposure to inappropriate advertising
5. It limits my choice of products
6. I may end up paying more for products
7. It negatively affects my trust in e-commerce
8. I cannot "opt-out"/refuse
9. I don't have any concerns *[SINGLE ANSWER. FIX POSITION]*
99. Don't know *[SINGLE ANSWER. FIX POSITION]*

[ASK ALL]

Q9.

What is your overall opinion about **online targeted advertising**?
[SINGLE ANSWER. RANDOMISE STATEMENTS 1 TO 3]

1. I see primarily disadvantages
2. I see primarily benefits
3. I see both disadvantages and benefits
9. Don't know *[SINGLE ANSWER. FIX POSITION]*

Personalised offers

[SHOW ALL]

[INTRO]

As noted above, e-commerce websites can potentially access data on your online behaviour, as well as personal information. E-commerce websites can also use this data to tailor the types of goods and services presented to you when shopping for them online, for example by showing primarily discount goods or high-end (more expensive) products in your search results. These are known as online "**personalised offers**" (different consumers seeing different search results when searching for the same product online).

[ASK ALL]

Q10.

How much would you say you know about **personalised offers** used by online firms?
[SINGLE ANSWER]

1. I understand how it works
2. I have some understanding about how it works
3. I have heard about it but don't know how it works
4. I had not heard about it until now
9. Don't know

[ASK ALL]

Q11.

How widespread do you think that **online personalised offers** are?
[SINGLE ANSWER]

1. Nearly all websites use it
2. Most websites use it
3. Some websites use it
4. Very few websites use it
5. I don't think any websites use it
9. Don't know

[ASK ONLY IN COUNTRIES WITH EXPERIMENT: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28)]

QPO1.

Thinking about your recent browsing or shopping for products online, did you notice offers (e.g. the type of products shown in a search result) being personalised to you because of your online behaviour?
[SINGLE ANSWER]

1. Yes
2. No
9. Don't know

[ASK ONLY IN COUNTRIES WITH EXPERIMENT: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28) AND IF "YES" IN QPO1 [QPO1=1]]

QPO2.

How did you respond to these offers? Select all that apply.
[MULTICODE. RANDOMISE STATEMENTS 1 TO 6]

1. I followed product recommendations if they were relevant to my interests or needs
2. I ignored product recommendations because they were no longer relevant to my interests or needs, and continued browsing or shopping in the same window
3. I closed the window and cleared cookies
4. I switched browsers
5. I switched device
6. I used the incognito/privacy mode on my browser
7. Other, please specify____*[OPEN BOX. FIX POSITION]*

[ASK ALL]

Q12.

What do you see as the <u>main benefits</u> of **online personalised offers** for internet users such as yourself? Select max. 3 answers.
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1 TO 5]

1. I see the type of products that I might be interested in
2. I get the best available price for products
3. It allows e-commerce websites to offer me reductions/promotions
4. I can more easily choose products that suit my needs
5. It saves me time when searching online
6. I don't see any benefits *[SINGLE ANSWER. FIX POSITION]*
99. Don't know *[SINGLE ANSWER. FIX POSITION]*

[ASK ALL]

Q13.

What are your <u>main concerns</u> with respect to **online personalised offers**? Select max. 3 answers
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1 TO 7]

1. My online data is collected/ a profile is made about me
2. Cookies are installed on my computer
3. My personal data could be used for other purposes and/or I don't know with whom it might be shared
4. It limits my choice of products
5. I may end up paying more when I buy a product
6. It negatively affects my trust in e-commerce
7. I cannot "opt-out"/refuse
8. I don't have any concerns *[SINGLE ANSWER. FIX POSITION]*
99. Don't know *[SINGLE ANSWER. FIX POSITION]*

[ASK ALL]

Q14.

What is your overall opinion about **online personalised offers**?
[SINGLE ANSWER. RANDOMISE STATEMENTS 1 TO 3]

1. I see primarily disadvantages
2. I see primarily benefits
3. I see both disadvantages and benefits
9. Don't know *[SINGLE ANSWER. FIX POSITION]*

Personalised pricing

[SHOW ALL]

[INTRO]

As noted above, e-commerce websites can potentially access data on your online behaviour, as well as personal information. E-commerce websites can also use this data to adapt the prices charged to you for specific goods and services you are looking for online. This is known as online "**personalised pricing**" (different consumers seeing a different price for the same product online).

[ASK ALL]

Q15.

How much would you say you know about **personalised pricing** used by online firms?
[SINGLE ANSWER]

1. I understand how it works
2. I have some understanding about how it works
3. I have heard about it but don't know how it works
4. I had not heard about it until now
9. Don't know

[ASK ALL]

Q16.

How widespread do you think that **online personalised pricing** is?
[SINGLE ANSWER]

1. Nearly all websites use it
2. Most websites use it
3. Some websites use it
4. Very few websites use it
5. I don't think any websites use it
9. Don't know

[ASK ONLY IN COUNTRIES WITH EXPERIMENT: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28)]

QPP1.

Thinking about your recent browsing or shopping for products online, did you believe that prices were personalised to you because of your online behaviour?
[SINGLE ANSWER]

1. Yes
2. No
9. Don't know

[ASK ONLY IN COUNTRIES WITH EXPERIMENT: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28) AND IF "YES" IN QPP1 [QPP1=1]]

QPP2.

How did you respond? Select all options that apply.
[MULTICODE. RANDOMISE STATEMENTS 1 TO 6]

1. I continued with the transaction
2. I stopped the transaction
3. I closed the window and cleared cookies
4. I switched browsers
5. I switched device
6. I used the incognito/privacy mode on my browser
7. Other, please specify_____ *[OPEN BOX. FIX POSITION]*

[ASK ALL]

Q17.

What do you see as the main benefits of **online personalised pricing** for internet users such as yourself? Select max. 3 answers.
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1 TO 4]

1. It ensures I can get the product I want as the higher price means that less people will buy it
2. I get the best available price for products
3. It allows e-commerce websites to offer me reductions/promotions
4. It allows e-commerce websites to increase product choice (incl. products they would otherwise make a loss on)
5. I don't see any benefits *[SINGLE ANSWER. FIX POSITION]*
9. Don't know *[SINGLE ANSWER. FIX POSITION]*

[ASK ALL]

Q18.

What are your main concerns with respect to **online personalised pricing**? Select max. 3 answers]
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1 TO 7]

1. My online data is collected/ a profile is made about me
2. Cookies are installed on my computer
3. My personal data could be used for other purposes and/or I don't know with whom it might be shared
4. It limits my choice of products
5. I may end up paying more when I buy a product
6. It negatively affects my trust in e-commerce
7. I cannot "opt-out"/refuse
8. I don't have any concerns *[SINGLE ANSWER. FIX POSITION]*
99. Don't know *[SINGLE ANSWER. FIX POSITION]*

[ASK ALL]

Q19.

What is your overall opinion about **personalised pricing**?
[SINGLE ANSWER. RANDOMISE STATEMENTS 1 TO 3]

1. I see primarily disadvantages
2. I see primarily benefits
3. I see both disadvantages and benefits
9. Don't know *[FIX POSITION]*

Experiences with personalised practices and complaints

[ASK ALL]

Q20a.

Have you had any bad experiences related to…?
[ONE ANSWER PER ROW]
[PROGRESSIVE GRID]

1. Targeted adverts
2. Personalised offers
3. Personalised pricing

[ANSWER SCALE]

1. Yes
2. No
9. Don't know

[ASK IF HAD BAD EXPERIENCE(S) IN Q20a [Q20a_1 OR Q20a_2 OR Q20a _3=1]]

Q20b.

What kind of bad experience did you have?
[MULTI CODE. RANDOMISE STATEMENTS 1 TO 4]

1. I could not obtain the product(s) I wanted
2. I ended up paying more for something I bought
3. I was offered products I was not (or no longer) interested in
4. *[SHOW ONLY IF Q20a_1=1 "Yes"]* I was shown embarrassing or inappropriate adverts
5. I had another bad experience, please specify____*[OPEN TEXT BOX. FIX POSITION]*
9. Don't know *[SINGLE ANSWER. FIX POSITION]*

[ASK IF HAD BAD EXPERIENCE(S) IN Q20a [Q20a_1 OR Q20a_2 OR Q20a _3=1]]

Q21.

Have you complained and to whom about your bad experiences with targeted adverts or personalised offers and pricing? Select all that apply.
[MULTI CODE. RANDOMISE 1 TO 9]

1. Yes, to the website(s) involved
2. Yes, to a national consumer organisation
3. Yes, to the European Consumer Centre in your country
4. Yes, to an ombudsman
5. Yes, to a lawyer
6. Yes, to a data protection authority
7. Yes, to another public authority
8. Yes, to an out-of-court dispute resolution body
9. Yes, I went to court
10. Yes, to someone else *[FIX POSITION]*
11. No, I did not complain *[SINGLE ANSWER. FIX POSITION]*

Knowledge about cookies, "opting out" and transparency

[ASK ALL]

Q22.

We present several statements about online "cookies". Please select whether each statement is true or false.
[SINGLE ANSWER PER ROW. RANDOMISE STATEMENTS 1 TO 4]

[PROG: HIDDEN: FOR EACH OF THE 4 ANSWERS RECODE IF CORRECT OR INCORRECT; AT ITEM LEVEL, NOT AT QUESTION LEVEL:

ITEM 1 CORRECT IF CODE 1

ITEM 2 CORRECT IF CODE 2

ITEM 3 CORRECT IF CODE 2

ITEM 4 CORRECT IF CODE 2

IF OTHER CODES THAN THOSE ABOVE ARE ANSWERED PER ITEM, MARK ITEM ANSWER AS INCORRECT]

[PROGRESSIVE GRID]

1. Cookies are small bits of code stored on your computer
2. Cookies can read data saved on your computer
3. Without cookies websites cannot know where I am located
4. Cookies can contain computer viruses

[ANSWER SCALE]

1. True
2. False
9. Don't know

[SHOW ALL]

[INTRO]

In the European Union, websites must ask users if they agree with the usage of cookies.

[ASK ALL]

Q23.

Approximately how many websites that you visit allow to "opt-out of"/refuse cookies?
[SINGLE ANSWER]

1. All websites
2. Most websites
3. Some websites
4. Only few websites
5. None of the websites
9. Don't know

[ASK IF Q23=1, 2, 3 OR 4]

Q24.

How often do you make use of the option to “opt-out of”/refuse cookies?
[SINGLE ANSWER]

1. Always
2. Very Often
3. Sometimes
4. Rarely
5. Never
9. Don’t know

[ASK ALL]

Q25.

What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)?
[ONE ANSWER PER LINE. RANDOMISE STATEMENTS 1 TO 7]

[PROGRESSIVE GRID]

1. If I was informed when targeted adverts or personalised pricing/offers are shown to me
2. If I was informed why a particular advert or a particular search result/price was shown to me
3. If I was able to see/change my personal data used for such practices
4. If it was explained what personal data is collected on me
5. If it was explained for what purpose my personal data is collected
6. If it was explained which 3rd parties access my personal data
7. If I would have an easy option to “opt-out” of personalised practices

[ANSWER SCALE]

1. I would be more positive
2. It would make no difference for me
3. I would be more negative
9. Don’t know

[ASK ONLY IN COUNTRIES WITH EXPERIMENT: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28)]

Q26.

Which browser(s) do you regularly use when browsing or shopping online? Select all that apply.
[MULTI CODE]

1. Chrome
2. Firefox
3. Internet Explorer
4. Safari
5. Opera
6. Other

ASK ONLY IN COUNTRIES WITH EXPERIMENT: CZECH REPUBLIC (6), FRANCE (10), GERMANY (11), POLAND (20), ROMANIA (22), SPAIN (25), SWEDEN (26) & THE UK (28)]

Q27.

What kind of device(s) do you use to access the internet? Please include all devices you used over the past year. Select all that apply.
[MULTI CODE]

1. Windows desktop/laptop
2. Apple desktop/laptop
3. iPhone (Apple)
4. Android smartphone (e.g. Samsung)
5. Ipad (Apple)
6. Android tablet (e.g. Samsung)
7. All other devices (e.g. Windows smartphone, TV set, etc.)

A1.6 Mystery shopping - methodology

A1.6.1 General approach

The mystery shopping was conducted in eight countries: Czech Republic, France, Germany, Poland, Romania, Spain, Sweden and the UK. The selection of countries was based on geographic coverage, year of entry to the EU, internet penetration and prevalence of online shopping, the proportion of enterprises selling online and consumers' views on privacy and security.

As maintaining sufficiently large sample sizes was deemed vital, in particular for the economic valuation part of Task 1, four of the six goods/services categories proposed in the ToRs were included in the mystery shopping exercise: 1) TVs; 2) shoes; 3); hotels; and 4) airline tickets. The selection was made based on evidence from the literature on where personalisation is particularly likely to take place[15].

A1.6.2 Scenarios design

The mystery shopping exercise for this study encompassed 4 separate scenarios. Each of these 4 scenarios contained between 2-4 steps in which shoppers performed several pre-described actions before noting down the products and prices observed. The scenarios were developed on the basis of three guiding principles:

1) Relevant parameters (i.e. each parameter on the basis of which personalisation could take place) were – insofar as possible – controlled for and tested in isolation, i.e. tested in a separate step of the scenario.
2) The mystery shopping put special emphasis on 'timing', by scheduling blocks of shops to take place broadly at the same time (explained in detail below).
3) Each scenario featured multiple 'control steps', aimed at filtering out any inconsistencies not related to personalisation (explained in detail below).

To be able to select the most relevant parameters of online personalisation to test, a short literature review was carried out[16]. Three main parameters on the basis of which personalisation is particularly *likely* to take place were identified and formed the basis of the scenario design[17]:

1. With a certain or no history of clicks/purchases etc. (i.e. with a certain consumer profile, based on Hannak et al., Mikians et al. (2012, 2013), Van Tien Hoang et al.). This is data that e-commerce websites can obtain by *among others* using cookies[18].
2. Exact route into the website; directly or e.g. via a price comparison tool (based on Hanak et al., Mikians et al. (2012))

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[15] Hannak et al. found evidence for price discrimination and steering on general online e-commerce websites and travel/hotel websites. Mikians et al. (2013) list the retailers with the largest number of instances of price variations in their study. The list includes a diverse set of websites that include clothing retailers/manufacturers, office supplies/electronics, department stores, hotel and travel agencies, etc. Hannak et al. could not find evidence for personalisation on car rental websites. They also note that car rental websites tend to order cars by type, which precludes to a large extent price steering. For this reasons, car rentals were excluded from the mystery shopping.

[16] Studies identified as being of particular relevance were those by Hannak et al. (2014), Mikians et al. (2012), Mikians et al. (2013), Van Tien Hoang et al. (2016), and Alberto Cavallo (2017). These studies are described in more detail in Sections 2.2 and 2.3.

[17] Although there is some evidence that also the IP address of the user (different IP addresses within the same country for different countries) is a parameter on which personalisation is likely to take place, this was not included in the scenarios. This decision can be motivated by two main reasons: 1) Recent research found no evidence for IP address based price discrimination (see Alberto Cavallo, 2017); 2) the Commission has carried out recent research in the area (see e.g. the 'Geoblocking' (2016) and 'Comparison tools' studies), which in particular showed that when carrying out cross-border shops, the majority of purchasing attempts were not successful at some stage of the shopping process in websites.

[18] See e.g. https://www.technologyreview.com/s/538731/how-ads-follow-you-from-phone-to-desktop-to-tablet/

3. Operating system/browser; in particular desktop vs. mobile (based on Hannak et al.)

In addition, as mentioned above, special attention was paid to the control steps and timings for the design of the mystery shopping exercise. This was so as, according to among others Hannak et al. (2014), results may for instance be influenced by dynamic pricing strategies, which would not qualify as online personalised (ranking of) offers or personalised pricing. The aim was to 'control' for this kind of noise by:

- introducing a separate 'control step', carried out by a researcher using a specially configured, 'depersonalised' browser;
- carrying out blocks of shops at roughly the same time; and
- rotating the steps in the scenarios, to control for the influence the steps could have on one another.

A1.6.3 Recording shoppers' online history and behaviour

As noted above, the literature suggests that personalisation is particularly likely to take place based on the shoppers' history of clicks/purchases *and* that Google infers the interests of users only after they visited a certain number of websites over a longer period (5 days or longer, see Van Tien Hoang et al.). Therefore, for all four scenarios, the mystery shopping exercise made use of shoppers' 'real life' online profiles/ click and purchase history[19]. As can be seen in the mystery shopping evaluation form included below, all mystery shoppers were asked to provide details with respect to their online behaviour on their desktop/laptop and mobile device (shoppers will use both, see below) before running an evaluation. Shoppers were among asked about:

- Their socio-demographic data (e.g. age, gender)
- Which devices they used to buy online and which browsers they normally used
- What kind of goods/services they bought online and when it was that they bought something most recently
- Their frequency and use of social-media for searching/buying goods and services
- The type of search engines they normally employed in their searches (for e.g. is it always Google search?)
- Whether they had searched for discount and/or luxury goods/services
- If they used price comparison tools
- If they had an existing account on the specified website
- Etc.

To obtain more objective data on the privacy settings of the shoppers' browsers, shoppers visited panopticlick.eff.org[20] and answered a question in the evaluation form based on their online test results. This was repeated by each shopper for both their desktop/laptop and their mobile device (see evaluation form, Q6/Q19). In a similar fashion, shoppers were

[19] In agreement with DG JUST, the Consortium opted for the option to use real shopper profiles (as opposed to fake/ synthetic shopper profiles, decision taken and elaborated in the study's First Interim report), as this approach allows to take shoppers' long-term online behaviour in account for the analysis. Although the Consortium acknowledged that it is impossible to capture all aspects of an online consumer profile with the evaluation form, the Consortium supported that the information obtained this way could be used to show which consumer profiles are likely to experience personalisation, even though we might not be able to attribute personalisation to specific characteristics or browsing histories.

[20] Panopticlick is a research project of the Electronic Frontier Foundation. The online test at panopticlick.eff.org allows to analyse how well a browser is protected against online tracking techniques. It also allows to see if a system is uniquely configured—and thus identifiable. For more information, please look here: https://panopticlick.eff.org/about

asked to surf to 'Your Social Media Fingerprint'[21] and report in the questionnaire which social media and other accounts they were logged in on their desktop/laptop and mobile device (see evaluation form, Q7/Q20).

A1.6.4 Control steps & shops

As noted above, control steps and shops were included in the mystery shopping exercise to be able to identify inconsistencies that cannot be explained by the parameter(s) for personalisation tested. The products and related prices recorded in these control steps and control shops can be compared with the other steps executed by the shoppers. If there is a substantial difference between the results in a step and the corresponding control step or shop, it could be assumed[22] that the parameter for personalisation tested indeed is used for online personalised pricing or personalised ranking of offers. The control step and shop consisted in each scenario of:

1. Control step: All four scenarios (described in detail below) included a step in which the shoppers recorded the products and prices on the specified website of the shop using the incognito/privacy mode of the browser. This basically simulated deleting cookies without influencing shoppers' cookie based consumer profile for subsequent steps[23]. On both the desktop/laptop and mobile devices, shoppers also repeated once the incognito/privacy mode steps directly one after the other, aimed at detecting 'noise' caused by for example the e-commerce website conducting dynamic pricing.

2. Independent control shop: As part of every block of shops to the same website, carried out within the 3-hour time bracket, a researcher at the subcontractor carried out a simultaneous independent 'control shop' using an 'anonymised' browser (we refer to this as the 'independent control shop' in the text). The aim was to reach 'anonymisation' of the researcher's browser by:

    - Carrying out all control shops over a VPN network (HideMyAss) that protects personal identity and location, using an IP address for the country of the shop to prevent 'geo-blocking'.

    - Carrying out all control shops by using Firefox or Chrome, with a preference for the browser the researcher does not normally use. The browser of choice was first de-installed (if already installed) and then re-installed, with no plugins, etc. Researchers were asked to repeat the (de-)installation if they used the browser for other purposes between shops.

    - Carrying out all control shops with the 'Ghostery'[24] browser extension/plugin installed. Ghostery was set to block all tracking by JavaScript "tags" and "trackers", which allow the collection of the user's browsing habits via HTTP cookies, as well as more sophisticated forms of tracking such as canvas fingerprinting.

    - Carrying out all control shops in the incognito mode of the browser (with Ghostery allowed as the only active extension, as in incognito/privacy mode extensions are normally blocked), as an extra measure to make sure that

[21] See "Your Social Media Fingerprint", link: https://robinlinus.github.io/socialmedia-leak/

[22] 'Assume', as without access to the code that generates the prices it is impossible to determine with certainty that any price variation is related to price steering or personalised pricing.

[23] In the incognito/privacy modes of the most prevalent browsers, cookies from previous sessions are not used, and neither is other persistent data generated in previous browser sessions, such as the cache, other local storage, etc. See: Meng Xu et al., 'UCognito: Private Browsing without Tears', School of Computer Science, Georgia Institute of Technology (2015). Link: http://wenke.gtisc.gatech.edu/papers/ucognito.pdf

[24] See for more information: www.ghostery.com/about-ghostery/.

no cookie data could be obtained by the website visited. As an additional backup, all cookies were deleted for every independent control shop[25].

A test on the website Panopticlick.eff.org identified the browser configuration used for the independent control shop as “not unique”. This means that, contrary to the great majority of browser configurations tested on Panopticlick.eff.org, the browser setup used for the control shop did not leave a unique fingerprint that would make it possible to track a specific user[26].

A1.6.5 Scenarios mystery shopping

In this section the four scenarios of the mystery shopping are explained in more detail. The focus is here on the general aim of the scenarios, which was to see whether prices/offers differ depending on the parameters tested. This was done by letting shoppers record the name, price and details for the first 5 products in the search results of an e-commerce website over several steps. For a detailed description of all steps and questions asked to shoppers, please refer to the evaluation form included in Annex A1.7.

As noted above, each shopper executed all four scenarios in one continuous sequence. This means that all shoppers switched from their desktop/laptop to their mobile device for scenario D.

The order of the scenarios was rotated (ABCD, BCAD, CABD) in order to control for the influence the scenarios could potentially have on each other. Scenario D, the scenario executed on a mobile device, was always executed last, as it contained a question asking shoppers to search for a specific product, which could influence other search results.

All scenarios were accompanied by detailed instructions for the shoppers, translated in the local language. For each website, specific instructions were provided to the shoppers on the exact steps to execute and filters to use.

A1.6.6 Scenario A & B – Search engine & Price comparison website

Scenarios A and B, both carried out on a desktop/laptop, were designed to look at whether the users’ previous online behaviour and the route into the website/ the origin URL of the user are parameters for personalisation. These scenarios were based on the assumptions that: 1) the search engine of the user could have an impact on the products shown or prices observed on a given e-commerce website, as search engines share with the destination website the history of search terms clicked on[27]; and 2) the origin URL of the user potentially provides retailers information for personalisation purposes, in particular when the user is accessing the e-commerce website from a price aggregator or comparison tool website (see e.g. Mikians et al. (2012)).

Scenario A looked specifically at whether personalised pricing and offers occur when accessing the same e-commerce website from the search results in either the user’s preferred search engine (e.g. Google, shoppers indicated this in the evaluation form) or DuckDuckGo, a search engine which – contrary to Google – does not share information on the users search history with the destination website. Scenario B looked at whether shoppers see different/personalised prices/offers when accessing a site via a price comparison website.

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[25] Cookies were not blocked as this hampers the functionality on some websites.

[26] In 2010 Panopticlick reported that 84% of the browsers they had observed in their online test had an “instantaneously unique fingerprint”. Panopticlick collected these fingerprints from a sample of 470,161 browsers operated by informed participants who visited the Panopticlick website. When looking at visiting browsers that had either Adobe Flash or a Java Virtual Machine enabled (which might better reflect the average user), 94.2% exhibited instantaneously unique fingerprints. See: https://panopticlick.eff.org/static/browser-uniqueness.pdf

[27] See for example: https://duckduckgo.com/privacy

As in all scenarios, in both scenario A and B, steps were repeated in the incognito/privacy mode of the browser, to verify the prices/products shown when simulating deleting cookies, i.e. with no or at least a more limited search history that can potentially be used for personalisation. For both scenario A and B, the results/observed prices can also be compared to the 'de-personalised' prices observed in the separate 'control shop', carried out as part of the same block of shops by a researcher using a specially configured, depersonalised browser.

A1.6.7 Scenario C & D – Browser & Device

Scenarios C & D looked at shoppers' device and browser as parameters for personalisation, the hypothesis being that users of some operating systems/devices and/or browsers are steered to other, more expensive products when shopping online (see Hannak et al.). In Scenario C, it was tested whether shoppers see different offers/prices when using their preferred/most used browsers, compared to when using another newly installed browser or browser they use less often[28]. Scenario D was designed to test whether shoppers observe different offers/prices when using their mobile device, compared to all other scenarios in which they used a desktop/laptop device, or the 'control shop', which was also carried out on a desktop device.

Scenario D contained a step in which shoppers searched for the price of an existing pre-defined product available on the website the shopper visited. This step, in which all shoppers visiting one website looked for the exact same product (e.g. a SAMSUNG UE50MU6100 50" Smart 4K Ultra HD HDR LED TV), was included to facilitate detecting personalised pricing.

As in all scenarios, steps were repeated in the incognito/privacy mode of the browser, to verify the prices/products shown when simulating deleting cookies. Also for these scenarios, results/observed prices can be compared to the 'de-personalised' prices observed in the independent control shop, carried out as part of the same block of shops by a researcher using the aforementioned, specially configured, 'depersonalised' browser.

Like in scenarios A & B, scenarios C & D made use of shoppers' 'real life' online profile. For scenario D, all shoppers answered extensive questions about their online behaviour on their mobile device, similarly to the questions asked referring to their desktop/laptop device.

A1.6.8 Timing of shops

To account for the crucial factor of timing, the mystery shopping exercise was designed to be carried out in 'blocks' of shops, in which each specific website was visited by one 'batch' of 6 shoppers who executed a shop at the same website at a specified hour and day (e.g. 15.00h on 05/07/2017), all carrying out all scenarios in one sequence. A 3 hour 'time bracket' was maintained; shops executed outside this 'time bracket' were not counted to the total. The separate control shop to the same website performed by an independent researcher (see above), was also executed in the same 3-hour time bracket[29].

[28] Shoppers were asked to use a browser they use less often, or when they did not have a secondary browser installed, install a new browser of their choice. For Apple users, the secondary browser always needed to be Safari, if this was not their primary browser.

[29] For 8 shops, the "halfway through time" of the shop and the related control shop differed >3 hours (the "halfway through time" refers to the time halfway through the shop; for a shop that took from 12h00-14h00 to complete, the "halfway through time" would be 13h00). For these 8 shops, the max. difference in "halfway through time" compared to the control shop was 05h07. These 8 shops were maintained in the dataset, as they did not show remarkable results / a high level of personalisation. It should be added that for all other shops the average "halfway through time" difference between the shops and the control shops was less than 10 minutes.

A1.6.9 Sampling

In total 20 websites were visited per country (5 websites x 4 sectors), or 160 websites overall (20 x 8 countries). On each of these 160 websites, *at least* 4 shops were executed by separate mystery shoppers. Due to the oversampling approach used (see below for more information), in which 6 shoppers were sent to a website in order to be in a position to complete at least 4 shops in the 3-hour time bracket, the actual number of successfully completed shops was (717 vs 640) somewhat higher. At country level, between 85 and 92 shops were completed successfully, in line with the minimum of 80 completed shops per country as foreseen in the sampling design. The number of successfully completed shops per sector/product type varied between 176 for airline tickets, 179 for hotels and 181 for both sport shoes and TVs; this was in line with the minimum number of 160 completed shops per sector (4 shoppers x 5 websites x 8 countries) from the sampling design.

For each completed shop, a control shop was executed by a researcher in the same time bracket. In total 218 control shops were completed, or on average 1.4 per website (this as some websites required more than 1 visit to reach the sample of 4 completed shops; in these cases, a new control shop was executed in the same time bracket, see below for more info).

It should be noted that each individual shop, covering all scenarios, contained 13 instances in which a shopper recorded the 5 listed products and their prices.

Table 13 : Successfully completed shops from the mystery shopping exercise, per country

	CZ	FR	DE	PL	RO	ES	SE	UK	Total
Airline ticket	21	21	23	20	22	24	22	23	176
Hotel	20	24	22	22	20	23	24	24	179
Sport shoes	23	22	24	23	22	22	24	21	181
TV	25	24	23	22	21	23	22	21	181
Total	**89**	**91**	**92**	**87**	**85**	**92**	**92**	**89**	**717**

Source: Mystery shopping exercise

Oversampling

The subcontractor Helion required the use of an oversampling method, sending 6 shoppers per batch of shops/website to reach the required number of 4 successfully completed shops per website[30]. During fieldwork, this approach appeared to be too optimistic, as it was the case that frequently less than 4 shoppers completed the shop in the specific time bracket[31]. Consistent with the initial design, in these cases, all (1-3) possible completed shops would be discarded, as the required sample was not reached. As this substantially impacted fieldwork progress, in agreement with the Commission it was decided to allow Helion to 'recover' partially completed website visits with 2-3 successfully completed shops by sending a new batch of shoppers plus a new corresponding control shop to the same website, with the aim of reaching the required 4 completed shops per website[32].

[30] Excluding control shop.
[31] For the 160 websites evaluations where we reached the sample of 4+, 58 were performed in more than one visit/ time bracket and 102 in a single visit/time bracket (36%/64%). A control shop using the VPN/ stripped down browser was carried out in the same time bracket for all shops.
[32] Shops which were part of a batch in which just 1 shop was completed successfully for a website, were discarded altogether.

Ipsos and Helion committed to execute at least half of all shops in one go (without a 2nd batch) – this target was reached, as 64% of website visits were completed (sample 4 or higher) using a single batch of shoppers. When 'recovering' shops, Helion carried out the additional shops on the same time of the day: if the first batch of shops was scheduled in the afternoon the second batch of shops to the same website was again scheduled in the afternoon. This was to control for the influence of the exact timing during a day on the results.

A1.6.10 Shopper characteristics

Although no specific quotas were put on the socio-demographic characteristics of the shoppers – as this would have hampered the execution of fieldwork – the aim was to recruit mystery shoppers that represented a diversified and 'public at large' profile (e.g. consumers from all age categories and social classes, etc.). Below an overview is presented of the profile of the shoppers who participated in the mystery shopping exercise.

Table 14 : Shopper profile

	Count (number of shoppers)	%
Gender		
Female	127	50%
Male	127	50%
Age		
18-24 years	32	13%
25-34 years	95	37%
35-44 years	72	28%
45-54 years	40	16%
55+	15	6%
Activity status		
Employed - Fulltime	101	40%
Employed - Part-time	31	12%
Housewife / Homemaker	10	4%
Long-term sick or disabled	2	1%
Pupil / Student / In education	23	9%
Retired	3	1%
Self-employed	53	21%
Studying in combination with a part-time job	13	5%
Unemployed and not looking for a job	1	0%
Unemployed but looking for a job	17	7%
Household's financial situation		
Very difficult	7	3%
Fairly difficult	63	25%
Fairly easy	130	51%
Very easy	33	13%
Prefer not to say	21	8%

Source: Mystery shopping exercise

For practical reasons, no quotas were put on operating systems[33]. However, variation in operating system was guaranteed as all shoppers carried out scenario A, B and C of the evaluation on a desktop/laptop (on which 85% of shoppers indicated to use Windows,

[33] This could seriously hamper the execution of fieldwork.

compared to 13% who indicated to use an Apple device and 2% who used a Linux device) and scenario D on a smartphone/tablet device (on which 72% of shoppers indicated to use an Android device, versus 25% who indicated to use Apple/iOS device and 3% who indicated to use a Windows mobile device).

Before fieldwork for the mystery shopping started, shoppers were asked to not delete cookies in the period running up to the shop. This as it was feared that many shoppers would normally do this regularly. Slightly less than four in ten (38%) of shoppers indicated in the evaluation form to have deleted the cookies on their desktop/laptop during the last three months or more often, with 17% of shoppers indicating they did so during the last month or more recently. A little less than a third (30%) of shoppers indicated to have deleted the cookies on their mobile device during the last three months or more often, with 18% of shoppers indicating they did so during the last month or less long ago.

A1.6.11 Products/services searched for and e-commerce websites visited

Selection of products and services

The first column in the table below shows the products shoppers searched for and the details they were instructed to filter on. Specific search and filter instructions were delivered to the shoppers for each of the 160 websites visited, meaning that for a given website a shopper could for instance be asked to filter on "4K HD" TVs, or hotels in the '1e arrondissement' of Paris, depending on the available filter options on the website. The aim was to provide for every website search and filter instructions that closely resembled those shown in column 1 in the table below, while at the same time assuring that shoppers used exactly the same filters when searching on the same website.

The third column in the table below shows the details per product the shoppers noted down for each of the five products they recorded per step. As can be noted, this was the name plus price for all products, plus the exact flight time (take off plus landing) for the flight tickets and the room type plus the number of stars in '*' for hotels. The second column shows the 'search query'. For TVs and shoes the instruction to shoppers was[34]: 1) search using the provided search query using the search box on the homepage of the e-commerce website; 2) in the search results, fine-tune the results using the provided filter instructions (e.g. by ticking boxes from column II). For hotels and airline tickets the instruction was: 1) on the homepage of the e-commerce website, enter the details as provided (these sites normally do not use a search box); 2) in the search results, fine-tune the results using the provided filter instructions (Column II). The search query was translated in local languages and used for all products in scenario A to search on the search engines and scenario B to search on the price comparison website.

Table 15: Product details shoppers will search for and record

Product details	Search query	Product details to record
- **Television** - 50 inch/128cm [dep. on country] - 4k HD	TV [50 inch/128cm] 4k	- Full name of product (e.g. "LG 43UH620V Smart 4k Ultra HD HDR 43" LED TV") - Price in local currency
- **Running shoes** - Men's shoes	Running shoes	- Full name of product (e.g. Race Ultra 290 Trail Running Shoes Navy/Lime Mens) - Price in local currency

[34] Except for some websites where the search function does not work properly, for example if it shows many other products than TVs and shoes and does not allow to filter on these products. In this case, shoppers were instructed to go directly to a specific section, as indicated in the specific website level instructions for the shoppers.

Product details	Search query	Product details to record
- Hotel - Paris - Specific date: 06/10/2017-08/10/2017 - 2 Adults, 1 room - 2km from centre/ near Louvre - Double room - Free breakfast - Free Wi-Fi	Hotel in Paris, double room	- Full name of hotel + number of stars in "*" (e.g Hilton Paris Opera*****) - Type of room that relates to the price shown (e.g. "standard double room") - Price in local currency
- Airline ticket - Frankfurt (FRA) to London Heathrow (LHR)* - Specific date: 06/10/2017 - One way - Economy class - 1 Adult	Airline ticket Frankfurt to London	- Name of airline (e.g. KLM) - Exact time of flight, take-off + landing in hh:mm-hh:mm (e.g. 14:30-17:30) - Price in local currency
** As both cities have more than one airfield, shoppers were instructed to filter specifically for Frankfurt International (FRA) and London Heathrow (LHR).*		

A1.6.12 Websites visited

Selection of e-commerce websites to be visited

The e-commerce websites and comparison tool websites (for Scenario B) that shoppers visited were selected on beforehand by Ipsos, in agreement with the Commission. In total, 20 e-commerce websites were selected per country (or 160 overall); 5 corresponding to each good or service per country. The visited e-commerce websites were selected based on the following criteria: 1) they sold the applicable goods/services; 2) they counted among the largest e-commerce sites in the given country and sector, based on their ranking on Amazon Alexa; 3) they showed sufficient product details for shoppers to record; 4) they are covered by a price comparison website; and 5) to test as many different websites as possible[35].

In the travel sector not all websites selected were covered by a price comparison website. Hence, for Scenario B, shoppers to some websites were instructed to visit only for this scenario another website covered by a price comparison website.

It should be noted that the websites assessed for the airline sector were not those of airline companies as such, but instead those of platforms selling air tickets.

[35] The aim was to include all websites *only once* across countries. Hence, while for example Amazon is active in many countries and sectors, it was included only once among the total of 160 websites to be tested across countries. See the First Interim report for more details on the website selection.

A1.7 Mystery shopping - evaluation sheet

Final version

A1.7.1 A. General section

A.1 Site visit information

[ALWAYS REQUIRED]
A. Evaluation date:

[ALWAYS REQUIRED]
B. Start time of evaluation [please be exact]: hh:mm

[ALWAYS REQUIRED]
C. End time of evaluation [please be exact]: hh:mm

[ALWAYS REQUIRED]
D1. Could you successfully evaluate the prices on the E-commerce website: [INSERT NAME OF WEBSITE FROM SAMPLE]?

1. Yes
2. No

[ALWAYS REQUIRED]
D2. Could you use the precise product detail filters as provided for the website?

1. Yes
2. No

[REQUIRED IF D2=”NO”]
D3a. List all product details you could filter on for the website for scenarios A, C & D:

[REQUIRED IF D2=”NO”]
D3b. List all product details you could filter on for the website for scenarios B:

A.2 Socio-demographic questions

[ALWAYS REQUIRED]
Q0a. What is your gender?
[SINGLE ANSWER]

1. Male
2. Female

[ALWAYS REQUIRED]
Q0b. How old are you?
[SINGLE ANSWER]

1. 18-24
2. 25-34
3. 35-44
4. 45-54
5. 55+

[ALWAYS REQUIRED]
Q0c. Which of the following best describes your current work status?
[SINGLE ANSWER]

1. Employed – fulltime
2. Employed – par-time
3. Self-employed

4. Unemployed but looking for a job
5. Unemployed and not looking for a job
6. Long-term sick or disabled
7. Housewife / Homemaker
8. Retired
9. Pupil / Student / In education
10. Studying in combination with a part-time job

[ALWAYS REQUIRED]
Q0d. Thinking about your household's financial situation, would you say that making ends meet every month is…?
[SINGLE ANSWER]
1. Very easy
2. Fairly easy
3. Fairly difficult
4. Very difficult
5. Prefer not to say

A1.7.2 B. Research on Desktop/laptop

B.1 System used

<u>[INSTRUCTION TO SHOPPER: Please note that the questions below refer to the desktop/laptop device you will be using for this mystery shopping exercise]</u>

[ALWAYS REQUIRED]
Q1. What kind of <u>laptop/desktop</u> device do you use for this mystery shopping exercise?
[SINGLE ANSWER]
1. Windows desktop
2. Windows laptop
3. Apple desktop (iOS)
4. Apple laptop (iOS)
5. Linux desktop
6. Linux laptop
7. Other

[ALWAYS REQUIRED]
Q2. How often, if at all, is the <u>desktop/laptop device</u> you use for this mystery shopping exercise used by members of your family, friends or other people?
[SINGLE ANSWER]
1. Very Often
2. Sometimes
3. Rarely
4. Never

[ALWAYS REQUIRED]
Q3. Indicate your preferred/most used browser on your <u>desktop-laptop</u>
[SINGLE ANSWER]
1. Chrome
2. Firefox
3. Internet Explorer
4. Safari
5. Other, please specify_____

[ALWAYS REQUIRED]
Q4. How often do you use the following methods to protect your online privacy when browsing the internet using your <u>desktop-laptop?</u>
[GRID DOWN]
a. Ad-blocker

b. Incognito/private mode of the browser
c. Delete cookies
d. Instruments to hide your IP address such as Tor, VPNs etc.
e. Block (third-party/all) cookies in the browser settings
f. Disable JavaScript
g Disable plugins, extensions, etc.
h. Other software/plugins designed to protect privacy online

[ANSWER SCALE]
1. Always
2. Very Often
3. Sometimes
4. Rarely
5. Never
9. Don't know

[ALWAYS REQUIRED]
Q5. When, if at all, did you last delete cookies on your <u>desktop/laptop?</u>
[SINGLE ANSWER]
1. Today
2. During the last 3 days
3. During the last week
4. During the last month
5. During the last 3 months
6. During the last 12 months
7. Longer than 12 months ago
8. Never
9. My browser is set so that it automatically deletes cookies after each session
99. Don't know

[ALWAYS REQUIRED]
Q6. Surf to panopticlick.eff.org on your <u>desktop/laptop</u>. Click on "TEST ME". Does your browser…?

[GRID DOWN]
a. Block tracking ads
b. Block invisible trackers
c. Protect against fingerprinting (unique fingerprint="No"; nearly-unique fingerprint="Partial")
d. Enable cookies (under "full results")
e. Use plugins, as listed under "Browser Plugin Details" (under "full results")
f. Allow JavaScript ("no JavaScript" under "Limited supercookie test"="No"; all other values under "Limited supercookie test" ="Yes")

[ANSWER SCALE]
1. Yes
2. No
3. Partial [DOES NOT APPLY FOR ITEMS "d", "e" & "f"]

[ALWAYS REQUIRED]
Q7. Surf to "Your Social Media Fingerprint" on your <u>desktop/laptop</u>. Which social-media and other accounts are you logged in to?
[SELECT ALL THAT APPLY]
1. Airbnb
2. Amazon
3. Facebook
4. Flickr
5. Foursquare
6. Gmail
7. Google+

8. Instagram
9. LinkedIn
10. MySpace
11. Paypal
12. Pinterest
13. Reddit
14. Tumblr
15. Twitter
16. Vine
17. VK
18. Youtube
19. Other
20. None/no platform [SINGLE ASWER]

[ALWAYS REQUIRED]
Q8. Indicate your preferred/most used search engine on your desktop-laptop.
[SINGLE ANSWER]

1. Google
2. Bing
3. Yahoo
4. A privacy enhancing search engine like DuckDuckGo
5. Other, please specify_____

B.2 Online behaviour

[ALWAYS REQUIRED]
Q9. How frequently do you use the internet for the following activities on your desktop/laptop?
[GRID DOWN]

a. To look for information on goods/services
b. To buy goods/ services online
c. For online banking and for other financial services
d. To read news or blogs
e. To play games online
f. To watch videos or listen to music online
g. To stream live content
h. To visit social networking sites (Facebook, Twitter, etc.)
i. Send or receive emails

[ANSWER SCALE]

1. At least once a day
2. At least once a week
3. At least once a month
4. At least once every 3 months
5. At least once in the last 12 months
6. Longer than 12 months ago
7. Never

[ASK IF LOOK FOR OR BUY PRODUCTS IN Q9 [Q9_a=1, 2, 3, 4, 5 OR 6 OR Q9_b=1, 2, 3, 4, 5 OR 6]]
Q10. When searching and shopping online for products using your desktop-laptop, how often do you do the following?
[ONE ANSWER PER ROW]

[GRID DOWN]

a. Search products using a search engine (like Google)
b. Search products directly on an e-commerce website
c. Navigate to an e-commerce website (found) via social media
d. Use or create an account on an e-commerce website using your personal details

e. Login/register to an e-commerce website using your social media account
f. Use social media to “like” or review products, etc.
g. Use a price comparison or price aggregator website
h. Click on targeted advertisements in emails, banner ads, pop ups, etc.
i. Sign-up to loyalty programmes (e.g. frequent flyer programmes)

[ANSWER SCALE]
1. Always
2. Very Often
3. Sometimes
4. Rarely
5. Never

B.3 Online purchase behaviour

[ALWAYS REQUIRED]
Q11a. Over the last year, have you searched for the following products on your desktop/laptop?

Note: “Searched for” does not necessarily imply that you bought the product
[GRID DOWN]
a. Car rentals
b. Clothes, shoes
c. Computer software (incl. games)
d. Electronics & computer hardware (e.g. TV, smartphone)
e. Films/music
f. Holiday accommodation (e.g. a hotel)
g. Electrical household appliances (e.g. microwave)
h. Tickets for events
i. Travel services (airline tickets, etc.)
j. Cosmetics and healthcare products

[ANSWER SCALE]
1. Yes, searched in the last 3 days
2. Yes, searched in the last week
3. Yes, searched in the last month
4. Yes, searched in the last 3 months
5. Yes, searched in the last 12 months
6. No, never

[ASK FOR PRODUCTS SEARCHED FOR IN Q11a [Q11a_a TO j=1 TO 5]
Q11b. Over the last year, have you bought the following products online using your desktop/laptop?

[GRID DOWN]
a. Car rentals
b. Clothes, shoes
c. Computer software (incl. games)
d. Electronics & computer hardware (e.g. TV, smartphone)
e. Films/music
f. Holiday accommodation (e.g. a hotel)
g. Electrical household appliances (e.g. microwave)
h. Tickets for events
i. Travel services (airline tickets, etc.)
j. Cosmetics and healthcare products

[ANSWER SCALE]
1. Yes, bought in the last 3 days
2. Yes, bought in the last week

3. Yes, bought in the last month
4. Yes, bought in the last 3 months
5. Yes, bought in the last 12 months
6. No, never

[IF SEARCHED AT ANY TIME IN Q11a [Q11_a a TO j=1-5]]
Q12. The [PRODUCT X] you searched for or bought on your desktop/laptop, would you consider this a discount (cheap) or high-end (expensive) product, compared to similar products on the market?

Please indicate using the scale, where 0 stands for a discount product and 10 for a high-end product.
[SCALE 0-10]

0 – Discount product
1
2
3
4
5
6
7
8
9
10 – High-end product

[ALWAYS REQUIRED]
Q13. Concerning the pre-defined e-commerce website you will visit ([INSERT NAME OF WEBSITE FROM SAMPLE]), have you…
[GRID DOWN]

a. Visited this website on your desktop/laptop [ALWAYS REQUIRED]
b. Logged in to an account on this website on your desktop/laptop [REQUIRED WHEN ANSWER TO Q13_a IS "YES" [Q13_a=1,2,3,4,5 OR 6]]
c. Bought products on this website on your desktop/laptop [REQUIRED WHEN ANSWER TO Q13_a IS "YES" [Q13_a=1,2,3,4,5 OR 6]]

[ANSWER SCALE]

1. Yes, during the last 3 days
2. Yes, during the last week
3. Yes, during the last month
4. Yes, during the last 3 months
5. Yes, during the last 12 months
6. Yes, but not during the last 12 months
7. No, never
9. Don't know/don't remember

B.4 Scenario A - Search engine

Step 1: Open your preferred browser and search engine (as indicated before) on your desktop/laptop. Search for the predefined product in combination with the predefined e-commerce website (e.g. "TV 50 inch 4k Amazon.co.uk"). Follow the link in the search results to the predefined e-commerce website (no "active" account/not "signed in").

Step 2: Click to go to the homepage of the e-commerce website and search for the predefined product, filtering for the extra product details provided. Note down the first 5 products in the search results, their details and the price of these 5 products.

A1. Step 1/2 – Products & prices

- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

Step 3: Open DuckDuckGo search in your preferred browser in a new tab (do not close the old one). Search for the predefined product in combination with the predefined e-commerce website (e.g. "TV 50 inch 4k Amazon.co.uk"). Follow the link in DuckDuckGo search to the predefined e-commerce website (no "active" account/not "signed in").

Step 4: Click to go to the homepage of the e-commerce website and search for the predefined product, filtering for the extra product details provided. Note down the first 5 products in the search results, their details and the price of these 5 products.

A2. Step 3/4 – Products & prices
- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

[ONLY ASK IF <u>ALL</u> PRODUCTS [NAME + DETAILS] DIFFER BETWEEN A1 AND A2]
Go again to the homepage of the e-commerce website and use as search query: [INSERT PRODUCT NAME + DETAILS FROM A1. PRODUCT 1]. What price you observe for this product?

A2B.b Price discrimination
- [PRICE]

Step 5: Control I – Close all open incognito/privacy mode windows. Open a new incognito/privacy mode window in the preferred browser and open your preferred search engine. Search for the predefined product in combination with the predefined e-commerce website (e.g. "TV 50 inch 4k Amazon.co.uk") and repeat the rest of Step 1 + 2.

A3. Control I – Products & prices
- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

[ONLY ASK IF <u>ALL</u> PRODUCTS [NAME + DETAILS] DIFFER BETWEEN A1 AND A3]
Go again to the homepage of the e-commerce website (do not close the incognito browser) and use as search query: [INSERT PRODUCT NAME + DETAILS FROM A1. PRODUCT 1]. What price you observe for this product?

A3B. Price discrimination
- [PRICE]

Step 6: Control II – Repeat Step 5. Note down the first 5 products in the search results, their details and the price of these 5 products.

A4. Control II – Products & prices
- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

[NOTE TO THE SHOPPERS: PLEASE CLOSE ALL WINDOWS OF YOUR BROWSER]

B.5 Scenario B - Price comparison website

Step 1: Open the predefined price comparison website (directly, using the URL) on your desktop/laptop using your preferred browser (as indicated before). Search for the predefined product. In the search results on the comparison website, go to the predefined destination e-commerce website for this evaluation by clicking on a search result that refers to this website.

BA1. Did you succeed in surfing to the destination e-commerce website via the price comparison website?

1. Yes – by clicking on a search result
2. Yes – by searching for it on the comparison website [USE AS 2ND OPTION]
3. No – Go to the destination website directly via URL [LAST RESORT]

Step 2: On the destination e-commerce website FOR SCENARIO B (no "active" account/not "signed in"), go to the homepage and search for the predefined product, filtering for the extra product details provided. Note down the first 5 products in the search results, their details and the price of these 5 products.

B1. Step 1/2 – Products & prices

- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

Step 3: Control step: Close all open incognito/privacy mode windows. Open a new incognito/privacy mode window in the preferred browser and go to the predefined e-commerce website FOR SCENARIO B (directly, using the URL). Go to the homepage of the e-commerce website and search for the predefined product filtering for the extra product details provided. Note down the first 5 products in the search results, their details and the price of these 5 products.

B2. Control step – Products & prices

- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

[ONLY ASK IF ALL PRODUCTS [NAME + DETAILS] DIFFER BETWEEN B1 AND B2]
Go again to the homepage of the e-commerce website FOR SCENARIO B (do not close the incognito browser) and use as search query: [INSERT PRODUCT NAME + DETAILS FROM B1. PRODUCT 1]. What price you observe for this product?

B2B. Price discrimination

- [PRICE]

[NOTE TO THE SHOPPERS: PLEASE CLOSE ALL WINDOWS OF YOUR BROWSER]

B.6 Scenario C - Browser

[ALWAYS REQUIRED]
CA1. Indicate the secondary browser used [must be different to the preferred browser]

1. Chrome
2. Firefox
3. Internet Explorer
4. Safari [SELECT IF NOT PREFERED BROWSER AND USING APPLE DEVICE]
5. Other, please specify_____

[ALWAYS REQUIRED]
CA2. How often do you use this browser?
1. Very Often
2. Sometimes
3. Rarely
4. Never
5. Used as a newly installed browser

Step 1: Open your preferred browser (as indicated before) on your desktop/laptop. Visit the predefined e-commerce website (directly via the provided URL, no "active" account/not "signed in"). On the home page, search for the predefined product, filtering for the extra product details provided. Note down the first 5 products in the search results, their details and the price of these 5 products.

C1. Step 1 – Products & prices
- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

Step 2: Control I: Close all open incognito/privacy mode windows. Open a new incognito/privacy mode window in your preferred browser and go directly to the same specified e-commerce website (using the specified URL) and repeat the rest of Step 1.

C2. Control I – Products & prices
- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

[ONLY ASK IF ALL PRODUCTS [NAME + DETAILS] DIFFER BETWEEN C1 AND C2]
Go again to the homepage of the e-commerce website (do not close the incognito browser) and use as search query: [INSERT PRODUCT NAME + DETAILS FROM C1. PRODUCT 1]. What price you observe for this product?

C2B. Price discrimination
- [PRICE]

Step 3: Open another browser[36] (as indicated before) on your desktop/laptop. Visit the same predefined e-commerce website (directly via the provided URL, no "active" account/not "signed in"). On the home page, search for the predefined product, filtering for the extra product details provided. Note down the first 5 products in the search results, their details and the price of these 5 products.

C3. Step 3 – Products & prices
- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

[ONLY ASK IF ALL PRODUCTS [NAME + DETAILS] DIFFER BETWEEN C1 AND C3]
Go again to the homepage of the e-commerce website (do not close the other browser) and use as search query: [INSERT PRODUCT NAME + DETAILS FROM C1. PRODUCT 1]. What price you observe for this product?

[36] Shoppers will be instructed to install another browser if they do not have one installed already.

C3B. Price discrimination
- [PRICE]

Step 4: Control II: Close all open incognito/privacy mode windows. Open a new incognito/privacy mode window in the <u>other browser</u> and go directly to the same specified e-commerce website (using the specified URL) and repeat the rest of Step 3.

C4. Control II – Products & prices
- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

[ONLY ASK IF ALL PRODUCTS [NAME + DETAILS] DIFFER BETWEEN C3 AND C4]
Go again to the homepage of the e-commerce website (do not close the incognito browser) and use as search query: [INSERT PRODUCT NAME + DETAILS FROM C3. PRODUCT 1]. What price you observe for this product?

C4B. Price discrimination
- [PRICE]

[NOTE TO THE SHOPPERS: PLEASE CLOSE ALL WINDOWS OF YOUR BROWSER]

A1.7.3 C. Research on Mobile device

C.1 System used

<u>[INSTRUCTION TO SHOPPER: Please note that the questions below refer to the mobile device you will be using for this mystery shopping exercise]</u>

[ALWAYS REQUIRED]
Q14. What kind of <u>mobile device</u> do you use for this mystery shopping exercise?
[SINGLE ANSWER]
1. iPhone (Apple)
2. Android smartphone (e.g. Samsung)
3. Windows smartphone
4. Ipad (Apple)
5. Android tablet (e.g. Samsung)
6. Windows tablet
7. Other

[ALWAYS REQUIRED]
Q15. How often, if at all, is the <u>mobile device</u> you use for this mystery shopping exercise used by members of your family, friends or other people?
[SINGLE ANSWER]
1. Very Often
2. Sometimes
3. Rarely
4. Never

[ALWAYS REQUIRED]
Q16. Indicate your preferred/most used browser on your <u>mobile device</u>
[SINGLE ANSWER]
1. Chrome
2. Firefox
3. Internet Explorer

4. Safari
5. Other, please specify_____

[ALWAYS REQUIRED]
Q17. How often do you use the following methods to protect your online privacy when browsing the internet using your mobile device?
[GRID DOWN]

a. Ad-blocker
b. Incognito/private mode of the browser
c. Delete cookies
d. Instruments to hide your IP address such as Tor, VPNs etc.
e. Block (third-party/all) cookies in the browser settings
f. Disable JavaScript
g. Disable plugins, extensions, etc.
h. Other apps/plugins designed to protect privacy online

[ANSWER SCALE]

1. Always
2. Very Often
3. Sometimes
4. Rarely
5. Never
9. Don't know

[ALWAYS REQUIRED]
Q18. When, if at all, did you last delete cookies on your mobile device?
[SINGLE ANSWER]

1. Today
2. During the last 3 days
3. During the last week
4. During the last month
5. During the last 3 months
6. During the last 12 months
7. Longer than 12 months ago
8. Never
9. My browser is set so that it automatically deletes cookies after each session
99. Don't know

[ALWAYS REQUIRED]
Q19. Surf to panopticlick.eff.org on your mobile device. Click on "TEST ME". Does your browser…?
[GRID DOWN]

a. Block tracking ads
b. Block invisible trackers
c. Protect against fingerprinting (unique fingerprint="No"; nearly-unique fingerprint="Partial")
d. Enable cookies (under "full results")
e. Use plugins, as listed under "Browser Plugin Details" (under "full results")
f. Allow JavaScript ("no JavaScript" under "Limited supercookie test"="No"; all other values under "Limited supercookie test" ="Yes")

[ANSWER SCALE]

1. Yes
2. No
3. Partial [DOES NOT APPLY FOR ITEMS "d", "e" & "f"]

[ALWAYS REQUIRED]

Q20. Surf to "Your Social Media Fingerprint" on your mobile device. Which social-media and other accounts are you logged in to?
[SELECT ALL THAT APPLY]

1. Airbnb
2. Amazon
3. Facebook
4. Flickr
5. Foursquare
6. Gmail
7. Google+
8. Instagram
9. LinkedIn
10. MySpace
11. Paypal
12. Pinterest
13. Reddit
14. Tumblr
15. Twitter
16. Vine
17. VK
18. Youtube
19. Other
20. None/no platform [SINGLE ASWER]

[ALWAYS REQUIRED]
Q21. Indicate your preferred/most used search engine on your mobile device.
[SINGLE ANSWER]

1. Google
2. Bing
3. Yahoo
4. A privacy enhancing search engine like DuckDuckGo
5. Other, please specify_____

C.2 Online behaviour

[ALWAYS REQUIRED]
Q22. How frequently do you use the internet for the following activities on your mobile device?
[GRID DOWN]

a. To look for information on goods/services
b. To buy goods/ services online
c. For online banking and for other financial services
d. To read news or blogs
e. To play games online
f. To watch videos or listen to music online
g. To stream live content
h. To visit social networking sites (Facebook, Twitter, etc.)
i. Send or receive emails

[ANSWER SCALE]

1. At least once a day
2. At least once a week
3. At least once a month
4. At least once every 3 months
5. At least once in the last 12 months
6. Longer than 12 months ago
7. Never
9. Don't know

[ASK IF LOOK FOR OR BUY PRODUCTS IN Q22 [Q22_a=1, 2, 3, 4, 5 OR 6 OR Q22_b=1, 2, 3, 4, 5 OR 6]]
Q23. When searching and shopping online for products using your mobile device, how often do you do the following?
[ONE ANSWER PER ROW]

[GRID DOWN]
- a. Search products using a search engine (like Google)
- b. Search products directly on an e-commerce website
- c. Navigate to an e-commerce website (found) via social media
- d. Use or create an account on an e-commerce website using your personal details
- e. Login/register to an e-commerce website using your social media account
- f. Use social media to “like” or review products, etc.
- g. Use a price comparison or price aggregator website
- h. Click on targeted advertisements in emails, banner ads, pop ups, etc.
- i. Use a mobile app to search, compare or buy products
- j. Sign-up to loyalty programmes (e.g. frequent flyer programmes)

[ANSWER SCALE]
1. Always
2. Very Often
3. Sometimes
4. Rarely
5. Never

C.3 Online purchase behaviour

[ALWAYS REQUIRED]
Q24a. Over the last year, have you searched for the following products on your mobile device?

Note: “Searched for” does not necessarily imply that you bought the product

[GRID DOWN]
- a. Car rentals
- b. Clothes, shoes
- c. Computer software (incl. games)
- d. Electronics & computer hardware (e.g. TV, smartphone)
- e. Films/music
- f. Holiday accommodation (e.g. a hotel)
- g. Electrical household appliances (e.g. microwave)
- h. Tickets for events
- i. Travel services (airline tickets, etc.)
- j. Cosmetics and healthcare products

[ANSWER SCALE]
1. Yes, searched in the last 3 days
2. Yes, searched in the last week
3. Yes, searched in the last month
4. Yes, searched in the last 3 months
5. Yes, searched in the last 12 months
6. No, never

[ASK FOR PRODUCTS SEARCHED FOR IN Q24a [Q24a_a TO j=1 TO 5]
Q24b. Over the last year, have you bought the following products online using your mobile device?

[GRID DOWN]
- a. Car rentals
- b. Clothes, shoes

c. Computer software (incl. games)
d. Electronics & computer hardware (e.g. TV, smartphone)
e. Films/music
f. Holiday accommodation (e.g. a hotel)
g. Electrical household appliances (e.g. microwave)
h. Tickets for events
i. Travel services (airline tickets, etc.)
j. Cosmetics and healthcare products

[ANSWER SCALE]
1. Yes, bought in the last 3 days
2. Yes, bought in the last week
3. Yes, bought in the last month
4. Yes, bought in the last 3 months
5. Yes, bought in the last 12 months
6. No, never

[IF SEARCHED AT ANY TIME IN Q24a [Q24a a TO j=1-5]]
Q25. The [PRODUCT X] you <u>searched for or bought</u> on your <u>mobile device</u>, would you consider this a discount (cheap) or high-end (expensive) product, compared to similar products on the market.

Please indicate using the scale, where 0 stands for a discount product and 10 for a high-end product.
[SCALE 0-10]
0 – Discount product
1
2
3
4
5
6
7
8
9
10 – High-end product

[ALWAYS REQUIRED]
Q26. Concerning the pre-defined e-commerce website you will visit ([INSERT NAME OF WEBSITE FROM SAMPLE]), have you…
[GRID DOWN]
a. Visited this website on your <u>mobile device [ALWAYS REQUIRED]</u>
b. Logged in to an account on this website on your <u>mobile device [REQUIRED WHEN ANSWER TO Q26_a IS "YES" [Q26_a=1,2,3,4,5 OR 6]]</u>
c. Bought products on this website on your <u>mobile device [REQUIRED WHEN ANSWER TO Q26_a IS "YES" [Q26_a=1,2,3,4,5 OR 6]]</u>

[ANSWER SCALE]
1. Yes, during the last 3 days
2. Yes, during the last week
3. Yes, during the last month
4. Yes, during the last 3 months
5. Yes, during the last 12 months
6. Yes, but not during the last 12 months
7. No, never
9. Don't know/don't remember

C.4 Scenario D - Mobile device

Step 1: Open your preferred browser (as noted before for <u>your mobile device</u>). Visit the predefined e-commerce website (directly via URL, no "active" account/not "signed in"). On the home page, search for the predefined product, filtering for the extra product details provided. Note down the first 5 products in the search results, their details and the price of these 5 products.

D1. Step 1 – Products & prices

- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

Step 2: Control I - Close all open incognito/privacy mode windows. Open a new incognito/privacy mode window on your <u>mobile device</u> and go to the predefined e-commerce website (directly, using the URL). Click to go to the homepage of the e-commerce website and search for the predefined product, filtering for the extra product details provided. Note down the first 5 products in the search results, their details and the price of these 5 products.

D2. Control I – Products & prices

- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

[ONLY ASK IF ALL PRODUCTS [NAME + DETAILS] DIFFER BETWEEN D1 AND D2]
Go again to the homepage of the e-commerce website (do not close the incognito browser) and use as search query: [INSERT PRODUCT NAME + DETAILS FROM D1. PRODUCT 1]. What price you observe for this product?

D2B. Price discrimination

- [PRICE]

Step 3: Control II – Repeat Step 2. Note down the first 5 products in the search results, their details and the price of these 5 products.

D3. Control II – Products & prices

- Product 1 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 2 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 3 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 4 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]
- Product 5 [NAME + PRICE IN LOCAL CURRENCY + DETAILS]

Step 4: Close all open incognito/privacy mode windows. Open a new window on your mobile device (in the normal browser mode) and go to the predefined e-commerce website (directly, using the URL). Click to go to the homepage of the e-commerce website and search for: [INSERT SPECIFIC PRODUCT FROM SAMPLE]. What price do you observe for this product?

D4. Specific product

- [PRICE. IF CAN'T FIND, ENTER "0"]

A1.7.4 D. Shopper perceptions

[ALWAYS REQUIRED]
E1. Thinking about the mystery shopping exercise you just executed, do you think you encountered …
[SELECT ALL THAT APPLY]

1. "**targeted advertising**" (targeting advertisements, based on your browsing habits, including history of clicks/purchases)
2. "**personalised offers**" (seeing different search results when searching for the same product online)
3. "**personalised pricing**" (seeing a different price for the same product online)
4. None of the above [SINGLE ANSWER]
9. Don't know [SINGLE ANSWER]

[ASK IF SELECTED E1=1]
E2a. Was any information provided on why you were shown targeted adverts?
[SELECT ALL THAT APPLY]

1. Yes, a link/button was shown to obtain more info on why you got the advert
2. Yes, it was explicitly stated near/inside the advert that it was personalised
3. Yes, using another method, please specify______
4. No [SINGLE ANSWER]

[ASK IF SELECTED E1=2 OR 3]
E2b. Was any information provided on why you were shown personalised offers/pricing?
[SELECT ALL THAT APPLY]

1. Yes, a link/button was shown to obtain more info on why you got the offer/price
2. Yes, it was explicitly stated near/underneath the offer that it was personalised
3. Yes, using another method, please specify_______
4. No [SINGLE ANSWER]

[ALWAYS REQUIRED]
E3. Did you see a cookie policy informing you that the website uses cookies and were you offered the possibility to opt out of the use of cookies? Select all that apply.
[SELECT ALL THAT APPLY]

1. Yes and I was offered the possibility to 'opt out' of/refuse cookies
2. Yes, but I was not offered the possibility to 'opt out of'/refuse cookies (I had to accept to continue navigating)
3. Yes, but it was possible to navigate through the website without having to accept cookies
4. No, I did not see a cookie policy [SINGLE ANSWER]

[ALWAYS REQUIRED]
E4. Is there any further comment/observation you would like to add? If yes, please specify…

A1.8 Behavioural experiment

This section covers the behavioural experiment and corresponding survey questions which was completed online by 6,580 participants across the UK, Germany, France, Spain, Sweden, Czech Republic, Poland and Romania.

Prior to the fieldwork a pilot experiment was run in the UK with 450 participants to check the functioning of the experiment, as well as to test the effectiveness of the design of the environment and the treatments. Following analysis of the pilot data, small revisions were made to the experiment to increase its effectiveness and external validity.

The following sections outline the behavioural experiment procedure, treatments, mock-ups, and post-experiment questions.

A1.8.1 Behavioural experiment procedure

Environment

The features of the environment which were considered (which were **informed by the outcomes from Task 1**) are as follows:

- The 'look and feel' of the online platform by which respondents observe offers and/or targeted advertising;
- The presentation of products;
- The presentation of advertising; and
- The prices of products.

The experiment uses the interface of an online comparison website to show participants offers for products, retaining the 'look and feel' of a price comparison website to simulate a real search.

Experiment stages

Figure 1 (overleaf) illustrates the stages of the experiment that respondents went through.

Participants were initially allocated to one of three products: Car rental, holiday accommodation, or consumer electronics (TV), which they indicated in the pre-experiment survey that they have purchased in the past 24 months[37], and were then allocated to a pre-determined profile of previous search history for that product.

Participants were then allocated randomly across four **scenarios**: no personalisation, personalised ranking of offers, price discrimination (or else personalised pricing), and targeted advertising. For each of the personalisation scenarios they were allocated randomly to one of two **nodes**. In the personalised ranking of offers scenario, the nodes represented the variable on which personalisation occurred: operating system and browser, or previous search history. In the price discrimination scenario the nodes represented the form of price discrimination; in one node price discrimination took the form of higher prices, and in the other the price discrimination took the form of lower prices. In the targeted advertising scenario, where participants were shown advertisements targeted to them based on their previous search history, the nodes referred to the way the results they are shown are presented to them; in one node the results are sorted randomly, and in the other they are sorted in the same way as they are in the personalised ranking of offers scenario. Respondents are then randomly allocated across three **treatments**: low

[37] Respondents indicating that they had purchased more than one of the products, or none at all, were allocated across the products to ensure the required quotas of participants across the three products were met.

transparency (least salient communication), high transparency (most salient communication), and high transparency + action (most salient communication + action).

The experiment tasks and incentives were then explained to participants, and participants were then tasked with completing a choice task where they are tasked with selecting a product for purchase. Upon completion of the choice task, respondents answered a series of post-experiment questions, which were a mix of objective questions and subjective questions.

The sections that follow in this document will describe each stage of the experiment in detail.

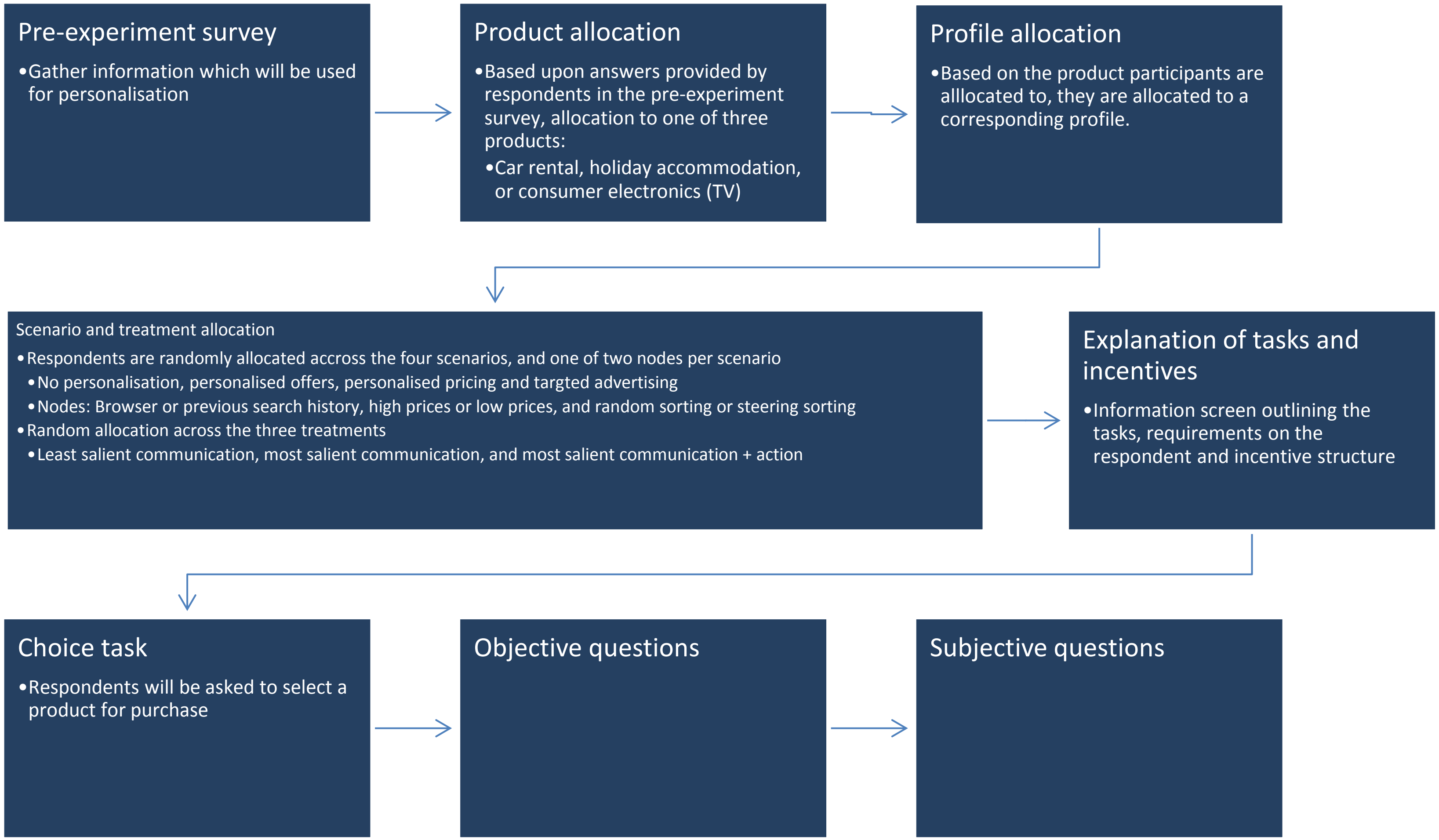
Pre-experiment survey question and product allocation

Participants were asked the following question on their previous purchases, which was used to allocate them to one of the three products for the experiment.

Have you searched for and bought any of the following products or services online in the past 2 years? Please select all that apply.

1) Rental car
2) Holiday accommodation (e.g. hotel)
3) Consumer goods and electronics (e.g. television)
4) None of the above

Figure 1 : Experiment stage



We expected that two years would be a long enough period for respondents to have purchased any of the three products which will be tested in the experiment, to ensure an equal allocation of respondents across the three products. The benefit of being allocated to a product which respondents have purchased in the past is that it increases the realism of the experiment for them. For those participants who had bought more than one of the three products, or none at all, they were allocated across products to ensure an even allocation of respondents across products.

Profile allocation

Respondent profiles

Respondents were then allocated to a pre-set profile containing the information upon which the different treatments are based (e.g. the personalised ranking of offers scenario is based upon browser, or previous search history, which will be contained in the profile).

- It was not possible to create real search history and cookies in the experiment environment. Therefore respondents were told about their search history for the purpose of the decisions they were making in the experiment, through an initial screen of text related to previous search history which they were told to imagine they had recently undertaken.
- The search history was tailored for each product. However, the search history was the same across all scenarios and nodes. By keeping the search history the same across all scenarios and nodes we are able to more cleanly isolate the impact of the different methods of personalisation. This is because the only varying feature was the method of personalisation and the communication around the personalisation. We can therefore investigate personalisation based on previous history within our experimental environment whilst maintaining full control over the personalisation.
- Below we display the profile information screens shown to all respondents allocated to each product, and illustrates how one single profile, for each product, allows us to effectively and efficiently test personalisation in each personalisation scenario.

Personalisation variables in the experiment

In the experiment the personalisation participants experienced was based on information contained in the profile information. This was based upon the variables used in Hannak et al (2014) to investigate the presence and extent of price discrimination and steering on e-commerce websites[38]. The authors examined five different personalisation variables: browser, operating system, account log-in, click history, and purchase history, using a measurement infrastructure to study price discrimination and steering on 16 top online retailers and travel websites. The controlled experiments uncovered instances of websites altering results based on the user's operating system/browser, having a registered account on the website, and history of clicked/purchased products. In particular, the research showed evidence of steering users of mobile browsers (iOS, Android) towards more expensive products, price discrimination *in favour* of users who have accounts (e.g. member discounts), and the altering of search results on the basis of the user's history of clicks and purchase.

The variables upon which personalisation in our experiment was based were selected from these variables because they have been shown to be used by e-commerce firms in the process of pricing/offers personalisation.

[38] Hannak, A., Soeller, G., Lazer, D., Mislove, A., & Wilson, C. (2014, November). Measuring price discrimination and steering on e-commerce web sites. In Proceedings of the 2014 conference on internet measurement conference (pp. 305-318). ACM. https://www.ftc.gov/es/system/files/documents/public_comments/2015/09/00011-97593.pdf

Using these variables also allows us to split the personalised ranking of offers scenario based upon more personal characteristics (previous search history), and one based on more impersonal characteristics (browser and operating system). This is proposed on the basis that on questions related to trust, or willingness to proceed with purchases, respondents may feel more strongly about these issues when more personal data about them and their online browsing history has been used, over characteristics like browser/device.

However, as outlined earlier, respondents were allocated to profiles where they were given all this information at the outset of the experiment, so that we have total control over the experimental environment in a way which allows us to cleanly isolate the impact of the different methods of personalisation. Therefore the only information taken from respondents for this task used in the experiment was the products that they have purchased in the past so as to add to the realism of the experiment by allowing to interact with a product which they already have experience of searching for and purchasing.

Profiles shown to participants

- Table 16 below presents an example of the profile information screen which would be shown to respondents allocated to each of the three different products. Note that for each product, the price that was shown within the profile relating to a previous purchase was shown in the respondent's local currency. As mentioned in the final report, the images in the mock-ups have been changed from the experiment screens for copyright reasons. All images relating to the behavioural experiment in the report are obtained under Creative Commons license and are free of copyright restrictions.

Table 16 : Profile information screen shown to participants

Car Rental

Imagine you have recently made a purchase of a rental car service. Assume that when searching online for information and to complete the purchase, you did the following:

- Rented a **Fiat 500 3-door** for 4 days for **€ 31/day** in Italy last summer
- Looked at alternative 5-door hatchbacks including **VW Polo**
- Browsed for information related to **road trips around Portugal**, and about **hikes in mountainous regions**
- Used the **Safari browser** on your **iOS device** as your main browser for searching for and purchasing products

Assume that you are now looking to **purchase a rental car for a 4 day trip to Portugal this summer, and you are searching for a 5-door car.**

The next screen shows 8 scrollable search results you have been shown when searching for this rental car on an online car rental website. Please select the car you would choose to rent for your trip, **keeping in mind the information given to you about your previous search.**

Consumer electronics

Imagine you have recently made a purchase of a television. Assume that when searching online for information and to complete the purchase, you did the following:

- Purchased a **40 inch curved screen Samsung TV** for your master bedroom for € 588

- Looked at alternative **50 inch** flat screen TVs.
- Browsed for information related to setting up a **surround sound system** for a new TV, and about the best TVs for playing video games on
- Use the **Safari browser** on your **iOS device** as your main browser for searching for and purchasing products

Assume that you are now looking to **purchase a TV for your living room, and you are searching for a 50 inch flat screen TV**.

The next screen shows 8 scrollable search results you have been shown when searching for this TV on a consumer electronics website. Please select the TV you would chose to buy, **keeping in mind the information given to you about your previous search**.

Holiday Accommodation

Imagine you have recently made a recent purchase of holiday accommodation. Assume that when searching online for information and to complete the purchase, you did the following:

- Paid for a **double bedroom in a 4 star hotel (Belve hotel group - Amalfi) in Italy for 4 nights** for € 679 last summer.
- Also alternatively looked at renting **apartments and villas** for the stay
- Browsed for information related to **road trips around Portugal**, and about the **best beaches in Portugal**
- Use the **Safari browser** on your **iOS device** as your main browser for searching for and purchasing products

Assume that you are now looking for a **room for a 4 day trip to Portugal, and you are searching for a double bedroom in a hotel for your stay**.

The next screen shows 8 scrollable search results you have been shown when searching for this room on an accommodation website. Please select the room you would chose to purchase for your trip, **keeping in mind the information given to you about your previous search**.

Source: London Economics analysis of online experiment data.

The table below outlines how a single profile allows us to effectively conduct the experiment, using the car rental profile (shown above) as an example, by discussing how the profile has been used to create personalisation in each node of each personalisation scenario (the baseline scenario is excluded from the table as there will be no personalisation in this scenario; the search results are sorted randomly, the base prices are shown, there are random advertisements shown, and there is low transparency regarding personalisation).

Table 17 : How a profile is used for personalisation

Scenario/Node	Information taken from profile	How the information is used
Personalised ranking of offers – Previous search	The car that the participant has previously bought, as well as the alternative cars they searched for, and other search information.	The order of the product offering was influenced by the previous search and purchase activity, so that certain results (the first three results) contained the car the participant had been told they rented previously, and two cars related to their previous search history. In remedy treatments the personalisation was subtly indicated using text under specific search results such as "based on your previous search history".
Personalised ranking of offers – Browser	Browser and device	The ordering of the products was the same as for the previous search node. The difference here was in terms of the remedy text, which said "Based on your device and internet browser".
Price discrimination – High prices	Previous search history - the car that the participant has previously bought, as well as the alternative cars they searched for, and other search information.	In the price discrimination scenarios, the prices of the products which the previous search history of the participant (from the profile) indicates the participant may be more likely to purchase (i.e. the top three results in the personalised ranking of offers scenario), were modified For the car rental product category, the three steered results had their prices increased by approximately 20% (this is approximately 10% in the holiday accommodation and consumer electronics products). The remaining products have the same baseline prices. Participants were told in the profile text the price they paid for their previous purchase, which served as an anchor price. In remedy treatments the personalisation was subtly indicated using text under specific search results such as "based on your previous search history"..
Price discrimination – Low prices	Previous search history - the car that the participant had previously bought, as well as the alternative cars they searched for, and other search information.	Similarly to the high price node, the prices of the three steered results were modified in this node. In this case the prices for the top three results were reduced by 20% for car rental, and approximately 10% for holiday accommodation and consumer electronics. The remaining products have the same baseline prices.
Targeted advertising – Random sorting of search results	Previous search history	The advert was targeted in this scenario in the sense that the product shown is related to the current product the participant is searching for, as well as their previous search history. In this node the products shown in the search results are randomly sorted as in the baseline scenario.

Targeted advertising – Personalised ranking of offers sorting of search results	Previous search history - the car that the participant has previously bought, as well as the alternative cars they searched for, and other search information.	The targeted advert in this node is the same as in the first targeted advertising scenario node. The difference in this node is the targeted advert is combined with the personalised ranking of offers scenario sorting of search results, which will be used to investigate the impact of very significant personalisation (in both products and adverts).

Scenario and treatment allocation

- Figure 2 (overleaf) illustrates the high-level structure of the experiment through which respondents were allocated to different end treatment cells.

The experiment was structured so as to have a sample size per end cell of at least 100 respondents (the boxes in the lowest level of the diagram), whilst giving us the maximum amount of useful information from respondents. Note the numbers indicate the number of respondents out of the total of 6,400 going through each channel of the experiment.

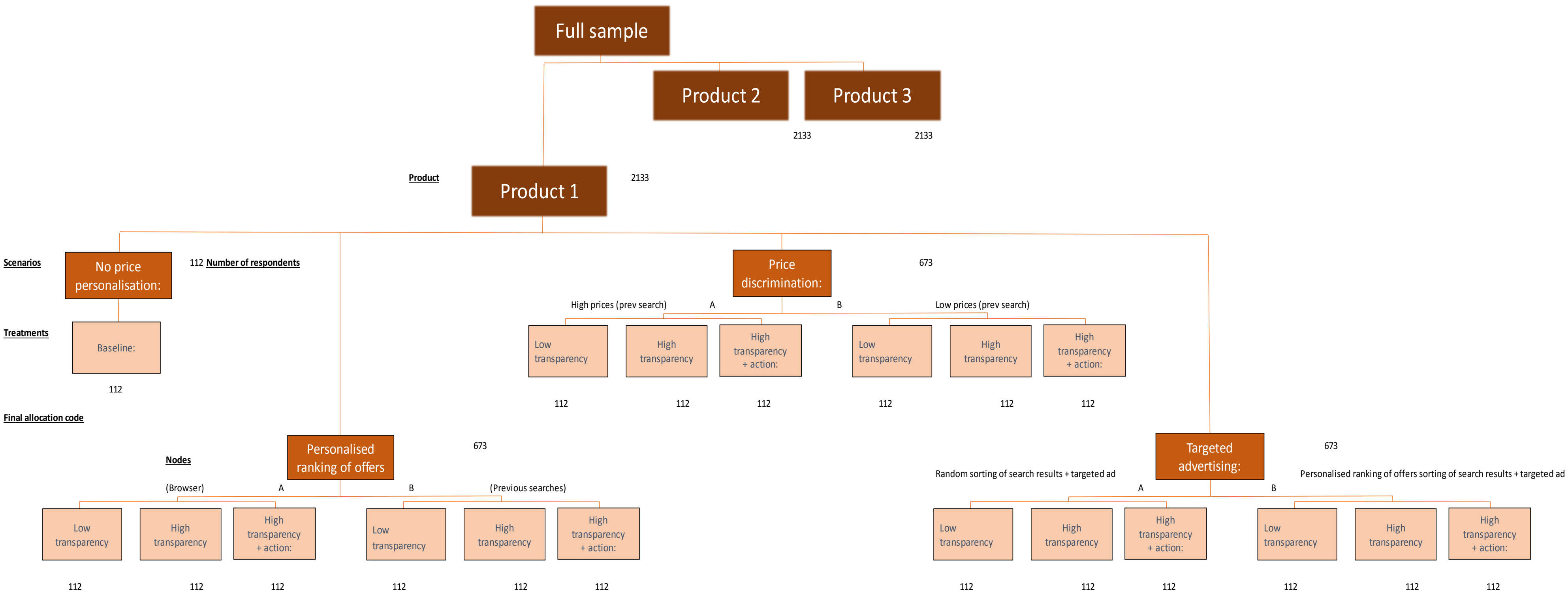
- The 6,400 respondents were allocated equally across the three *goods/services (car rental, holiday accommodation, or consumer elec*tronics) based upon their answer to the pre-experiment question, as explained above.

- Respondents were then randomly allocated across four scenarios:
    a. No personalisation – The baseline scenario where there is no personalisation of products, prices, or adverts;
    b. Personalised ranking of offers - The products shown in the search results are personalised;
    c. Price discrimination – The prices of the products shown in the search results are personalised; and
    d. Targeted advertising – The advertisement shown in the banner beside the search results is personalised.

- For those respondents allocated to one of the three price personalisation scenarios (personalised ranking of offers; price discrimination; and targeted advertising), respondents were then randomly allocated to one of two nodes, browser or previous search history for personalised ranking of offers (the variables upon which the personalisation will be based upon), high prices or low prices for price discrimination, and random sorting or steering sorting for targeted advertising.

- In the next level, those respondents allocated to one of the three personalisation scenarios were then randomly allocated again across three treatments:
    a. Low transparency (Least salient communication) – a low degree of transparency about personalisation (participants are not made aware of personalisation)
    b. High transparency (Most salient communication) – a high degree of transparency over personalisation
    c. High transparency +action (Most salient communication + action ‘clear cookies’ button) - a high degree of transparency over personalisation, and it is made easy for participants to take action in response to the personalisation

Figure 2 : High-level experiment structure



- For respondents allocated to the no personalisation scenario, there was no further allocation across multiple nodes and treatments. This is the baseline scenario with no personalisation, with the least salient communication treatment, against which the results of the other treatments will be compared to calculate the treatment effects.
- The treatments are set out in detail in A1.8.2.

Explanation of tasks and incentives

- The experiment began with an information screen providing an introduction to the experiment, outlining the tasks that respondents were asked to complete. The incentive structure was outlined[39], combined with information related to the importance of the study, and participants were also told that they would also be asked post-experiment questions where they would be required to explain the reasons behind their actions. This was to encourage 'good' behaviour during the experiment, so as to maximise the useful insights we can glean from the experiment.
- Before participants reached the experiment, there was considerable work undertaken to ensure a good quality panel of respondents was recruited. Ipsos uses an internal four-stage data quality process, which ensures that:
- Before becoming panel members, applicants are scrutinised by a complex validation system;
- Shortly after joining the panel, new members are tested again with a short survey. New panellists who are most likely to make intentional or unintentional errors on future surveys are deactivated at an early stage;
- Low engagement behaviour during a survey is detected and participants are removed; and
- Panellists' behaviour history across all surveys is tracked, with purging procedures employed based on behaviour history to remove bad and inactive panellists from the active panel.

Choice task

In this section we outline the choice task that respondents were asked to complete in the experiment. The task is illustrated using screenshots from the behavioural experiment for the baseline scenario case of no personalisation, for car rental. The experiment is a simplified setting compared to the real world. One of these simplifications is that we have designed the experiment to represent a situation in which a consumer/user has already provided consent to the storage of cookies. In Section A1.8.2 the treatments are introduced, and following that, screenshots of the experiment are displayed showing the different scenarios and treatments.

[39] The text respondents were shown regarding the incentive structure was the following: Following the completion of this exercise, you will be asked questions to understand the reasoning behind the actions you took, and questions relating to the task that have correct and incorrect answers for which you may receive additional survey points for answering correctly. Please answer all these questions to the best of your knowledge. The incentive structure was set-up in the following way. Participants were asked between 5 and 8 objective questions for which they could earn additional Ipsos points. Ipsos points can be transferred into vouchers that can be used to purchase products at well-known brand stores. Points were allocated in the following way, 50 points for the first 3 correct answers, and the next 50 points for an additional 2 correct answers. So somebody scoring correctly on 5 questions would be awarded the full 100 points, whether they were asked 5 or 8 objective questions, and did not penalise people who answered a larger number of objective questions. The allocation method for the objective questions and the point system can be found in the detailed scripting design documents.

Figure 3 : Baseline scenario - profile information text

Imagine you have recently made a purchase of a rental car service. Assume that when searching online for information and to complete the purchase, you did the following:

- Rented a **Fiat 500 3-door** for 4 days for **€ 31/day** in Italy last summer
- Looked at alternative 5-door hatchbacks including **VW Polo**
- Browsed for information related to **road trips around Portugal**, and about **hikes in mountainous regions**
- Used the **Safari browser** on your **iOS device** as your main browser for searching for and purchasing products

Assume that you are now looking to **purchase a rental car for a 4 day trip to Portugal this summer, and you are searching for a 5-door car.**

The next screen shows 8 scrollable search results you have been shown when searching for this rental car on an online car rental website. Please select the car you would choose to rent for your trip, **keeping in mind the information given to you about your previous search**.

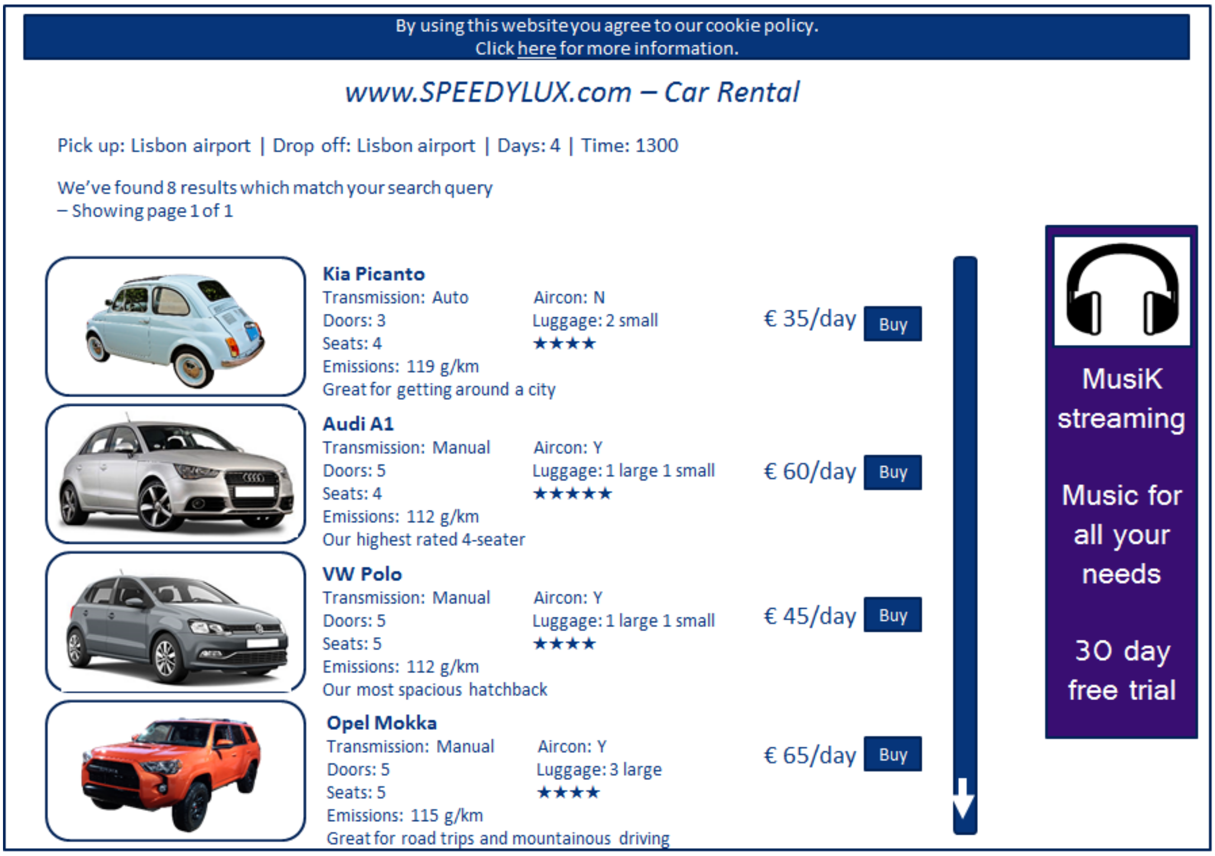
Source: London Economics analysis of online experiment data.

In the choice task participants were required to select a product to purchase. They were initially given some contextual information about a previous purchase and the search information related to it in the initial profile stage, and then tasked with selecting a product for a new purchase, which is linked to the previous purchase. For example for those respondents allocated to car rental, they were told that they had previously rented a car for a 4-day trip to Italy, and were now looking to rent a car for a future 4-day trip to Portugal, as shown above in Figure 3.

Figure 4 displays the results page of the baseline scenario, which will display 8 products, 4 of which are shown at the outset, with the next 4 viewable once the participant scrolls down the page. Figure 5 shows the privacy policy popup which appears if the cookie policy banner button is selected.

The full list of products for the three categories are displayed in Table 18 overleaf.

Figure 4 : Baseline scenario – results page



Source: London Economics analysis of online experiment data. The headphones icon is taken from The Noun Project & is attributable to Cak Badrun.

Figure 5 : Privacy policy screen

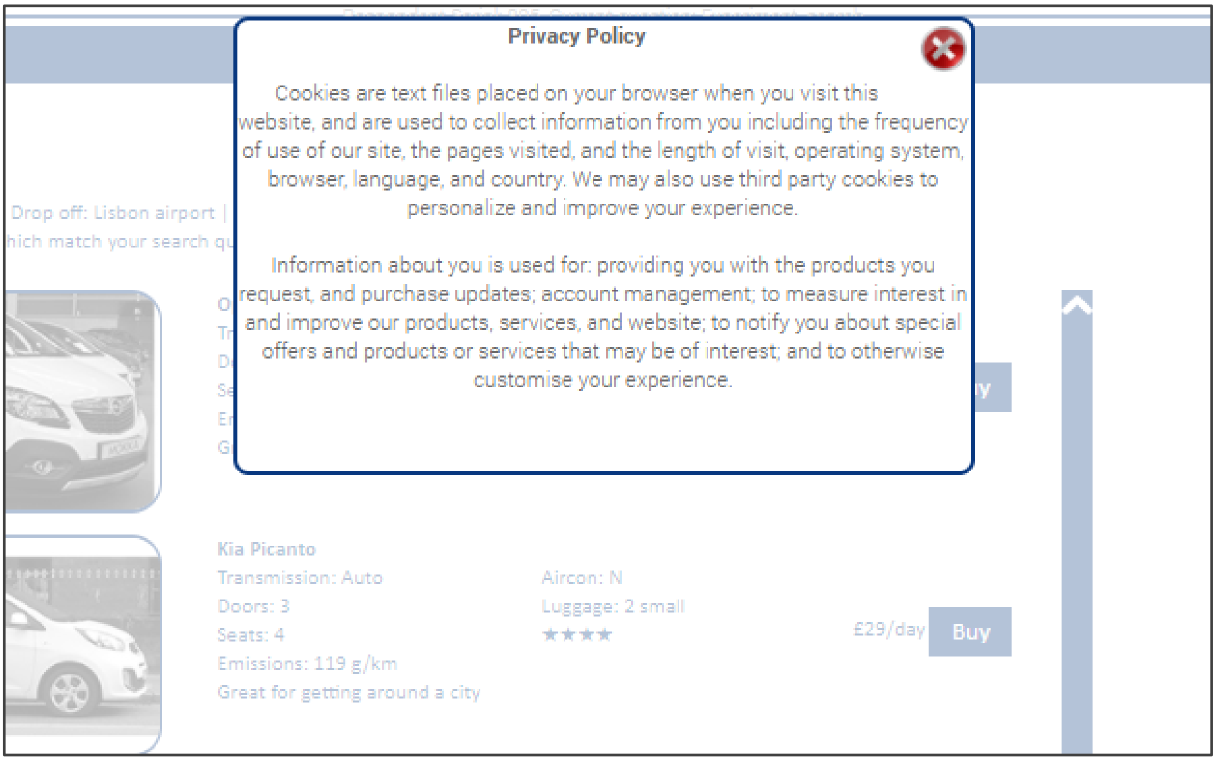


Table 18: Product selection

Image	Product description	Normal price (Eur)	High price (Eur)	Low price (Eur)
Car Rental (Prices are in Euros/day)				
	**Fiat 500** Transmission: Manual Aircon: Y Doors: 3 Luggage: 2 small Seats: 4 ★★★★ Emissions: 119 g/km Extremely light and responsive for city driving	31	38	25
	**Opel Mokka** Transmission: Manual Aircon: Y Doors: 5 Luggage: 3 large Seats: 5 ★★★★ Emissions: 115 g/km Great for road trips and mountainous driving	65	78	52
	**VW Polo** Transmission: Manual Aircon: Y Doors: 5 Luggage: 1 large 1 small Seats: 5 ★★★★ Emissions: 112 g/km Our most spacious hatchback	45	54	36
	**Kia Picanto** Transmission: Auto Aircon: N Doors: 3 Luggage: 2 small Seats: 4 ★★★★ Emissions: 119 g/km Great for getting around a city	35		
	**Smart Fortwo** Transmission: Auto Aircon: N Doors: 3 Luggage: 1 small Seats: 2 ★★★ Emissions: 97 g/km Fits in the smallest of parking spaces	30		
	**Audi A1** Transmission: Manual Aircon: Y Doors: 5 Luggage: 1 large 1 small Seats: 4 ★★★★★ Emissions: 112 g/km Our highest rated 4-seater	60		

Image	Product description	Normal price (Eur)	High price (Eur)	Low price (Eur)
	**Renault Clio** Transmission: Auto Aircon: Y Doors: 5 Luggage: 1 large 1 small Seats: 5 ★★★★★ Emissions: 103 g/km Travel in style	43		
	**Nissan Qashqai** Transmission: Manual Aircon: Y Doors: 5 Luggage: 3 large Seats: 4 ★★★★★ Emissions: 115 g/km Great for road trips and all terrain	70		
Consumer electronics				
	**SAMSUNG UE40KU6100 Smart 4K Ultra HD HDR 40" Cur** Size: 40” Curved screen 4K UHD Tuner: Freeview HD HDMI: x3 ★★★★ Great viewing angles	589	648	530
	**Hisense H50M3300 50 Inch 4K Ultra HD Smart LED TV** Size: 50” Flatscreen 4K UHD Tuner: Freeview HD HDMI: x2 ★★★★ Powerful TruSurround Audio for games and movies	565	622	509
	**SAMSUNG UE50KU6000 Smart 4k Ultra HD HDR 50" LED** Size: 50” Flatscreen 4K UHD Tuner: Freeview HD HDMI: x3 ★★★★★ Great for video games	726	799	653
	**LG 55UH668V Smart 4k Ultra HD HDR 55" LED TV** Size: 55” Flatscreen 4k UHD Tuner: Freeview HD & Freesat HD HDMI: x3 ★★★★ HDR offers brighter colours and greater contrast	766		
	**HITACHI 50 Inch Freeview Play Smart TV** Size: 50” Flatscreen Full HD 1080p Tuner: Freeview Play HDMI: x2 ★★★ Hitachi Smartvue app pre-installed	470		

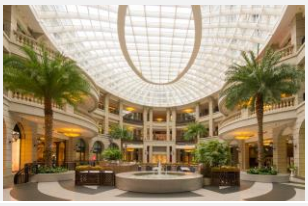
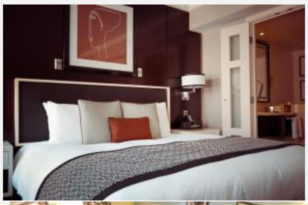
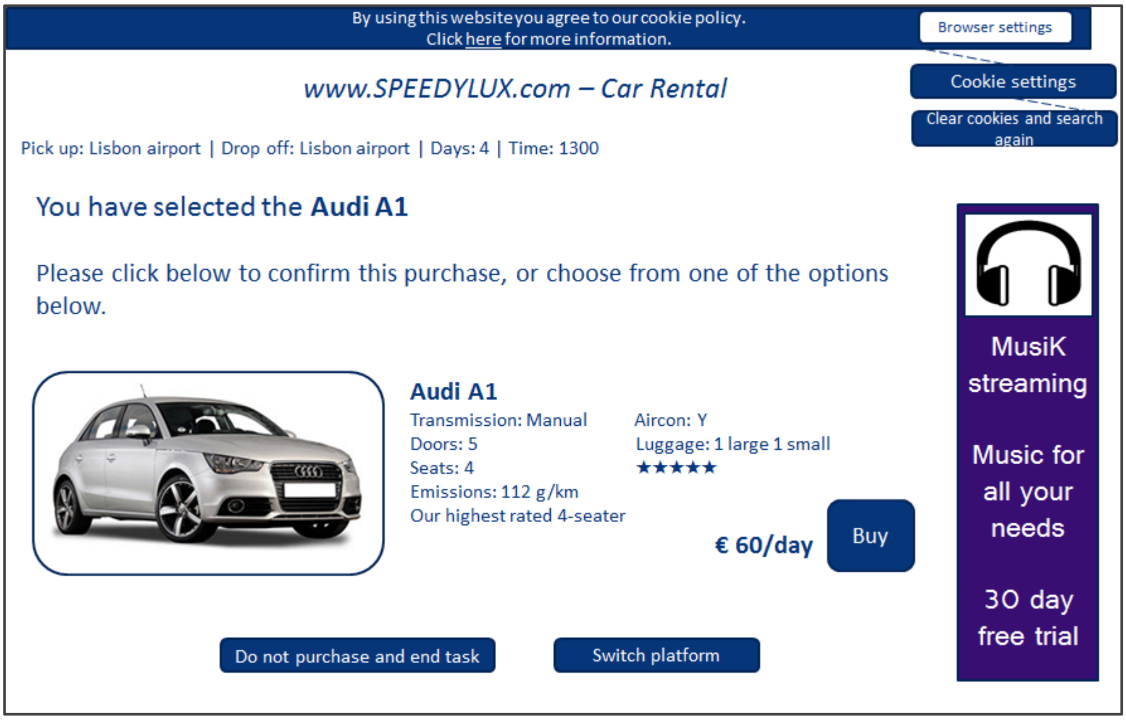
Image	Product description	Normal price (Eur)	High price (Eur)	Low price (Eur)
	**PANASONIC VIERA TX-50DX700B Smart 4k Ultra HD HDR** Size: 50” Flatscreen 4K UHD Tuner: Freeview HD HDMI: x2 ★★★★ Access 4k content on Netflix & Amazon Prime	703		
	**SONY BRAVIA KD50SD8005BU Smart 4K Ultra HD HDR 5** Size: 50” Flatscreen 4K UHD Tuner: Freeview HD & YouView HDMI: x4 ★★★★★ 4k Ultra HD is up to 4 times the resolution of HD	999		
	**PANASONIC VIERA TX-40DX600B Smart 4k Ultra HD 40"** Size: 40” Flatscreen 4K UHD Tuner: Freeview Play HDMI: x2 ★★★★ 10 year screen burn warranty	530		
<u>**Holiday Accommodation**</u>				
	**Belve hotel group - Albufeira** Breakfast: Y Very good 7.2 WiFi: Y Double room Outdoor pool: Y ★★★★ Large balcony rooms	689	758	620
	**Hotel Primavera** Breakfast: Y Excellent 8.9 WiFi: Y Double room penthouse Outdoor pool: Y ★★★★★ Access to beautiful private beach	1206	1327	1085
	**Villas and Apartments Isabel** Breakfast: N Very good 7.2 WiFi: Y Double room apartment Outdoor pool: Y ★★★★ Excellent self-catering facilities	782	860	704
	**Hotel Baltimar** Breakfast: N Good 6.9 WiFi: Y Twin room Outdoor pool: N ★★★ Walking distance to the old town	489		
	**Balear al sol hotel** Breakfast: Y Very good 7.8 WiFi: Y Double room Outdoor pool: Y ★★★★ Spa and wellness centre	771		

Image	Product description	Normal price (Eur)	High price (Eur)	Low price (Eur)
	**Torre Belver resort** Breakfast: Y Very good 7.7 WiFi: Y Double room Outdoor pool: Y ★★★★ Modern pool and exercise facilities	736		
	**Nolva Hotel** Breakfast: Y Good 6.5 WiFi: Y Twin room Outdoor pool: Y ★★★ Cosy atmosphere	539		
	**Santo Doma luxury resort** Breakfast: Y Excellent 8.2 WiFi: Y Double room Outdoor pool: Y ★★★★★ Sea-view balcony	1055		

The experiment environment was designed to be a price comparison website for the particular product they were tasked with searching for, and on the platform they were shown a page of search results. On this screen the actions a participant could take were as follows:

1. **Buy** – Select for purchase one of the eight products which they could scroll through.
2. **View privacy policy** – View the privacy policy and information related to cookies by clicking on the privacy banner at the top of the page.
3. **View advert** – The advert in the banner on the side of the search results was clickable (in the baseline, personalised ranking of offers and price discrimination scenarios this was a random advertisement (a product unrelated to the one they were searching for), and in the targeted advertising scenario this was a targeted advert). Once clicked on, a popup message was shown displaying information related to the timing of the offer with the text "Thank you for your interest in this offer. Offer valid for 30 days."

Figure 6 : Baseline scenario - confirmation page



Source: London Economics analysis of online experiment data. The headphones icon is taken from The Noun Project & is attributable to Cak Badrun.

Once participants selected a product they were taken to the product confirmation screen. They could choose to view the privacy policy and click on the advert as before, but they had four new key actions which could be taken at this stage:

1. **Buy –** The product is purchased and the experiment task ends
2. **Do not purchase and end task**– No purchase is made and task ends
3. **Search on a different platform** – Switch to another online purchase platform to continue searching. At this point respondents were routed to a slightly different looking search results page for a different provider (e.g. different page colours, website name etc.), showing the same **no personalisation** scenario, irrespective of which scenario they were initially in. This new platform displayed the same 8 products as was shown on the original platform but at random order.
4. **Browser settings – Cookie settings - Clear cookies and search again** – These clicks would have the impact of clearing of the cookies and searching again on the same platform. In order to clear cookies the respondent had to click on the 'browser settings' button in the banner, which opened the 'show cookies' popup button, which once clicked led to the 'clear cookies and search again' button being displayed. Clicking the clear cookies and search again button would then take participants into the **no personalisation** scenario, with the environment looking the same, except the option to clear cookies would no longer be available in this second 'run' through the experiment. Participants would then complete the product selection task again. (As will be discussed later, for participants in other personalisation scenarios, this action took them from a personalisation scenario/treatment into the baseline of no personalisation). Participants who started the 3-click process to clear the cookies could at any time choose to end the click process by clicking an 'x' button shown at the top of each of the three popups.

The decision to not proceed with a purchase, switch platform, and clear cookies and search again are three actions which we think consumers are likely to take as a result of becoming aware of personalisation of the offers they are seeing. Not proceeding with the purchase may be also an action that consumers take when they decide to end the online search process and instead for example purchase the product in a physical store or at a later stage, if online. Switching platforms and conducting the search again is a more common action which one would expect a consumer to take if they became aware of personalisation by a particular online retailer and decided to use another instead, or if they simply want to see the choice/prices offered by other online retailers. Finally, clearing cookies and searching again is a common consumer reaction to tracking and personalisation on websites which they like to use, but do not want to experience personalisation, e.g. particular travel websites and airlines.

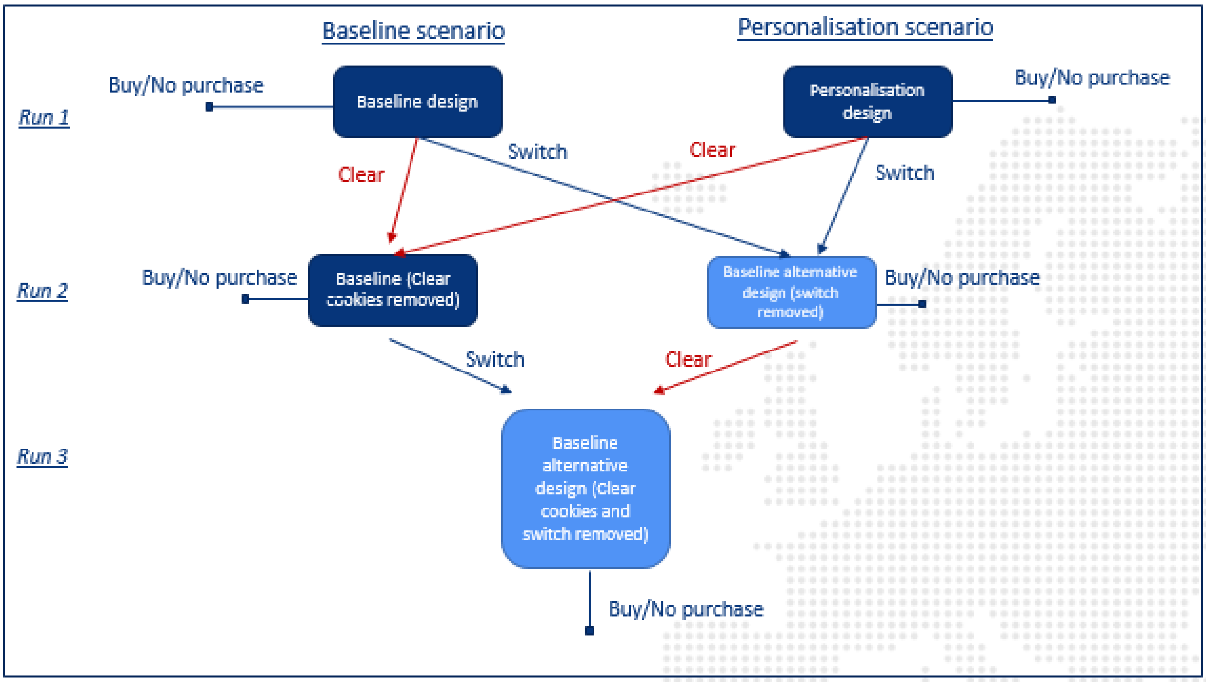
For participants selecting the switch platform, or the clear cookies and search again actions, participants went through a second 'run' of the experiment. In this second run, the choice task was the same, but the functionality was slightly changed, as the option they have just taken was not available a second time (so as to avoid a loop of participants selecting the same action over and over). This means that those who had just switched platform were not able to switch platform again (the search on a different platform button was removed), and those who just cleared cookies were not able to clear them and search again a second time (the button was removed).

Participants in the second run were able to take one of the actions they did not take in the first run, but were not be able to repeat the action they had just taken (e.g. a participant who switched platforms in 'run' one, could clear cookies and search again in 'run' two, but could not switch platforms again in 'run' two), and therefore go through the choice task a maximum of three times. For those participants who went through a third 'run' of the experiment, in this final run they had to either purchase the product, or not make a purchase. They were unable to switch platforms or clear cookies again.

The reasoning behind having the action buttons at the confirmation stage, and not appearing at the outset of the experiment on the search results page was to ensure that participants were exposed to all features of the treatment (discussed in the next section) they had been allocated to. By having the action buttons at the outset we risked participants in a remedy treatment switching away into the baseline scenario without having experienced all the features of the treatment, as some of these features would have only appeared at the confirmation stage. This would negatively impact upon the meaningful conclusions we would be able to draw from the choice task and the post-experiment questions.

The diagram below shows the different potential routings for a respondent in the baseline scenario, and in a personalisation scenario. All personalisation scenarios routed in the same way and thus the personalisation scenario in the diagram is applicable to personalised ranking of offers, price discrimination, and targeted advertising.

Figure 7 : Experiment routings



Outcome measures

The outcome measures from the choice task in the experiment are outlined in turn below. Objective and subjective post-experiment questions followed up on the actions that participants took during the experiment so as to understand in detail the thoughts and reasons behind each of the choices taken, as well as reactions to personalisation in and after the experiment, and how these differed by product, scenario, treatment, and also characteristics of the participants across the countries.

Table 19 : Outcome measures

Outcome measure	Description
Clearing cookies and searching again	Whether participants chose to delete cookies and search again once they become aware that personalisation has occurred.
Switching of platforms	Whether the possible awareness of personalisation resulted in respondents switching away from the particular provider.
Not purchasing the product	Whether the realisation that personalisation had occurred resulted in the participant choosing not to purchase any product at all and leave the platform (at which point the experiment would end).
Product selection	Whether participants differed in their product selections based on the scenario or treatment they were exposed to and the degree of personalisation.
Clicking on a targeted advert	Whether participants clicked to view the targeted advertisement during the product selection task.

Outcome measure	Description
Viewing cookie policy	Whether participants clicked the text in the cookie banner which opened up the privacy policy for the online platform.
Timers	Another potential outcome measure is the time which participants spent on certain screens, e.g. examining how the time spent reading the privacy policy varied depending on treatment.
Questions answered correctly	For objective questions asked after the experiment task, the proportion of respondents answering questions correctly and how this varied between across the different permutations of products, scenarios, and treatments.

A1.8.2 Behavioural experiment treatments

Here we outline the three treatments tested in the experiment:

1) Low transparency (Least salient communication);
2) High transparency (Most salient communication); and
3) High transparency + action (Most salient communication + action 'clear cookies' button)

Low transparency (Least salient communication)

The low transparency treatment can be seen as the current practices treatment, where the fact that the respondent may be exposed to personalisation (in either personalised ranking of offers, price discrimination, or targeted advertising) is not made clear to them. This treatment can be seen as the current market practice treatment, given the fact that in many cases where personalisation has been found to occur in the literature, it has required careful methodology design to be able to uncover these instances of personalisation in field experiments (e.g. Hannak et al 2014).

High transparency (Most salient communication)

The high transparency treatment is the first of the two 'remedy' treatments in the experiment, and aims to test the impact of increased transparency over the incidence of personalisation.

The reasoning behind the remedies is that the communication methods used by e-commerce sites may potentially be improved on. For example, while messages may tell consumers a website uses cookies and this information may be prominent, the information about what cookies actually do, and how consumers' data is used, may not be clear. In this treatment more information is provided about potential personalisation within the cookie banner.
The fact that personalisation was occurring was presented through various measures in this treatment. The measures were as follows:

- Subtle information – text towards the top of the search results screen showing that results have been filtered by "recommended" (as opposed to being randomly sorted)
- Text below individual results - "based on your recent purchases", "based on your previous search history", or "based on your device and internet browser".

- Text below the targeted advertisement to indicate the information on which the advert has been targeted ("based on your previous search history").
- An additional sentence in the cookie banner making personalisation more salient – "Websites can use cookies to personalise what you see based on your browsing data"
- An additional sentence at the product confirmation screen explicitly stating that there has been some personalisation of the results, which varied by scenario as follows[40]:
  - Personalised ranking of offers: "Some of the cars shown were recommended so as to provide you with the most relevant products."
  - Price discrimination: "The prices of some of the cars were recommended for you."
  - Targeted advertising: "Some of the cars shown were recommended so as to provide you with the most relevant products." (For those in the steering sorting node of targeted advertising)

Post-experiment questions asked respondents about their experience completing the experiment purchase task will be used to understand the impacts which different pieces of information had on the thoughts and actions of participants during the purchase task, given the differences in subtlety about personalisation in the different information features.

High transparency + action (Most salient communication + action 'clear cookies' button)
The third treatment contained the same remedy information as the second treatment (most salient communication), but made it easier for participants in this scenario to clear cookies and search again.

In treatments 1 and 2, for participants to clear cookies and search again, they had to go through a three-step click process. This would mimic the process (and most importantly, the effort) of taking the steps within a browser to clear the cookies in real life, where consumers will have to navigate a few screens or menus of options. In this third treatment the process is simplified by having a one-click process. This one click process simulates a situation in which the effort involved to clear cookies is reduced (from a three step process to one step) and the clear cookies action is made more salient (from a small button shown at the top of the screen to a large button shown in the middle of the screen). The experiment makes no suggestion that the one click button should be shown on the webpage rather than the browser. The location would need to be determined based on feasibility. The learnings that can be taken from the experiment is whether making clear cookies easier and more salient has an impact on behaviour. In addition, within the experiment, if a participant chose to clear cookies then all personalisation was removed and they were taken to the no personalisation baseline within the same website.

As mentioned earlier, across all treatments we will make use of post-experiment questions so as to pin down the particular features of the treatment which had the most impact upon the thoughts and behaviours of participants. This is particularly important in this treatment as it combines both salient information, and ease of action, so participants were asked questions to understand which particular features have the most impact, and how the combination of more information and ease of action works. Post-experiment questions are discussed in A1.8.4.

A1.8.3 Scenario and treatment mockups

In this section a selection of screenshots from the experiment are presented to illustrate the different personalisation scenarios, and the different treatments. Between the six examples (two out of six end cells for each scenario are shown), each of the scenarios, nodes, and treatments are illustrated at least once. The combination of scenario and treatments shown as examples are outlined in the table below. For the second screenshot

[40] The sentences provided are for the car rental product. The text was modified by scenario to reflect the product a participant had been allocated to.

for each scenario, just the product selection stage is shown, to highlight the differences in this stage, as the confirmation stage will be the same between two nodes for the same scenario and treatment.

Table 20 : Mock-ups shown

Scenario	Node	Treatment
Personalised ranking of offers	Previous search history	High transparency
Personalised ranking of offers	Browser	High transparency
Price discrimination	High prices	High transparency + action
Price discrimination	Low prices	High transparency + action
Targeted advertising	Random sorting of results	Low transparency
Targeted advertising	Steering sorting of results	High transparency

Additional text added to the remedy treatments is shown in red on the product selection screen/on the targeted advertisement, and in bold blue on the product selection and confirmation screen. The profile text information screen is the same as in the baseline scenario, and has been omitted in the following examples.

Personalised ranking of offers– previous search node (high transparency)

In this scenario the product mix which is shown to participants is personalised, on either browser, or previous search history. In the example which follows, the participant has been allocated to the previous search history node, and is in the high transparency treatment.

Figure 8 : Personalised ranking of offers scenario - product selection stage (previous search history node)

Source: London Economics analysis of online experiment data. The headphones icon is taken from The Noun Project & is attributable to Cak Badrun.

The screenshot shows the first four of the eight search results that participants would see at the product selection stage. The scroll bar allows participants to scroll down the list and see the remaining four products. The first three results are the steered results which are based on the previous search and purchase history; the first product is the car the participant is told they have previously rented, and products two and three are based upon the previous search history (car 2 is linked to the search about road trips and driving in mountainous terrain, and car 3 is an alternative car that the participant is told they had previously looked at when searching). The remaining five products are randomly sorted i.e. the order of the remaining five products is randomly generated for each participant.

The page of search results has three additions due to having the high transparency treatment overlay, which were described in the previous section as measures to make the price personalisation more salient to the participant. The first is the additional sentence in the cookie banner, "Websites can use cookies to personalise what you see based on your browsing data". The second is the subtle indication of personalisation of the product mix by displaying, in bold the "Sorted by: Recommended" indicator, to show that the results have been sorted by a personalisation algorithm. The final addition is the text below the top three individual results showing that the particular products are being shown based on previous online activity.

Figure 9 : Personalised ranking of offers scenario - confirmation stage

Source: London Economics analysis of online experiment data. The headphones icon is taken from The Noun Project & is attributable to Cak Badrun.

At the confirmation stage there is an additional sentence added to state explicitly to the participant that personalisation has occurred. In post-experiment questions the participants were asked about their awareness of personalisation during the experiment, and we will examine at which stage this personalisation became apparent, to allow us to examine which features of the environment work best with regards to awareness, and the different impacts of these features on the different actions taken.

Personalised ranking of offers– browser node (high transparency)

The product selection stage screen for the browser node is shown below (the confirmation stage is unchanged between nodes in a given scenario). The sorting of the results is unchanged from the previous search history node, with the difference being the remedy text displayed below the top three results.

Figure 10 : Personalised ranking of offers scenario - product selection stage (browser node)

Source: London Economics analysis of online experiment data. The headphones icon is taken from The Noun Project & is attributable to Cak Badrun.

Price discrimination – high prices node (high transparency + action)

In this scenario the prices of the product shown to participants are modified based on the previous search history of participants. Price discrimination is a more subtle form of personalisation than personalised ranking of offers, and in many cases consumers will not be able to tell that there have been changes to the prices they are seeing. In the price discrimination scenario, the prices of the products which the previous search history of the participant indicates the participant may be more likely to purchase (i.e. the top three results in the personalised ranking of offers scenario shown above), are modified. For the car rental product category, the three steered results have their prices increased by approximately 20% (this is approximately 10% in the holiday accommodation and consumer electronics products). The initial profile information screen which tells participants about their previous search and purchase history includes the price that participants have supposedly paid for their previous purchase. Given that one of the steered products which has its price modified is the product which participants are told they have previously purchased, this may make participants aware that price discrimination has occurred on the platform they are currently purchasing on.

In the example which follows, the participant has been allocated to the high transparency + action treatment.

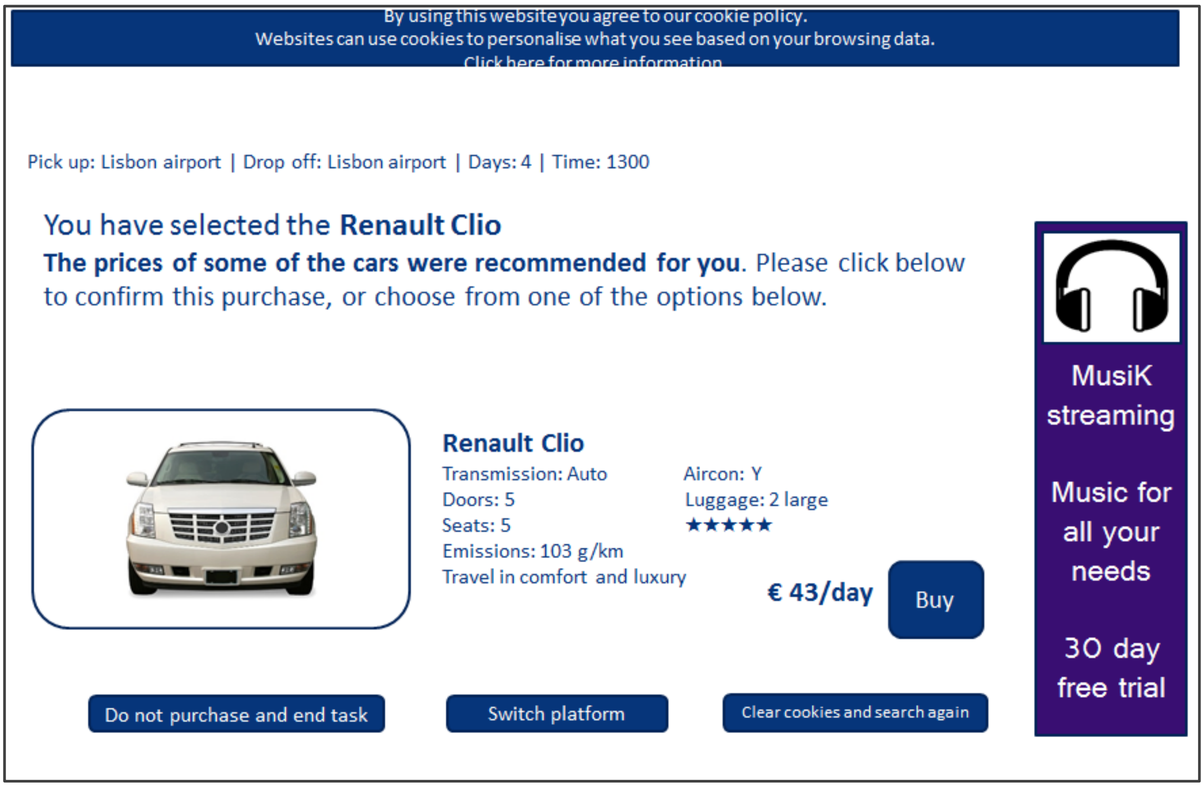
Figure 11 : Price discrimination scenario - product selection stage (high prices node)

Source: London Economics analysis of online experiment data. The headphones icon is taken from The Noun Project & is attributable to Cak Badrun.

As is shown in the screenshot, the prices of the three steered results are approximately 20% higher in this scenario node compared to the baseline prices. The prices of the remaining results are unchanged. The ordering of the top three steered results is randomised (across the top three positions) so that the ordering in the price discrimination scenario is not exactly the same as in personalised ranking of offers, and the remaining five results are randomly sorted too.

As in the high transparency treatment, there are three ways in which personalisation is made more salient to participants. The first is the additional sentence in the cookie banner. The second is the indicator of the variable on which personalisation has occurred, which in this case is the previous search history. Finally just like in the personalised ranking of offers scenario, the 'sorted by: Recommended' is shown in bold to indicate that the ordering of the search results has been personalised in some way.

Figure 12 : Price discrimination scenario - confirmation stage



Source: London Economics analysis of online experiment data. The headphones icon is taken from The Noun Project & is attributable to Cak Badrun.

At the confirmation stage participants in this scenario will also see a statement telling them that there was some personalisation of the offers they were shown ("the prices of some of the cars were recommended for you"). The difference between the high transparency + action and the high transparency treatment is the addition of the button in the bottom right of the screen, 'clear cookies and search again'. Whilst participants in the first two treatments can clear cookies and search again via a three step process of clicks from the browser settings banner located at the top right of the screen (see Figure 9), in this treatment participants can take the same action with one click.

Price discrimination – low prices (most salient communication + action)

The product selection stage screen for the low prices node is shown below (the confirmation stage is unchanged between nodes in a given scenario). The difference here is the price of the three steered results which is reduced by 20%, with the remedy text remaining unchanged.

Figure 13 : Price discrimination scenario - product selection stage (low prices node)

Source: London Economics analysis of online experiment data. The headphones icon is taken from The Noun Project & is attributable to Cak Badrun.

Targeted advertising – random sorting node (low transparency)

The example shown below is the targeted advertising scenario, for the random sorting node, in the low transparency treatment. As this is the low transparency treatment the environment looks much like that shown in the baseline scenario example (and products are randomly sorted as in the baseline scenario i.e. the order of products is randomly generated for each participant), with the exception of the targeted advertisement. As personalisation in this case is based on previous search history, the targeted advert is related to the present purchase that the participant is undertaking, as well as their previous search history.

Figure 14 : Targeted advertising scenario - product selection stage (random sorting node)

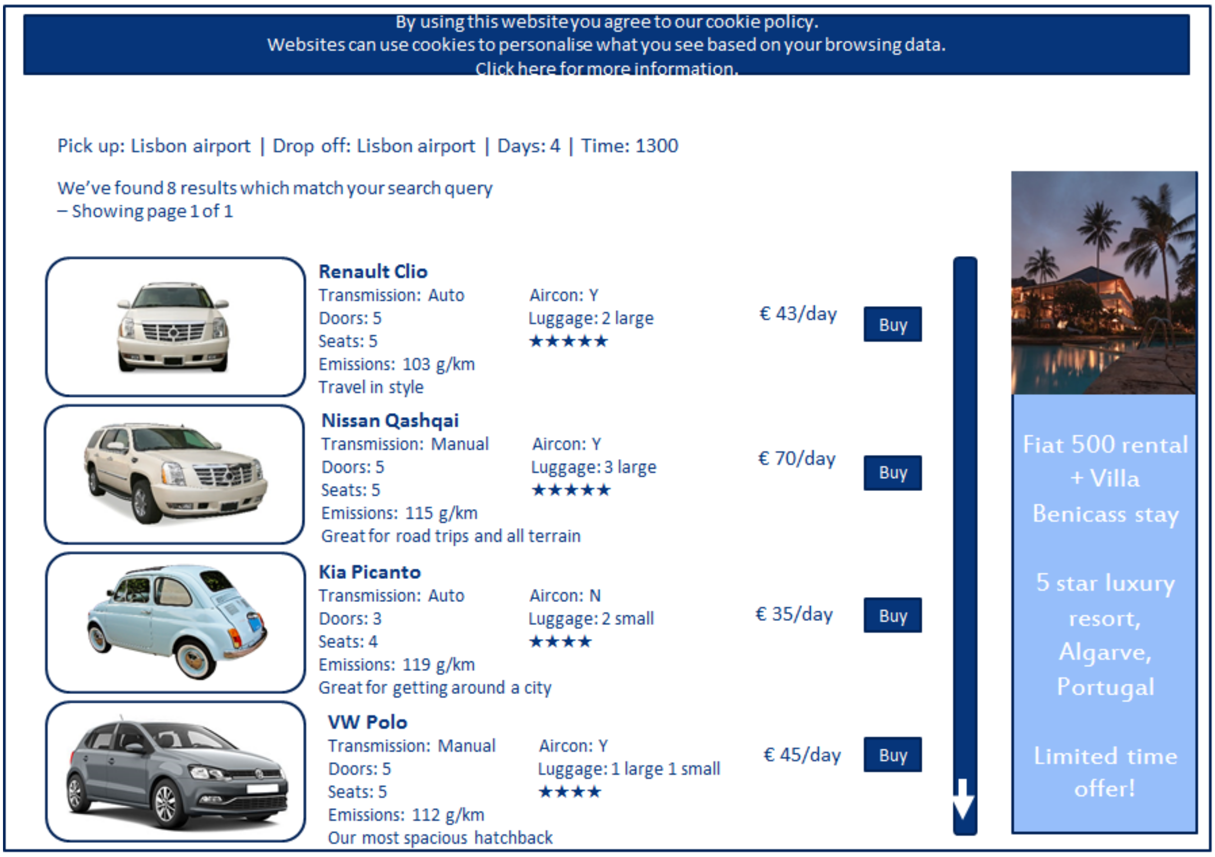
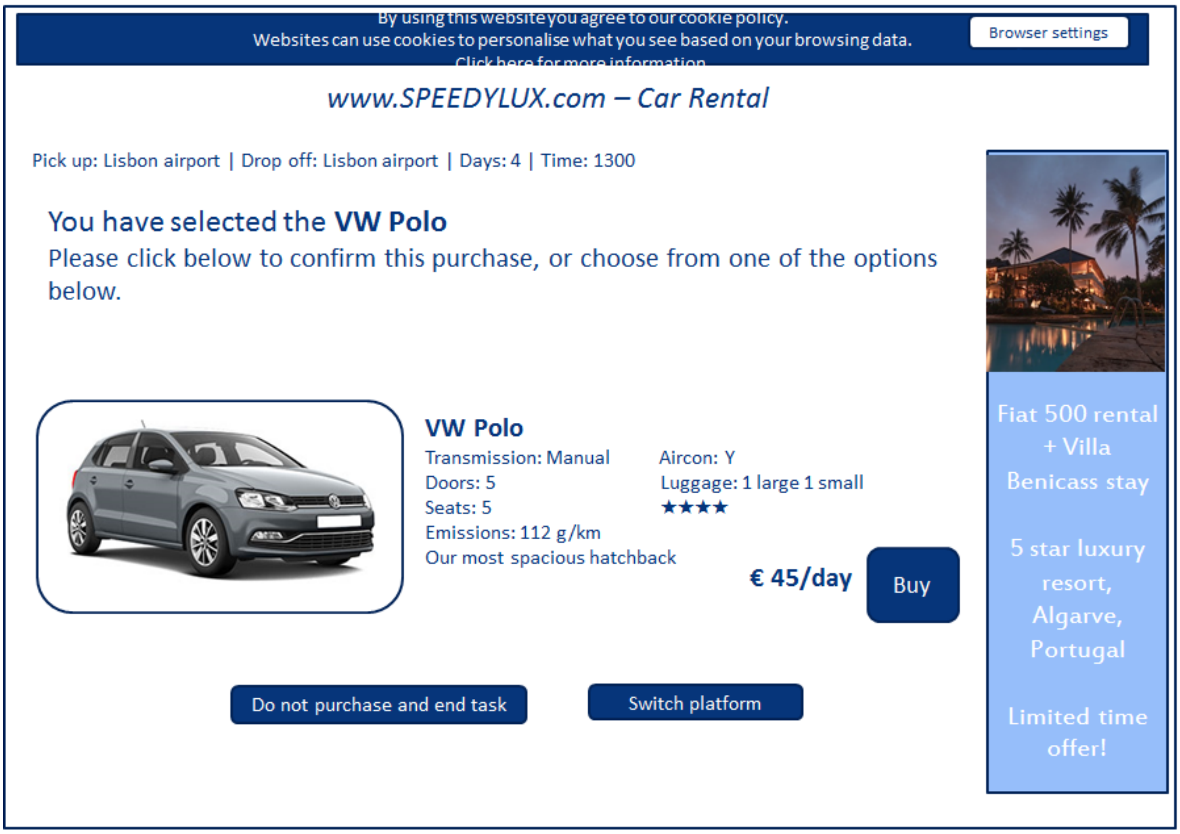


Figure 15 : Targeted advertising scenario - confirmation stage



One of the outcome measures in this scenario is whether participants click on the targeted advertisement during the duration of the choice task. However, from a policy point of view this will not be very meaningful on its own. Therefore, the action in the choice task is supplemented with insights from the post-experiment questions, which were used to examine the impact that the appearance of a targeted advertisement in the environment had on awareness of personalisation, and also how this impacted upon other actions taken in the choice task, such as clearing cookies and switching platforms, and comparisons can be made across scenarios.

What may be more interesting still, is the combination of a targeted advertisement with personalised ranking of offers, to examine the impact on behaviour and views of participants when personalisation could be considered 'intrusive'. The product selection stage of the personalised ranking of offers node is shown below, for the most salient communication treatment.

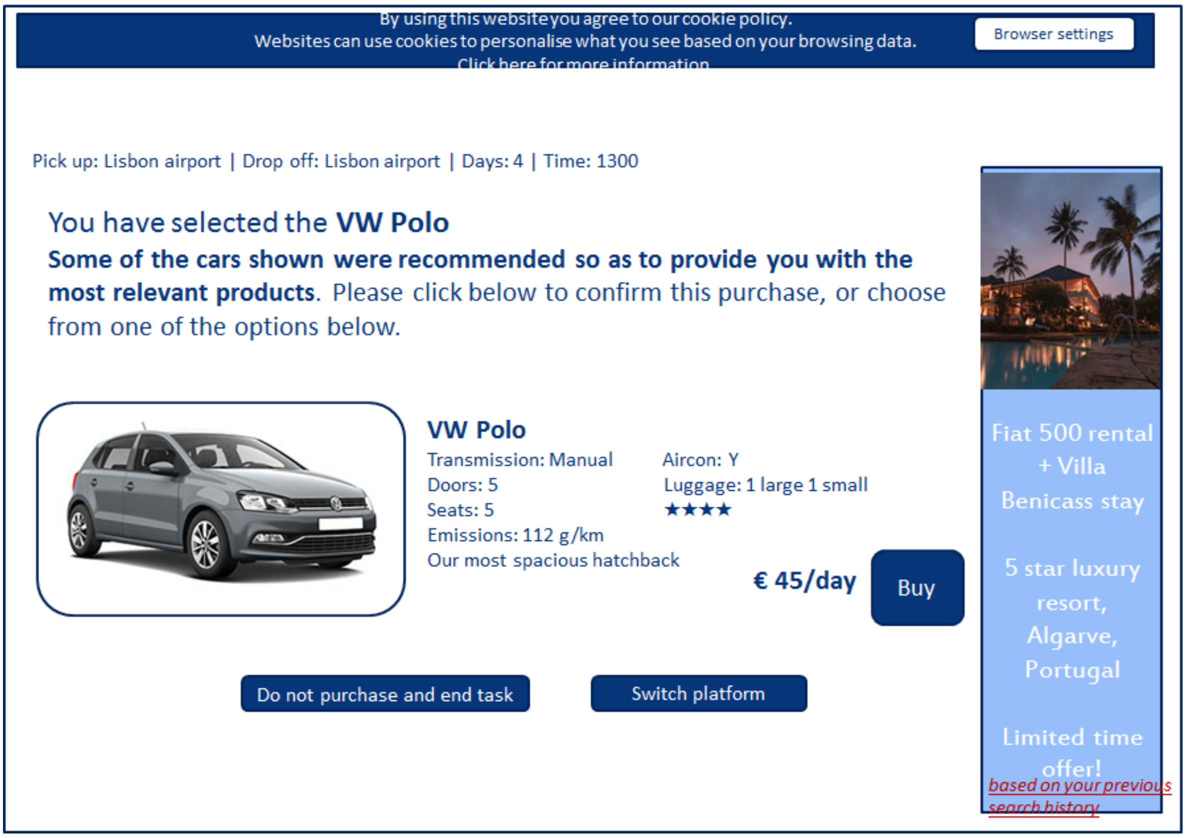
Targeted advertising – Personalised ranking of offers sorting (high transparency)

The product selection stage screen for the steering sorting is shown below. The difference here is the order of the products in the search results, which is the same as in the personalised ranking of offers scenario based on previous search history.

Figure 16 : Targeted advertising scenario - product selection stage (steering sorting node)

At the confirmation screen, participants allocated to this scenario see the same confirmation screen as in personalised ranking of offers, because as well as the targeted advertisement, participants in this node of targeted advertising see results which are ordered as in personalised ranking of offers. For those participants in high transparency treatments, the confirmation screen has the text "Some of the cars shown were recommended so as to provide you with the most relevant products." as in the high transparency treatments for personalised ranking of offers. Note that also because of the high transparency mode, the targeted ad has an underlined statement denoting 'based on your previous history'.

Figure 17 : Targeted advertising scenario - confirmation stage (steering sorting node)



A1.8.4 Post-experiment questions

As well as pre-experiment questions, the behavioural experiment contained post-experiment questions (contained within the maximum 15-minute experiment), which will be used to provide richer insights into respondent behaviour in the experiment. The post-experiment questions were a mix of objective and subjective questions. Objective questions assessed the observation awareness and understanding of personalising pricing/offers, the subjective questions focused on subjective preferences regarding the willingness to proceed with a purchase based on the personalisation or remedy treatment experienced, and attitudes and feelings towards personalisation, as well as exploring the reasons behind the choices that participants took in the experiment.

Each of the question types are discussed in turn in the following sections.

Research questions addressed by objective questions

The following research questions from the ToRs are addressed through the objective questions:

- RQ 13: "To which extent are consumers aware about whether an offer is personalised or not? Are consumers aware of having paid a higher price or being shown different products than others as a result of online firms having tracked their behaviour or otherwise used their personal data? If so, do they link the personalisation to the device they were using, the operating system, their history of clicks/purchases etc.?"
- RQ 18: "To what extent do consumers know and understand what companies and online traders do with the personal data gathered about them and how the information is subsequently exploited?"

- RQ 27: "To what extent do personalised pricing/offers limit the ability of consumers to decide, choose and switch supplier?"
- A secondary research question which will be addressed by the whole experiment is:
- RQ 21: "Are consumers that belong to certain socio-demographic groups more negatively affected by such practices? Can we observe any typical differences between EU Member States/regions in this regard?"

Outline of questions

The questions are used to assess the extent to which participants observed and understood whether the platform they were using to purchase their product in the experiment was personalising pricing/offers, and about their awareness of personalisation more broadly. We have used comprehension questions, rather than other tasks such as selecting the cheapest product. This is because we follow the literature in being agnostic about whether personalised pricing is welfare-reducing for consumers overall (i.e. by charging consumers the maximum they are willing to pay for a product, rather than by improving product matches and/or reducing prices).

Research questions addressed by the subjective questions

The following research questions are addressed through this task:

- RQ 15: "Do consumers feel that their shopping experiences should be more or less personalised?"
- RQ 16: "Do consumers who have experienced personalised ranking of offers believe these had an influence on their decision to purchase? How do personalised ranking of offers affect consumer choice? To what extent can personalised pricing/offers confuse consumers?"
- RQ 17: "Do consumers feel comfortable about their personal data being used by online firms in order to provide them with personalised ranking of offers and how concerned are they with such practices? Would they feel less satisfied if they learnt about the nature of the pricing techniques used by online firms?"

Another research question which the supplementary questions may *indirectly* feed into is:

- RQ 30: "What are the costs/benefits and how are they distributed between consumers and online firms? Assessment of the economic value of personalised pricing/offers via means of economic modelling. The impact on the broader economy should also be estimated."

This is because the subjective preference will capture respondents' preferences over online environments, and specifically their willingness to proceed to online purchases depending on how transparently information about data usage is communicated to them. Therefore, the behavioural experiment can be used to explore how personalised pricing (and its communication) may have an impact on purchases.

Outline of questions

The questions in this part of the survey seek to examine the reasoning behind the decisions that participants took in the experiment, e.g. why they made the decision to switch platforms once they reached the confirmation stage. There are also questions exploring the willingness to proceed to a purchase (e.g. "If you were buying this product, would you proceed to a purchase?") and the reasons for which the participant may or may not want to proceed.

These subjective questions will give us richer insights into which specific features of the scenarios and treatments had the greatest impact on behaviour, and the reasons behind this.

A1.9 Post-experiment questionnaire

A1.9.1 Post: Objective questions

Directly after the respondents have completed the experiment they will be asked a series of questions.

PP1_Intro

Thank you for completing the simulated online platform exercise. You will now be asked questions based upon the task you completed. Please answer all these questions to the best of your knowledge.

The first set of questions that will be asked are about the platform you completed the task on, for which there are right or wrong answers, where you can win additional survey points. In total for these, you can win up to 100 points for correct answers, and you cannot lose any of your initial survey points for participating in the survey.

Later you will then be asked questions to understand the reasoning behind the actions you took in the exercise, and on your preferences and views. These questions do not have right or wrong answers. You should answer these questions based on your experience in the experiment and your own opinions.

[ASK PP1 TO ALL]

- PROGRAMMER: IF ALLOCATED TO PRODUCT=CR INSERT "Rental cars", IF ALLOCATED TO PRODUCT=HO INSERT "Holiday accommodation options", IF ALLOCATED TO PRODUCT=TV INSERT "TVs".
-
- PP1. Thinking about the [insert product] you just saw in the search results, in your opinion which of the following best describes **the order** in which they were shown to you?
-
- PROGRAMMER: RANDOMISE ORDER OF OPTIONS 1 TO 3 BELOW, KEEP OPTION 9 LAST.

[PROG: SA]

1. The order of the products had no particular pattern
2. The order of some of the products was based on my previous searches shown to me at the beginning of the exercise
3. The order of some of the products was based upon the device and internet browser I was told I used for my previous searches shown to me at the beginning of the exercise
9. Don't know [FIX POSITION]

[ASK PP2 TO ALL]

PROGRAMMER: IF ALLOCATED TO PRODUCT=CR INSERT "Rental cars", IF ALLOCATED TO PRODUCT=HO INSERT "Holiday accommodation options", IF ALLOCATED TO PRODUCT=TV INSERT "TVs".

PP2. Thinking about the [insert product] you just saw, in your opinion which of the following best describes **the prices** of the products shown to you?

PROGRAMMER: RANDOMISE ORDER OF OPTIONS 1 TO 3 BELOW, KEEP OPTION 9 LAST.

[PROG: SA]

1. The prices of the products shown had no particular pattern
2. The prices of some of the products seemed high compared to my previous searches shown to me at the beginning of the exercise
3. The prices of some of the products seemed low compared to my previous searches shown to me at the beginning of the exercise
9. Don’t know [FIX POSITION]

[ASK TO ALL]

PP3. Was there an advertisement on the screen just shown to you?

[PROG: SA]

1. Yes
2. No

IF YES AT PP3 [PP3=1] THEN ASK PP3a, OTHERWISE GO TO PP4

PP3a. Thinking about the advertisement you just saw, in your opinion which of the following best describes **the product that was advertised**?

PROGRAMMER: RANDOMISE ORDER OF OPTIONS 1 TO 3 BELOW, KEEP OPTION 9 LAST.

PROGRAMMER: IF IN BASELINE (CR1 or TV1 or HO1), PRICE STEERING (CR2-CR7 or TV2-TV7 or HO2-HO7) OR PRICE DISCRIMINATION (CR8-CR13 or TV8-TV13 or HO8-HO**13**) SCENARIOS INSERT “music service” INTO OPTIONS 1 AND 2, INSERT “on demand video streaming service” INTO OPTION 3

IF IN TARGETED ADVERTISING SCENARIO FOR PRODUCT=CR (CR14-CR19) INSERT “villa with a rental car” INTO OPTIONS 1 AND 2, INSERT “on demand video streaming service” INTO OPTION 3

IF IN TARGETED ADVERTISING SCENARIO FOR PRODUCT=TV (TV14-TV19) INSERT “TV with a games console” INTO OPTIONS 1 AND 2, INSERT “on demand video streaming service” INTO OPTION 3

IF IN TARGETED ADVERTISING FOR PRODUCT=HO (HO14-HO19) INSERT “hotel room with a rental car” INTO OPTIONS 1 AND 2, INSERT “on demand video streaming service” INTO OPTION 3

[PROG: SA]

1. The product was a [insert product] and it was shown by chance or randomly
2. The product was a [insert product] and this type of product was based on the information on my previous searches shown to me at the beginning of the exercise
3. The product was a [insert product] and it was shown by chance or randomly
9. Don’t know [FIX POSITION]

PROGRAMMER ASK PP4 TO ALL

PP4. Thinking again about the screens you just saw, was there information provided to you that explained how the website may use your personal or browsing data?

[PROG: SA]

1. Yes
2. No
9. Don't know

IF YES AT PP4 [PP4=1] THEN ASK PP5

PP5. And according to the information provided to you, how may the website use your personal information? Please select all that apply.

PROGRAMMER: RANDOMISE ORDER OF OPTIONS 1 TO 4 BELOW, KEEP OPTION 9 LAST

[PROG: MA]

1. To send me free gifts and vouchers to reward me for my loyalty
2. To tailor or target products shown to me based on my personal information (e.g. previous searches, or type of browser I use)
3. To notify me of special deals
4. To improve the goods and services offered by the website
9. Don't know [EXCLUSIVE]

PROGRAMMER SHOW PP6 TO RESPONDENTS WHO SWITCHED SCREENS IN ALL SCENARIOS

PP6. In the previous screens when you chose to search again on a different platform, what impact did this have on the search results that you were then shown? Please select all that apply.

PROGRAMMER: RANDOMISE ORDER OF OPTIONS 1TO 5 BELOW, KEEP OPTION 9 LAST

[PROG: MA]

1. There was no change [EXCLUSIVE]
2. The order of products was different
3. The prices of products were different
4. The advertisement was different
5. The results were less related to the information on my previous searches shown to me at the beginning of the exercise
9. Don't know [FIX POSITION, EXCLUSIVE]

PROGRAMMER SHOW PP7 TO RESPONDENTS WHO 'CLEARED COOKIES' IN ALL SCENARIOS

PP7 In the previous screens when you chose to clear your cookies, what impact did this have on the search results that you were then shown? Please select all that apply.

PROGRAMMER: RANDOMISE ORDER OF OPTIONS 1 TO 5 BELOW, KEEP OPTION 9 LAST

[PROG: MA]

1. There was no change [EXCLUSIVE]
2. The order of products was different
3. The prices of products were different

4. The advertisement was different
5. The results were less related to the information on my previous searches shown to me at the beginning of the exercise
9. Don't know [FIX POSITION, EXCLUSIVE]

[PROG: IF RESPONDENT QUALIFIED FOR EXTRA POINTS]

You have now completed this section of the survey. You have won a total of [PRG: INSERT POINTS] additional survey points.

You will now be asked a series of questions on the decisions you took in the experiment, and on your views and preferences. These are subjective questions where there are no right or wrong answers, so please answer honestly and to the best of your knowledge.

[PROG: IF RESPONDENT DIDN'T QUALIFY FOR EXTRA POINTS]

You have now completed this section of the survey. For these experiments you have not qualified to receive any additional survey points.

You will now be asked a series of questions on the decisions you took in the experiment, and on your views and preferences. These are subjective questions where there are no right or wrong answers, so please answer honestly and to the best of your knowledge.

A1.9.2 Post: Subjective questions

Product choice

ASK PP8 TO RESPONDENTS WHOSE LAST ACTION TAKEN IN THE EXPERIMENT IS TO SELECT 'BUY' OPTION ON FINAL CONFIRMATION SCREEN IN ALL SCENARIOS

PP8. What were your reasons behind selecting for purchase the particular product that you did? Please select all that apply.

PROGRAMMER: RANDOMISE ORDER OF OPTIONS 1 TO 5 BELOW

[PROG: MA]

1. I liked the look of the good/features of the service
2. I thought the product was cheap (bearing in mind the price I was told I had previously paid for a similar type of product)
3. I thought the price of the product was fair (bearing in mind the price I was told I had previously paid for a similar type of product)
4. The good/service matched the criteria I was required to meet
5. The product related to the one I previously searched for/bought

Awareness

ASK PP9 TO ALL RESPONDENTS IN ALL SCENARIOS

PROGRAMMER:

Insert 1: IF IN BASELINE (CR1 or TV1 or HO1) INSERT "product selection, prices and/or adverts" IF IN PRICE STEERING SCENARIO (CR2-CR7 or TV2-TV7 or HO2-HO7) INSERT "Product selection", IF IN PRICE DISCRIMINATION (CR8-CR13 or TV8-TV13 or HO8-HO13) INSERT "Product selection and prices", IF IN TARGETED ADVERTISING (RANDOM SORTING NODE) (CR14-CR16 or TV14-TV16 or HO14-HO16) INSERT "Advertisement", IF IN TARGETED ADVERTISING (STEERING SORTING NODE) (CR17-CR19 or TV17-TV19 or HO17-HO19) INSERT "Product selection and advertisement".

Insert 2: IF IN PREVIOUS SEARCH NODE INSERT "previous search history" (ALL EXCEPT FOR CR2-CR4 or TV2-TV4 or HO2-HO4)., IF IN BROWSER NODE INSERT "device and internet browser" (CR2-CR4 or TV2-TV4 or HO2-HO4).

PP9. For some participants the [insert1 text above] that they were shown had been personalised based on their [insert2 text above]. Were you one of these participants?"

[PROG: SA]

1. Yes
2. No
9. Don't know

IF YES AT PP9 [PP9=1] ASK PP10. IF NO AT PP9 [PP9=2] GO TO PP12b

PP10. At which stage did you realise this?

[PROG: SA]

1. I realised whilst on the results screen where I was shown the list of products
2. I realised whilst on the screen where I was asked to confirm my purchase

IF YES AT PP9 [PP9=1] ASK PP11

PP11. Which features of the website made you aware of this? Please select all that apply.

[PROG: MA]

1. Seeing that the website uses cookies
2. Reading the privacy policy itself
3. The underlined text under individual search results
4. It was explicitly written on the screen where I was asked to confirm my purchase
5. Some of the products shown to me
6. Some of the prices shown to me
7. The advert shown to me

IF YES AT PP9 [PP9=1] ASK PP11a

PP11a. How transparent do you think the website was about the personalisation? Please select a number on the scale between 1 not very transparent and 5 very transparent:

[PROG: SA]

[SCALE ACROSS]

1. Not very transparent
2.
3.
4.
5. Very transparent

Feelings

IF YES AT PP9 [PP9=1] ASK PP12a

PP12a. How did you feel after you realised you were seeing personalised results? Please select a number on the scale between 1 totally disagree and 5 totally agree for each statement:

[GRID DOWN, ROTATE OPTIONS 1-5]

1. I found it intrusive
2. I was upset
3. I found it useful to the overall purchase process
4. I liked it as my needs were catered for
5. I did not have strong opinions on it

[GRID ACROSS]

1. Totally disagree
2.
3.
4.
5. Totally agree

IF NO AT PP9 [PP9=2] ASK PP12b

PP12b. The results you were shown were personalised to you. How do you feel about this practice? Please select a number on the scale between 1 totally disagree and 5 totally agree for each statement:

[GRID DOWN, ROTATE OPTIONS 1-5]

1. I find it intrusive
2. I am upset
3. I find it useful to the purchase process
4. I liked it as my needs were catered for
5. I do not have strong opinions on it

[GRID ACROSS]

1. Totally disagree
2.
3.
4.

5. Totally agree

PROGRAMMER: IF ANSWER 4 OR 5 FOR ANY OF OPTIONS 1 to 2 in PP12a OR PP12b, THEN ASK PP13a OR PP13b

PROGRAMMER: IF NOT IN TARGETED ADVERTISING (NOT IN CELLS CR14-CR19 or TV14-TV19 or HO14-HO19) ASK PP13a

PP13a. You indicated that you agreed with one or both of the following statements about the fact the results you saw were personalised

I find it intrusive
I was upset

Please explain why you feel this way. Please select all that apply.

PROGRAMMER: RANDOMISE ORDER OF OPTIONS 1 TO 11 BELOW

[PROG: MA]

1. I feel browsing data should be kept private
2. I do not like websites building a profile of my online behaviour and habits
~~3.~~ I don’t know with whom the data might be shared
4. I fear that companies will use my personal data for purposes other than the ones for which they gathered it
5. I do not think companies have my best interests at heart
6. I do not think the information I was offered on how personalisation took place was transparent enough
7. I was not offered any information on how personalisation took place
8. It makes searching for the product you want more difficult
9. It limits my overall choice
10. It is confusing
11. It may lead to higher prices

PROGRAMMER: IF IN TARGETED ADVERTISING (CR14-CR19 or TV14-TV19 or HO14-HO19 ASK PP13b

PP13b. You indicated that you agreed with one or both of the following statements about the fact the results you saw were personalised

I find it intrusive
I was upset

Please explain why you feel this way. Please select all that apply.

PROGRAMMER: RANDOMISE ORDER OF OPTIONS 1 TO 12 BELOW

[PROG: MA]

1. I feel browsing data should be kept private
2. I do not like websites building a profile of my online behaviour and habits
~~3.~~ I don’t know with whom the data might be shared
4. I fear that companies will use my personal data for purposes other than the ones for which they gathered it

5. I do not think companies have my best interests at heart
6. I do not think the information I was offered on how personalisation took place was transparent enough
7. I was not offered any information on how personalisation took place
8. It makes searching for the product you want more difficult
9. It limits my overall choice
10. It is confusing
11. It may lead to higher prices
12. I wouldn't like to be exposed to inappropriate advertising

IF ANSWER 4 OR 5 FOR ANY OF OPTIONS 3 and 4 in PP12a OR PP12b, THEN ASK PP13c

PP13c. You indicated that you agreed with one or both of the following statements about the fact the results you saw were personalised

I find it useful to the overall purchasing process
I liked it as my needs were catered for

Please explain why you feel this way. Please select all that apply.

[PROG: MA]

1. Personalisation reduces the time I need to spend searching for the right product
2. Personalisation shows me more relevant products
3. Personalisation allows me to more easily choose products that suit my needs
4. Personalisation makes searching more enjoyable
5. Personalisation allows e-commerce websites to offer me reductions/promotions
6. Personalisation could lead to lower prices

ASK PP14 TO RESPONDENTS IN TARGETED ADVERTISING (CR14-CR19 or TV14-TV19 or HO14-HO19 SCENARIO

PP14. To what extent do you agree with the following statements regarding the advertisement banner displayed on the website? Please select a number on the scale between 1 totally disagree and 5 totally agree:

[GRID DOWN, ROTATE OPTIONS 1-5]

1. It distracted me from the task at hand
2. I found it useful as it was tailored to the criteria I was required to meet
3. I found it intrusive to my personal data
4. I did not have strong opinions on it
5. I did not see it/pay attention to it

[GRID ACROSS]

1. Totally disagree
2.
3.
4.
5. Totally agree

ASK PP15a TO RESPONDENTS IN ALL SCENARIOS IN 'PREVIOUS SEARCH' NODE OF PRICE STEERING (CR5-CR13, CR17-CR19 or TV5-TV13, TV17-TV19 or HO5-HO13, HO17- HO19)

PP15a. Personalisation during the purchase process occurred based on your previous search history. How would you have felt about the personalisation if it had been based on information such as your device and internet browser instead of your previous search history? Please select a number on the scale between 1 I would feel much worse about it and 5 I would feel much better about it:

[SCALE ACROSS]

[PROG: SA]

1. I would feel much worse about it
2.
3.
4.
5. I would feel much better about it

ASK PP15b TO RESPONDENTS IN ALL SCENARIOS IN 'BROWSER' NODE OF PRICE STEERING (CR2-CR4 or TV2-TV4 or HO2-HO4)

PP15b. Personalisation during the purchase process occurred based on your device and internet browser. How would you have felt about the personalisation if it had been based on your previous search history instead of on information such as your device and internet browser? Please select a number on the scale between 1 I would feel much worse about it and 5 I would feel much better about it:

[SCALE ACROSS]

[PROG: SA]

1. I would feel much worse about it
2.
3.
4.
5. I would feel much better about it

ASK PP16a TO RESPONDENTS IN HIGH PRICE NODE OF PRICE DISCRIMINATION SCENARIO (CR8-CR10 or TV8-TV10 or HO8-HO10)

PP16a. The prices of some of the products that you were shown on the online platform were higher than they would have been otherwise, due to the tracking of information based upon your previous search and purchase history. How do you feel about this? Please select a number on the scale between 1 totally disagree and 5 totally agree for each statement:

[GRID DOWN, ROTATE OPTIONS 1-4]

1. I would be willing to continue shopping on platforms like this but only if I was offered lower prices
2. I would not be willing to continue shopping on platforms like this because my online behaviour is being tracked
3. I consider the practice is acceptable as sometimes I will be offered lower prices and sometimes I will be offered higher prices
4. I do not have strong opinions on it

[GRID ACROSS]

1. Totally disagree
2.
3.
4.
5. Totally agree

ASK PP16b TO RESPONDENTS IN LOW PRICE NODE OF PRICE DISCRIMINATION SCENARIO
(CR11-CR12 or TV11-TV12 or HO11-HO12)

PP16b. The prices of some of the products that you were shown on the online platform were lower than they would have been otherwise, due to the tracking of information based upon your previous search and purchase history. How do you feel about this? Please select a number on the scale between 1 totally disagree and 5 totally agree for each statement: [randomise]

[GRID DOWN, ROTATE OPTIONS 1-4]

1. I would be willing to continue shopping on platforms like this but only if I was offered lower prices
2. I would not be willing to continue shopping on platforms like this because my online behaviour is being tracked
3. I consider the practice is acceptable as sometimes I will be offered lower prices and sometimes I will be offered higher prices
4. I do not have strong opinions on it

[GRID ACROSS]

1. Totally disagree
2.
3.
4.
5. Totally agree

Actions

ASK P17 TO RESPONDENTS WHO CLEARED COOKIES IN ALL TREATMENTS

- PP17. Thinking about when you chose to clear the cookies when you were on the screen where you were asked to confirm your purchase , how easy did you find it was to clear the cookies on the website?
-
- [SCALE ACROSS]

[PROG: SA]

1. Not easy at all
2.
3.
4.
5. Very easy

ASK PP18 TO RESPONDENTS IF THEY CLEARED THEIR COOKIES

PP18. Why did you choose to clear the cookies and search again?

PROGRAMMER: RANDOMISE OPTIONS 1 TO 5

[PROG: MA]

1. I wanted to see what other products were available
2. I wanted to see if I could get better priced products (bearing in mind the price of the product I was told I had previously paid)
3. I realised the offers were being personalised based on my personal information and wanted to stop it
4. I realised the offers were being personalised based on my personal information and wanted to check whether I was getting a good deal
5. It was easy to do [PROGRAMMER DO NOT ASK OPTION 5 IF RESPONDENT CHOSE OPTION 1 OR 2 AT PP17]
6. None of the above [FIX POSITION]

ASK PP19 FOR ALL TREATMENTS IF THE RESPONDENT SWITCHED SCREENS IN THE EXPERIMENT

PP19. Why did you choose to search again on a different platform?

PROGRAMMER: RANDOMISE OPTIONS 1 TO 4

[PROG: MA]

1. I wanted a larger variety of products to choose from
2. I wanted better priced products (bearing in mind the price I was told I had previously paid for a similar product)
3. I realised the offers were being personalised based on my personal information and wanted to switch to another provider which may not employ these tactics
4. I realised the offers were being personalised based on my personal information and wanted to check whether I was getting a good deal
5. None of the above [FIX POSITION, EXCLUSIVE]

ASK PP20 FOR ALL TREATMENTS IF THE RESPONDENT SELECTED 'DON'T PURCHASE'
PP20. Why did you choose to not purchase a product and end the task once you reached the confirmation stage?

PROGRAMMER: RANDOMISE OPTIONS 1 TO 4

[PROG: SA]

1. I didn't like the product at the end
2. I found the price rather high (bearing in mind the price I was told I had previously paid for a similar product)
3. I didn't think the product matched the criteria I was required to meet
4. I realised that personalisation had occurred
5. None of the above [FIX POSITION]

Understanding views

ASK PP21 FOR ALL RESPONDENTS

PP21. How transparent do you think the platform was about the use of someone's data for the purpose of personalisation? Please rate on a scale between 1 not transparent at all to 5 very transparent.

[SCALE ACROSS]

[PROG: SA]

1. Not transparent at all
2.
3.
4.
5. Very transparent

ASK PP22 TO RESPONDENTS WHO DID NOT CLEAR COOKIES & SWITCH PLATFORM AND ANSWERED 4 OR 5 FOR ANY OF OPTIONS 1 to 2 in PP12a OR PP12b

PP22. You indicated that you agreed with one or both of the following statements about the fact the results you saw were personalised

I find it intrusive
I was upset

You also decided not to clear cookies or search again on a different platform in response to the personalisation. Please explain why you chose not to take these actions. Please select all that apply.

[PROG: MA]

PROGRAMMER: RANDOMISE OPTIONS 1 TO 5

1. They required too much effort
2. I did not realise these actions were available
3. I did not understand what these buttons would do
4. I did not select these options as the task I was given was to select a product to purchase
5. I did not think these actions would have an impact on the personalisation I encountered

A1.9.3 Proceeding in real life

ASK PP23 TO ALL RESPONDENTS
PP23. Do you believe you would proceed with this purchase in real life, bearing in mind the price you were told you had paid for a similar product at the beginning of the exercise?

[PROG: SA]

1. Yes
2. No
9. Don’t know

PROGRAMMER: IF ANSWERED OPTION 1 TO PP23 AND IN PRICE STEERING OR PRICE DISCRIMINATION (CR2-CR13 or TV2-TV13 or HO2-HO13) ASK PP24a

[PROGRAMMER: RANDOMISE OPTIONS 1 TO 6]

[PROG: MA]

PP24a. You said in the previous question that you would proceed with this purchase in real life. What is the reason for your response to the question? Please select all that apply.

1. Personalisation allows me to more easily choose products that suit my needs
2. Personalisation reduces the time I need to spend searching for the right product
3. Personalisation shows me more relevant products
4. Personalisation makes searching more enjoyable
5. Personalisation allows e-commerce websites to offer me reductions/promotions
6. Personalisation could lead to lower prices

[ASK IF ANSWERED OPTION 1 TO PP23 AND IN TARGETED ADVERTISING (CR14-CR19 or TV14-TV19 or HO14-HO19) ASK PP24b]

PP24b. You said in the previous question that you would proceed with this purchase in real life. What is the reason for your response to the question? Please select all that apply.

[PROGRAMMER: RANDOMISE OPTIONS 1 TO 7]

[PROG: MA]

1. Personalisation allows me to more easily choose products that suit my needs
2. Personalisation reduces the time I need to spend searching for the right product
3. Personalisation shows me more relevant products
4. Personalisation makes searching more enjoyable
5. Personalisation allows e-commerce websites to offer me reductions/promotions
6. Personalisation could lead to lower prices
7. I like seeing adverts that relate to my needs

[ASK IF ANSWERED OPTION 2 TO PP23 AND NOT IN TARGETED ADVERTISING (not in CR14-CR19 or TV14-TV19 or HO14-HO19) ASK PP24c]

PP24c. You said in the previous question that you would not proceed with this purchase in real life. What is the reason for your response to the question? Please select all that apply.

PROGRAMMER: RANDOMISE OPTIONS 1 TO 5

[PROG: MA]

1. The prices were higher than I would normally pay as a result of personalisation (bearing in mind what I previously paid for a similar product)
2. I felt I didn't have as wide a choice of products as I would have wanted as a result of personalisation
3. I do not like my data to be used in this way in order to build an online profile about me
4. I fear that companies will use my personal data for purposes other than the ones for which they are gathered and/or I don't know with whom it might be shared
5. I would like to be offered transparent information on how personalisation takes place

IF ANSWERED OPTION 2 TO PP23 AND IN TARGETED ADVERTISING (CR14-CR19 or TV14-TV19 or HO14-HO19) ASK PP24d

PP24d. You said in the previous question that you would not proceed with this purchase in real life. What is the reason for your response to the question? Please select all that apply.

[PROGRAMMER: RANDOMISE OPTIONS 1 TO 6]

[PROG: MA]

1. The prices were higher than I would normally pay as a result of personalisation (bearing in mind what I previously paid for a similar product)
2. I felt I didn't have as wide a choice of products as I would have wanted as a result of personalisation
3. I do not like my data to be used in this way in order to build an online profile about me
4. I fear that companies will use my personal data for purposes other than the ones for which they are gathered and/or I don't know with whom it might be shared
5. I would like to be offered transparent information on how personalisation takes place
6. I do not like seeing adverts that are targeted specifically to me

IF ANSWERED OPTION 9 TO PP23 ASK PP24e

PP24e. You said in the previous question that you did not know whether you would proceed with this purchase in real life. Were any of the following factors ones which you took into account when trying to make your decision? Please select all that apply.

PROGRAMMER: RANDOMISE OPTIONS 1 TO 13

[PROG: MA]

1. Personalisation allows me to more easily choose products that suit my needs
2. Personalisation reduces the time I need to spend searching for the right product
3. Personalisation shows me more relevant products
4. Personalisation makes searching more enjoyable
5. Personalisation allows e-commerce websites to offer me reductions/promotions
6. Personalisation could lead to lower prices
7. I like seeing adverts that relate to my needs
8. The prices were higher than I would normally pay as a result of personalisation (bearing in mind what I previously paid for a similar product)
9. I felt I didn't have as wide a choice of products as I would have wanted as a result of personalisation
10. I do not like my data to be used in this way in order to build an online profile about me
11. I do not like seeing adverts that are targeted specifically to me
12. I fear that companies will use my personal data for purposes other than the ones for which they are gathered and/or I don't know with whom it might be shared
13. I would like to be offered transparent information on how personalisation takes place

PROGRAMMER: IF ANSWERED OPTION 1 TO PP23 AND IN BASELINE (TV1 or CR1 or HO1) ASK PP24f

PP24f. You said in the previous question that you would proceed with this purchase in real life. What is the reason for your response to the question? Please select all that apply.

PROGRAMMER: RANDOMISE OPTIONS 1 TO 5

[PROG: SA]

1. I liked the look of the good/features of the service
2. I thought the product was cheap (bearing in mind the price I was told I had previously paid for a similar type of product)
3. I thought the price of the product was fair (bearing in mind the price I was told I had previously paid for a similar type of product)
4. The good/service matched the criteria I was required to meet
5. The product related to the one I previously searched for/bought

ASK PP25 TO ALL RESPONDENTS

PP25. Which of the following would make you more likely or less likely to proceed in real life with online retailers such as the one you encountered in this exercise?

[GRID DOWN, RANDOMISE OPTIONS 1 TO 5]

1. Personalising the products I am shown
2. Personalising the prices I am shown
3. Personalising the adverts I am shown
4. Being offered transparent information on why and how personalisation takes place
5. Being assured that my personal data will be safe and won't be used for purposes other than the ones for which they are gathered

[GRID ACROSS]

1. Less likely
2.
3.
4.
5. More likely

[ASK ONLY IN PILOT]

Q_Feedback

Do you have any comments on the survey you just completed? In particular, was the section on the simulated online platform (in which certain products were shown to you) clear and understandable?

[OPEN BOX. ALLOW TO SKIP WITHOUT FILLING IN]

A1.10 Economic valuation

A1.10.1 Use of mystery shopping in economic valuation

The mystery shopping exercise can be used to provide quantitative estimates of:

- The allocation of welfare between sellers and consumers, assuming that product quality is standardised and significant and systematic price differences are found; and
- The existence and extent of personalised ranking of offers

In order to do this, the mystery shopping exercise collects data on top-ranked products, and prices charged to consumers, in a number of scenarios. This data helps to identify whether prices and top-ranked products are different, on average, in the following cases:

- When sellers can observe consumers' personal information; and
- When sellers can*not* observe consumers' personal information.

The mystery shopping exercise also enables comparison between scenarios where sellers can observe different sets of consumers' personal characteristics. To summarise, the mystery shopping exercise collects data for the following scenarios:

- Scenario A – search engine: shoppers use their preferred browser and search engine on a desktop/laptop, search for a predefined product and navigate to a given e-commerce website;
- Scenario B – Price Comparison Website: shoppers use their preferred browser on a desktop/laptop, open a given price comparison website (PCW) and navigate to the e-commerce website from the PCW rather than their search engine;
- Scenario C – browser: shoppers use their preferred browser on a desktop/laptop and navigate directly to the given e-commerce website;
- Scenario D – mobile device: shoppers use their preferred browser for a mobile device and navigate directly to the given e-commerce website.

The mystery shopping scenarios described above also contain control steps designed to strip away the effects of personalisation via e.g. cookies. The control steps are summarised below. In scenarios A and D, the control step is conducted twice, in order to capture any price/product differences from e.g. websites conducting A/B testing:

- Scenario A – search engine:
    - Using a new incognito/privacy mode window on their preferred browser, shoppers search in a search engine for a predefined product + predefined e-commerce website. This strips away the effects on prices/products of cookies on the preferred browser;
    - Shoppers also open DuckDuckGo search on their preferred browser and search for a predefined product + predefined e-commerce website. This strips away the effects of using the preferred search engine on the preferred browser (over a search engine that doesn't track users).
- Scenario B – Price Comparison Website: shoppers open a new incognito/privacy mode window on their preferred browser to search for a predefined e-commerce website, and on this website search for a predefined product. This strips away the effect of cookies on the preferred browser, but also varies the access route to the website (directly, not through a PCW);
- Scenario C – browser: a number of control steps are implemented in order to isolate the effects of:
    - Cookies on the **preferred** browser: shoppers open a new incognito/privacy mode window on their **preferred** browser to visit a predefined e-commerce website, and on this website search for a predefined product

    - Preferred browser: shoppers open another browser (not in the incognito/privacy mode) and visit the pre-defined e-commerce website, then on the website search for the pre-defined product;
    - Cookies on the **alternative** browser: shoppers open incognito/privacy mode in the **alternative** browser to visit a predefined e-commerce website, and on this website search for a predefined product
- Scenario D – mobile device: Cookies on the preferred browser: shoppers open a new incognito/privacy mode on their mobile device to visit the pre-defined e-commerce website and then search for the predefined product.

Finally, a control shop is conducted, where shoppers 'anonymise' their browsing/purchasing behaviour in such a way that sellers cannot employ tracking technologies, and carry out shops in the incognito mode of a freshly-installed browser. The control shop replicates the effect of deleting cookies, and also prevents personalisation via combining e.g. IP address and browser settings.

Therefore, for each mystery shopping scenario, the following levels of comparison are possible:

- **Control steps**, stripping away the effects of personalisation via cookies and/or confounding effects of A/B testing;
- **Other mystery shopping scenarios**, testing the impacts on prices/products of e.g. route to an e-commerce website;
- **Control shop**, stripping away the effects of personalisation via cookies, IP address, browser settings and other 'fingerprinting' techniques.

Table 21 outlines the scenarios in the mystery shopping exercise, and how they can be compared with each other. Table 22 describes the comparison between the mystery shopping scenarios and the control steps and control shop.

The following sections outline the econometric approach and specification in more detail.

Table 21 : Comparison across mystery shopping scenarios

	Compared with			
Mystery Shopping Scenario	Scenario A – search engine	Scenario B – Price Comparison Website	Scenario C – browser	Scenario D – Mobile Device
Scenario A – search engine		Isolates the impact of PCWs vs search engines on outcomes (average prices/top-ranked products). Browser and device are constant across scenarios Route into e-commerce website varies: through search engine (Scenario A) compared to through price comparison website (Scenario B)	Isolates the impact on outcomes of visiting the e-commerce website via a search engine vs directly visiting e-commerce websites. That is, it varies whether sellers can observe the shopper's preferred search engine and search history. Browser and device are constant across scenarios Route into e-commerce website varies: through search engine (Scenario A) or directly to website (Scenario C)	Cumulative impact on outcomes of: - the device (desktop/laptop compared to mobile); -potentially the preferred browser, since desktop/laptop browsers frequently differ from mobile browsers; and -route into e-commerce website: whether sellers can observe consumer's search history and preferred search engine
Scenario B – Price Comparison Website	See comparison of Scenario A with Scenario B		Isolates the impact on outcomes of PCWs vs directly visiting the website. Browser and device are kept constant across scenarios	Cumulative impact on outcomes of: -the device (desktop/laptop compared to mobile); -potentially the preferred browser, since desktop/laptop browsers

			Route into e-commerce website varies: having first visited a PCW (Scenario B) or directly (Scenario C).	frequently differ from mobile browsers; and -route into e-commerce website: whether sellers can observe whether the shopper first visited a price comparison website before visiting the e-commerce website
Scenario C – browser	See comparison of Scenario A with Scenario C	See comparison of Scenario B with Scenario C		Cumulative impact on outcomes of: -the device (desktop/laptop compared to mobile); and -potentially the preferred browser, since desktop/laptop browsers frequently differ from mobile browsers
Scenario D – Mobile device	See comparison of Scenario A with Scenario D	See comparison of Scenario B with Scenario D	See comparison of Scenario C with Scenario D	

Source: London Economics

Table 22 : Comparison between mystery shopping scenarios, control steps and control shop

	Compared with	
Mystery Shopping Scenario	Control step(s)	Control shop
Scenario A – search engine	-Control Step 1, using DuckDuckGo to conduct search : simulates deleting cookies (as this search engine doesn't track users) and switching search engines i.e. isolates the impact of using preferred search engine, i.e. personalisation based on e.g. search history -Control Step 2, opening new incognito/privacy mode on preferred browser: simulates deleting cookies i.e. isolates impact of using preferred search engine on preferred browser on prices/products -Control Step 3 – repeats Control Step 2 to isolate the effect of variation driven by causes other than personalisation (A/B testing; dynamic pricing; other noise)	This comparison varies whether sellers can observe shoppers' preferred device, browser and search engine, relative to a baseline where sellers cannot observe any consumer characteristics.
Scenario B – Price Comparison Website	-Opening new incognito/privacy mode on preferred browser: simulates deleting cookies and accessing e-commerce website directly rather than through a PCW i.e. isolates the combined impact of using preferred browser and personalisation based on route into e-commerce website through price comparison website	This comparison varies whether sellers can observe shoppers' preferred device, browser and route to the e-commerce website from a price comparison website, relative to a baseline where sellers cannot observe any consumer characteristics.
Scenario C – browser	-Control step 1, using incognito/privacy mode on their preferred browser: isolates the impact of personalisation based on cookies, keeping the preferred browser and route into website constant -Control step 2, using an alternative browser: isolates the impact of using the preferred browser;	This comparison varies whether the seller can observe the shopper's preferred browser on a desktop/laptop, relative to a baseline where the seller cannot observe any consumer characteristics.

	-Control Step 3, using incognito/privacy mode on alternative browser: combines the impact of deleting cookies plus impact of the preferred browser	
Scenario D – Mobile device	Control step, using incognito/privacy mode on their mobile device: simulates deleting cookies, isolates the impact of personalisation based on internet history on mobile device.	This comparison varies whether the seller can observe the shopper’s preferred mobile browser, relative to a situation where sellers cannot observe any consumer characteristics.

Source: London Economics

Impact of personalised pricing on allocation of welfare between sellers and consumers

The economic valuation can use data from the mystery shopping to carry out a quantitative estimate of the impact of personalised pricing on consumer welfare and profits. However, in order to perform the computation, we must first determine whether prices are significantly different when sellers can observe consumers' personal data, compared to when they cannot. If this significant and systematic difference is not found, the impact of price personalisation on consumer welfare and profits cannot be estimated.

Computing average price differences between situations using the mystery shopping exercise

The analysis employs two techniques to study price personalisation: one to detect if prices are different when shopper characteristics are observable, and the other to estimate the *net* difference. The former looks at absolute values of price differences, while the latter also takes into account the sign of price differences when calculating the average difference. It is the latter value that – if significant – would form the basis for calculations of consumer welfare and profits. Accounting for the direction of price differences is the only difference between the two approaches. The following description of the steps taken in the analysis thus applies to both.

To estimate the extent to which e-commerce websites adjust prices based on shoppers' observable characteristics (and the *net* difference), an overall measure is first developed that does not distinguish between different types of personalisation.

All products observed by mystery shoppers are matched with identical products recorded in the control shops. Percentage price difference is then calculated for each matched product pair. Averaging these differences across all product matches we find the average price difference between the situations where personal characteristics are observable and when they are not.

This aggregate level compares prices of products recorded in all scenarios, in which websites could observe any of the shoppers' personal characteristics, with prices of the same products in the control shops (where little or no personal characteristics were observable). In total, 1741 unique products were observed across four product categories. Most were observed by shoppers in multiple steps and scenarios, leading to a total of 43,035 product observations. Of these, 34,403 were successfully matched with a price observation in the control shop.

To study average price difference by scenario/product/country, we average only the products observed in the disaggregated category. For example, average price difference in Scenario B (compared to the control shop) is found by averaging percentage price differences of matched products observed in B1 and B2.

Table 23 : Virtues and caveats of the chosen method to calculate average price differences

Virtues	Caveats
• Results can be tested for statistical significance • No assumptions about exchange rates needed. The price differences are in percentages and compare only like-for-like products. • Using products rather than shops as elementary unit of analysis increases the sample size	• By using relative price differences, the method risks *overvaluing* price personalisation of low-price items (for low-price items, relative differences can be disproportionately high even when the absolute difference is small) • While generally relevant, this worry is not serious for the given data. We do not expect products with very low price in any of the product categories. We also do not expect high absolute price differences of

Virtues	Caveats
• By averaging percentage differences (rather than absolute differences) across products, the method avoids *undervaluing* price personalisation of low-price items • Neutral treatment of products. The % price difference of each product has equal weight in calculating the final result.	low-price products. This is indeed the case. Only 2 of the 34,403 product matches exhibit price difference of over 50%.

Source: London Economics

Constructing the baseline price

In Scenario A (search engine), steps A3 and A4 had identical specification.[41] Any price variation in product prices between the two steps can therefore be used as a baseline of price variation that is not due to personalisation, but rather due to random noise.[42]

Observed price differences between personalised and control shops/steps will be considered as providing evidence of price personalisation if they are statistically significantly different[43] from price variation between A3 and A4.

For mobile scenarios, this baseline value is found by comparing scenarios D2 and D3, which also had identical specification.

Table 24 : Baseline price difference in absolute values

Steps compared	Observations	Average percentage price difference
A3 v A4	3101	0.10%***
D2 v D3	3045	0.04%**

Source: London Economics analysis of mystery shopping data

In the case of absolute price differences, random variation is statistically significantly larger than zero. All other observed price differences between personalised steps and control shops/steps are therefore statistically compared to this baseline rather than to 0. Similar baselines are also computed for each product and country category.

[41] Laptop/desktop, preferred browser, preferred search engine, private (incognito) browsing.
[42] The difference between the prices in A3 and A4 can capture influences that the experiment could not control for, such as a change in the products offered by the e-commerce website that took place during the course of the experiment.
[43] Two-sided mean comparison t-test is appropriate as we have no a priori expectation about the direction of price personalisation.

Table 25 : Baseline price difference in net values

Steps compared	Observations	Average percentage price difference
A3 v A4	3101	0.04%
D2 v D3	3045	-0.01%

Source: London Economics analysis of mystery shopping data

In the case of net price differences, the average difference between the two control steps is smaller than statistical error. Given that we found no appreciable net price variation due to random noise, we can statistically compare the other values also to 0 (=no price difference) rather than to the baseline value (=price difference due to random noise).

In the case of net price differences, there is no significant difference between A3 and A4 also at the country or product level. This is also the case for D2 and D3, with the exception of airline tickets. The same tickets were found on average 0.1% cheaper in D3 than in D2 despite no change between the two steps in the way the shoppers accessed the e-commerce website. This difference is statistically significant. In Scenario D, therefore, results for airline tickets will be statistically compared to 0.1% (=difference due to random noise) rather than to 0 (=no difference)

Use of mystery shopping to identify existence and extent of personalised ranking of offers

The economic valuation can assess whether the top-ranked products are different in the ‘personalisation’ scenarios compared to a situation where sellers cannot observe consumers’ personal characteristics, or when comparing between two mystery shopping scenarios. This can be done by constructing a ‘similarity index’, taking into account:

- The share of common products between two situations e.g. if 3 out of the top 5 products are the same between scenario A and the control shop, this component would take the value 3/5;
- The share of common products that also appear in the same rank order e.g. if 2 out of the 3 common products had the same rank order between scenario A and the control shop, this component would take the value 2/3;

The index will be calculated as the product of these two components. Therefore, in this example, the similarity index would take the value (3/5)*(2/3)=6/15.

$$similarity\ index = \frac{count\ of\ shared\ products}{number\ of\ products\ observed\ (\max 5)} \times \frac{count\ of\ products\ in\ same\ rank{-}order}{count\ of\ shared\ products}$$

Note that the number of common products appears both in the numerator of the first fraction and the denominator of the second fraction. Mathematically, this implies that this value cancels out. Therefore, in practice, the index is the number of products that appear in the same rank order divided by the number of observed products. In the example above, the similarity index = 2/5 (= 6/15). Note that despite “count of shared products” cancelling out, this measure does reflect the count of shared products. The number of shared products determines the maximum number of products that can appear in the same rank-order.

$$similarity\ index = \frac{count\ of\ products\ in\ same\ rank{-}order}{number\ of\ products\ observed\ (\max 5)}$$

A lower similarity index indicates greater offer personalisation. An index value of 1 means that the compared product offers are exactly identical, both in the products they feature and the order in which these products are shown. An index value of 0 means that the shoppers did not observe any common products that also appeared in the same rank order.

If a consumer is shown the same products in two situations, but the rank order is different, the similarity score would be lower. For example, suppose that a shopper has the same top 5 products in Scenario A and Scenario B, but only the top 3 have the same ranks i.e. the share of top 5 products with the same rank = 3/5. Then the similarity score =3/5.

To check the extent to which the results are sensitive to the choice of a similarity index, we also constructed an alternative index. The alternative index is also a product of two fractions, but the second fraction has a different denominator. Instead of looking at the number of products in the same rank-order as a share of products observed in both situations, the index looks at the number of products in the same rank-order *as a share of all 5 products observed.* This ensures that the index does not mathematically eliminate "count of shared products", like in the original index.

$$alternative\ index = \frac{count\ of\ shared\ products}{number\ of\ products\ observed\ (\max 5)} \times \frac{count\ of\ products\ in\ same\ rank\!-\!order}{number\ of\ products\ observed\ (\max 5)}$$

Applying the alternative index, the results do not substantially change either at the aggregate level or in disaggregated categories. This robustness check shows that the results are not sensitive to the choice of the index methodology.

The approach described includes both within-shopper and between-shopper analysis. *Within*-shopper analysis is conducted when rank order is compared for the *same* shopper between:

- Two mystery shopping scenarios e.g. Scenario A and Scenario B (see Table 21);
- A mystery shopping scenario and control step e.g. Scenario C and one of the control steps (see Table 22)

Between-shopper analysis is conducted when rank order is compared for two (or more) different sets of shoppers, for example:

- Mystery shopping scenario and control shop;
- Mystery shopping control step and control shop

We next compute the average similarity index *across* shoppers, for all combinations described in Table 21 and Table 22. For example, we compute the average similarity index for Scenario A relative to the control shop, compared to the average similarity index for Scenario B relative to the control shop.

Similarly, we can compute the average similarity index for Scenario A relative to the control step, compared to the average similarity index for Scenario D relative to the control step. This can be used to compute a ranking of personalisation impacts of different mystery shops relative to:

- The control steps which strip away the effects of personalisation using consumers' internet history;
- The control shops which strip away personalisation using consumers' internet history PLUS personalisation due to IP address etc.

Sample sizes are sufficient to conduct an analysis at the level of scenario across all countries, and potentially at the level of scenario per product, across all countries. That is, it is possible to generate a ranking of the similarity index of mystery shopping scenarios relative to e.g. the control shop, across all countries. Similarly, it may be possible to generate a ranking of mystery shopping scenarios relative to the control step, per product, across all countries.

However, sample sizes are not sufficient to conduct analysis at the level of website per country, since only between 3 – 4 mystery shops (and 1 control shop) were planned to be conducted per website per country. Caveats are described in more detail below.

Constructing the baseline index

In Scenario A (search engine), steps A3 and A4 had identical specification.[44] Any offer variation between the two steps can therefore be used as a baseline of variation that is not due to differences in personalisation, but rather due to random noise.[45]

Observed similarity indices between personalised and control shops/steps will be considered as providing evidence of offer personalisation if they are statistically significantly lower[46] than the similarity index between A3 and A4.

For mobile scenarios, this reference point is found by comparing scenarios D2 and D3, which also had identical specification.

Table 26 : Baseline similarity index, overall

Steps compared	Observations	Mean similarity index
A3 v A4	637	0.9535***
D2 v D3	630	0.9418***

Source: London Economics analysis of mystery shopping data

As expected, both baseline indices have a very high similarity index. This indicates that the experiment was successful in screening off most influences on the observed offers other than due to personalisation. Nevertheless, the indices are lower than 1, signifying that some noise was present.

The two baseline indices are not statistically significantly different from each other, and their standard deviations are lower than the standard deviations of similarity indices of most other step pairs. These statistical properties suggest that the noise was relatively stable and modest in magnitude, indicating that the baseline indices are a reasonably good measure to screen off disturbances not related to personalisation.

The baseline indices, however, exhibit considerable variation across product groups and (to a lesser extent) countries. This is not unexpected. Airline ticket offers and prices, for example, change frequently in response to seat purchases. Any time difference between a personalised observation and its control step/shop can therefore lead to a change being recorded that occurred not due to personalisation. For countries, the differences can reflect market specificities.

To account for this, results at the level of products or countries will be statistically compared against the baseline index estimated at the same level of disaggregation. The table below (Table 27) illustrates these.

[44] Laptop/desktop, preferred browser, preferred search engine, private (incognito) browsing.

[45] The difference between the offer in A3 and A4 can capture influences that the experiment could not control for, such as a change in the products offered by the e-commerce website that took place during the course of the experiment.

[46] One-sided mean comparison t-test is appropriate as we expect the offer similarity between steps with varying personalisation set-ups to be equal or smaller than between steps with identical specifications.

Table 27 : Baseline similarity index, by product

Product	Baseline desktop/laptop	Baseline mobile device
Airline ticket	.8850	.8671
Hotel	.9436	.9433
Sport shoes	.9904	.9809
TV	.9904	.9700

Source: London Economics analysis of mystery shopping data

Table 28 : Baseline similarity index, by country

Country	Baseline desktop/laptop	Baseline mobile device
Czech Republic	.9257	.9838
France	.9159	.9254
Germany	.9707	.9197
Poland	.9368	.8992
Romania	.9942	.9816
Spain	.975	.9685
Sweden	.9341	.9211
United Kingdom	.9825	.9467

Source: London Economics analysis of mystery shopping data

Website-level analysis of personalised ranking of offers

A website is classified as offer-personalising (i.e. as ranking offers) if the average similarity index (compared to the control shop) recorded in the shops on the website is at least 10% lower than the website's baseline index. The website's baseline index is calculated as the average similarity index between steps A3 and A4 (or D2 and D3 in the case of the mobile scenarios), recorded in the shops on the website.

The choice of a 10% difference is to a large extent discretionary. With only 4-6 shops per website, the website's similarity index cannot be statistically compared with the baseline index. Therefore, a reasonable difference was chosen (10%) as a threshold to regard a website as offer-personalising, which broadly corresponds to the difference that is found statistically significant in larger samples. As a robustness check, we also performed the analysis with 5% and 20% cut-offs. The results are presented below. They demonstrate that the reported shares of offer-personalising websites are not particularly sensitive to the choice of the threshold.

Table 29 : Share of websites that personalise offers, by similarity index difference threshold

Steps compared	Similarity index >5% lower than baseline	Similarity index >10% lower than baseline	Similarity index >20% lower than baseline
A1 v control shop	42%	40%	30%
A2 v control shop	42%	40%	30%
A3 v control shop	40%	39%	27%
B1 v control shop	44%	41%	35%
B2 v control shop	45%	43%	35%
C1 v control shop	41%	38%	31%
C2 v control shop	49%	48%	35%
C3 v control shop	43%	41%	32%
C4 v control shop	44%	42%	31%
D1 v control shop	44%	42%	30%
D2 v control shop	43%	41%	32%
A1 v A2	18%	16%	8%
A1 v A3	22%	20%	11%
B1 v B2	32%	29%	22%
C1 v C2	24%	21%	10%
C3 v C4	18%	14%	8%
D1 v D2	14%	10%	4%

Source: London Economics analysis of mystery shopping data

Comparing 'high-end' and 'discount' shoppers

The approach assesses whether the top ranked products are different for consumers when their personal characteristics are observable. The top ranked products may vary in quality or they may not. Therefore, this approach cannot assess whether consumers are directed towards better or worse products, or better or worse matches, as a result of personalisation.

However, it may be possible to shed further light on whether mystery shoppers are steered towards products of different price. This can be done by combining the results of the mystery shopping data with data on mystery shoppers' socio-demographic and purchase information.

Mystery shoppers fill in an evaluators' form, which includes a number of questions about socio-demographic characteristics as well as their purchase history. For example, the evaluators' form asks mystery shoppers whether they usually shop for 'high-end' or 'discount' products online for each product category (e.g. clothes and shoes, holiday accommodation, travel services or electronics). The exercise can determine, for any scenario and product:

- p_{highj}: where p_{highj} is the price charged to a 'high-end' mystery shopper, in scenario j;
- p_{discj}: where p_{discj} is the price for a 'discount' mystery shopper, in scenario j.
- $prod_{highj}$: where $prod_{highj}$ is the top-ranked product for 'high-end' mystery shoppers in scenario j;
- $prod_{discj}$: where $prod_{discj}$ is the top-ranked product for 'discount' mystery shoppers, in scenario j.

The exercise may also be able to determine, for any shopper and product:

- p_{ij}: where p_{ij} is the price charged to shopper i in scenario j
- $prod_{ij}$: where $prod_{ij}$ is the top-ranked product for shopper i in scenario j

Therefore, the economic valuation may be able to assess whether:

- prices for 'high-end' shoppers are higher on average when sellers can observe their personal characteristics, compared to when sellers cannot. i.e. whether $p_{highj}>=p_{high,control}$
- prices for 'high-end' shoppers are higher on average than prices for 'low-end' shoppers, when sellers can observe their personal characteristics i.e. whether $p_{highj}>=p_{discj}$
- the price difference for 'high-end' versus 'discount' shoppers is higher when sellers can observe personal characteristics, compared to when sellers can observe no personal characteristics i.e. whether $p_{highj}-p_{discj}>=p_{high,control}-p_{disc,control}$. Note that we expect $p_{high,control}-p_{disc,control}=0$ i.e. that average control shop prices would be the same for 'high-end' and 'discount' shoppers. This is because in the control shop sellers cannot observe shoppers' personal characteristics.

Methodological choices when conducting the analysis of mystery shopping data

The mystery shopping is conducted in 8 countries, and for 4 sectors. For each sector and country, the approach covers 5 websites. Each website was visited by (at least) 4 mystery shoppers and 1 control shopper.

Given the length and complexity of the mystery shopping task, it proved difficult to ensure that 4 mystery shoppers per website completed the exercise at the same time, as initially envisaged[47]. Therefore, a possible option to speed up the mystery shopping was discussed between the Commission and Ipsos on 12th July 2017. The alternative approach reduces the number of mystery shops per website to 3 instead of 4. The number of control shops per website, as well as the number of websites, would be kept the same. However, it was later on decided to keep the 3 successful shops for that website and send additional mystery shoppers to the same website at the same time window.

In addition, some observations needed to be dropped from the analysis, detailed in the sections below.

[47] The was mainly due to a higher than foreseen shopper fallout caused by the longer than envisaged duration of the shops (the average shop took 1h52 to complete, varying between on average 1h38 for shoes to 2h08 for hotels), and the restricted 3-hour timeframe to execute a shop. In combination these factors caused many shoppers to drop out before shops, or halfway through shops (these were of course discarded).

Table 30 : Methodological choices in analysis of mystery shopping data

Issue	Details	Affected parts of analysis	Action	Impact
Multiple products that appear identical are recorded by shoppers	The shoppers were not asked to record all available product characteristics, as this could be a source of inconsistencies in the data. Instead, they were asked to record the precise product name (in the case of TVs and sport shoes); flight details in the case of airline tickets and hotel and room type in the case of hotels. If, for example, the website offered sport shoes in different colour, these variations of the same product were as a consequence recorded with the same identifiers.	Personalised ranking of offers – If more products with the same description appear in more rank positions, there is no way to make meaningful rank comparisons. Personalised pricing – if more products are recorded with the same description but different price, these can't be uniquely matched with control products and must be therefore excluded.	Identical products observed by a shopper in the same step were excluded from similarity index calculations. Identical products with different prices observed by a shopper in the same step were excluded from price personalisation calculations.	In the case of personalised offers, 6,370 product observations were excluded. This is because for the analysis of offer similarity, even the products quoted twice with the price needed to be excluded. No shop as a whole was excluded, but in the case of personalised pricing, 4,152 individual product observations across shops (including control shops) were excluded. This decreased the total number of product matches to 37,070.
Shopper unable to apply filters as instructed	For various reasons, some shoppers could not filter products as instructed.	Personalised ranking of offers – Differences in product offers could be observed that are not due to personalisation but rather due to different filter. Combined effect of offer and price personalisation.	Affected shops were excluded from calculations of the similarity index, as well as from the combined effect of offer and price personalisation.	37 shops were affected and hence excluded. In addition, 10 shops in the mobile scenario were marked as using incorrect filters. Those were excluded only where the calculations involved the mobile device scenario.
Shopper unable to use local currency	The design of the exercise asked mystery shoppers to record prices in local currency, but in a number of cases, websites showed prices in different currencies and shoppers were unable to change it.	Personalised pricing – Not knowing the exchange rate used by the e-commerce website, we cannot convert the affected results to a common currency.	Depends. If incorrect currency was used consistently throughout the shop, the mystery shop cannot be compared with the control shop,	13 shops excluded. In addition, in the case of 2 other shops, values in Scenario B were excluded.

		Combined effect of offer and price personalisation – same problem.	but steps within the mystery shop can be compared against one another. If incorrect currency was used and was is not clear in what instances, the shop needed to be excluded altogether.	
Shopper unable to access e-commerce website through a PCW	Some shoppers did not see on the Price Comparison Website a product offered by the targeted e-commerce website (even after searching for it). They were therefore not referred to the destination website through a PCW.	All parts of the analysis	All affected shops needed to be excluded because their results would not reflect personalisation based on PCW referral.	In 185 shops, data for Scenario B were excluded.
Insufficient number of products recorded in a step	In some cases, the product choice observed by the shopper on the website was lower than the required 5 products.	Personalised ranking of offers – if only, say, two products are observed, any rank difference will result in disproportionately low similarity index.	In the calculation of the similarity index, where the shopper recorded two or fewer products in one step, the step is excluded from the analysis.	39-44 shops excluded (varies across scenario pairs considered for analysis)

Source: London Economics analysis of mystery shopping data

Caveats

This section presents the limitations of the economic valuation using data from the mystery shopping exercise.

A key limitation arises from the use of real profiles for mystery shoppers. This approach limits the way parameters can be controlled for. For example, it is not feasible to place quotas on shoppers' personal characteristics (e.g. age, income, previous shopping history). Therefore, it would not possible to guarantee that the econometric analysis would pick-up the effect of these personal characteristics on pricing practices. This is because it cannot be guaranteed that personal characteristics categories are balanced across groups. In addition, there may not be enough observations within a personal characteristic category to isolate the effect.

The mystery shopping exercise also noted a high drop-out rate due to the length and complexity of the shopping exercise and implemented the following solution: Allowing up to 5 shops per individual shopper, if necessary, as opposed to 3 as initially proposed. This solution increases the probability of ensuring the mystery shopping can be completed within the required project timeline and that the required number of shops can be successfully implemented. However, this approach reduces the variation between shoppers. Therefore, there will be less variation in shopper characteristics relevant to personalisation e.g. socio-demographics, browser history or device used. It may also limit the ability of the economic valuation to control for shopper characteristics, including socio-demographics.

The mystery shopping approach also allows shoppers to conduct additional batches of shops for a website in case the initial visit did not result in sufficient successful shops. This approach allows the exercise to collect at least 4-5 mystery shops, and 1-2 control shops, per website. However, the approach carries the risk of picking up the impacts of **dynamic pricing.** If shops are conducted at different time periods, there is a risk that price differences between batches of shops might be due to dynamic pricing, rather than personalisation based on shopper characteristics.

For the purposes of the economic valuation, this should not be a concern, since the economic valuation compares prices for the mystery shop with prices for the control shop conducted in the same time period.

In all cases, the ability to detect the effect of price personalisation depends on the magnitude of the effect (i.e. the extent to which the personalisation occurs), as well as the noise in the data. Noise can occur because of shoppers' unobservable personal characteristics (e.g. their own browsing history, or browsing history of family members who use their devices).

A1.10.2 Use of the behavioural experiment to explore impacts of personalisation on consumer demand

The economic valuation exercise considered data from the behavioural experiment to assess:

- Whether consumers noticed personalisation;
- Whether they would purchase the product in real life; and
- How they feel about personalisation. For example, whether they don't like the way their data is collected, or whether they think it reduces the time spent searching for the right product.

The analysis requires sufficient sample sizes of respondents in personalisation treatments choosing to purchase products, noticing personalisation and indicating that personalisation is a driver of whether they would choose to make the purchase in real life. In addition, the analysis requires significant differences in the proportion of participants purchasing products between personalisation and no personalisation situations.

However, in the behavioural experiment, there was no statistically significant difference in the proportion of participants choosing to purchase a product between personalisation and no personalisation scenarios (see Section 6.2.1 in synthesis report). Therefore, the economic valuation analysis cannot use evidence from the behavioural experiment to assess demand impacts of personalisation when it comes to product purchasing.

Nonetheless, the behavioural experiment suggested that personalisation may have an impact on whether participants were more or less likely to purchase personalised products specifically, discussed in more detail in Section 6.2.2 in synthesis report).

A1.10.3 Use of consumer survey to identify impacts on shopping/purchasing behaviour of personalised pricing

This section describes how the consumer survey can be used to explore the impact of personalisation on consumer surplus more fully, through the impact of personalised pricing on consumer demand. The consumer survey can be used to examine:

- Whether consumers notice personalised pricing, targeted advertising or personalised ranking of offers[48];
- Whether and how they respond if they notice personalisation;
- What benefits or concerns consumers may have regarding personalisation. Benefits or concerns could include whether consumers perceive that personalisation affects the range of products for which they shop, or which they purchase, online; and
- Whether these benefits or concerns are linked to consumers' motivations and drivers when purchasing products online

The sections below list the questions in the consumer survey that could be used for the economic valuation. Below we summarise how these questions can be used to explore the impact of online personalisation on consumer demand.

Questions inserted into consumer survey relating to whether consumers notice personalisation and whether/how they respond

The questions below are asked to respondents in experiment countries, and assess whether respondents notice personalisation, and whether/how they respond.

QTA1. Thinking about your recent browsing or shopping for products online, did you notice advertisements targeted to you because of your online behaviour?
[SINGLE ANSWER]

1. Yes
2. No
9. Don't know

[ASK IF "YES" IN QTA1 [QTA1=1]]
QTA2. How did you respond to these advertisements? Select all that apply.
[MULTICODE. RANDOMISE STATEMENTS 1-6]

1. I clicked on advertising because it was relevant to my interests or needs
2. I ignored advertising because it was not (no longer) relevant and continued browsing or shopping in the same window
3. I closed the window and cleared cookies
4. I switched browsers
5. I switched device
6. I used the incognito/privacy mode on my browser
7. Other, please specify____[OPEN BOX. FIX POSITION]

[48] Referred to as "personalised offers" in the questionnaire.

QPO1. Thinking about your recent browsing or shopping for products online, did you notice offers (e.g. the type of products shown in a search result) being personalised to you because of your online behaviour?
[SINGLE ANSWER]
1. Yes
2. No
9. Don't know

[ASK IF "YES" IN QPO1 [QPO1=1]]
QPO2. How did you respond to these offers? Select all that apply.
[MULTICODE. RANDOMISE STATEMENTS 1-6]
1. I followed product recommendations if they were relevant to my interests or needs
2. I ignored product recommendations because they were no longer relevant to my interests or needs, and continued browsing or shopping in the same window
3. I closed the window and cleared cookies
4. I switched browsers
5. I switched device
6. I used the incognito/privacy mode on my browser
7. Other, please specify____[OPEN BOX. FIX POSITION]

QPP1. Thinking about your recent browsing or shopping for products online, did you believe that prices were personalised to you because of your online behaviour?
[SINGLE ANSWER]
1. Yes
2. No
9. Don't know

[ASK IF "YES" IN QPP1 [QPP1=1]]
QPP2. How did you respond? Select all options that apply.
[MULTICODE. RANDOMISE STATEMENTS 1-5]
1. I continued with the transaction
2. I stopped the transaction, closed the window and cleared cookies
3. I switched browsers
4. I switched device
5. I used the incognito/privacy mode on my browser
6. Other, please specify_____[OPEN BOX. FIX POSITION]

Questions in the consumer survey relating to benefits or concerns with personalisation

Q7. What do you see as the main benefits of online targeted advertising for internet users such as yourself? Select max. 3 answers.
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1-6]
1. I see the products that I might be interested in
2. It reduces the number of irrelevant adverts I see
3. It saves advertisers money, savings which could be passed on to me
4. It helps to fund the internet and allows "free" online content
5. I see products for the best available price
6. It allows e-commerce websites to offer me reductions/promotions
7. I don't see any benefits [SINGLE ANSWER. FIX POSITION]
9. Don't know [SINGLE ANSWER. FIX POSITION]

Q8. What are your main concerns with respect to online targeted advertising?
Select max. 3 answers.
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1-9]
1. My online data is collected/ a profile is made about me
2. Cookies are installed on my computer
3. My personal data could be used for other purposes and/or I don't know with whom it might be shared

4. It could cause exposure to inappropriate advertising
5. It limits my choice of products
6. I may end up paying more for products
7. It negatively affects my trust in e-commerce
8. I cannot "opt-out"/refuse
9. I don't have any concerns [SINGLE ANSWER. FIX POSITION]
99. Don't know[SINGLE ANSWER. FIX POSITION]

Q12. What do you see as the main benefits of online personalised offers for internet users such as yourself? Select max. 3 answers.
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1-5]
1. I see the type of products that I might be interested in
2. I get the best available price for products
3. It allows e-commerce websites to offer me reductions/promotions
4. I can more easily choose products that suit my needs
5. It saves me time when searching online
6. I don't see any benefits [SINGLE ANSWER. FIX POSITION]
99. Don't know [SINGLE ANSWER. FIX POSITION]

Q13. What are your main concerns with respect to online personalised offers? Select max. 3 answers
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1-8]
1. My online data is collected/ a profile is made about me
2. Cookies are installed on my computer
3. My personal data could be used for other purposes and/or I don't know with whom it might be shared
4. It limits my choice of products
5. I may end up paying more when I buy a product
6. It negatively affects my trust in e-commerce
7. I cannot "opt-out"/refuse
8. I don't have any concerns [SINGLE ANSWER. FIX POSITION]
99. Don't know[SINGLE ANSWER. FIX POSITION]

Q17. What do you see as the main benefits of online personalised pricing for internet users such as yourself? Select max. 3 answers.
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1-4]
1. It ensures I can get the product I want as the higher price means that less people will buy it
2. I get the best available price for products
3. It allows e-commerce websites to offer me reductions/promotions
4. It allows e-commerce websites to increase product choice (incl. products they would otherwise make a loss on)
5. I don't see any benefits [SINGLE ANSWER. FIX POSITION]
9. Don't know [SINGLE ANSWER. FIX POSITION]

Q18. What are your main concerns with respect to online personalised pricing? Select max. 3 answers]
[MULTICODE. MAX. 3 ANSWERS. RANDOMISE STATEMENTS 1-8]
1. My online data is collected/ a profile is made about me
2. Cookies are installed on my computer
3. My personal data could be used for other purposes
4. It limits my choice of products
5. I may end up paying more when I buy a product
6. It negatively affects my trust in e-commerce
7. I cannot "opt-out"/refuse
8. I don't know with whom my personal data is shared
9. I don't have any concerns [SINGLE ANSWER. FIX POSITION]
99. Don't know [SINGLE ANSWER. FIX POSITION]#

Questions relating to the drivers of consumer purchases

QP1. Thinking about your recent purchases/shopping online, what would make you more likely to purchase a product in the future? Select all that apply.
[MULTICODE. RANDOMISE STATEMENTS 1-4]

1. The products shown matching my requirements or interests
2. Seeing products at the best available price
3. Trusting the brand or online seller/provider
4. Trusting the website to safeguard my personal data
9. Don't know [SINGLE ANSWER. FIX POSITION]

[EXPERIMENT COUNTRIES ONLY. ASK IF BOUGHT GOODS OR SERVICES ONLINE IN Q1 [Q1b=1, 2, 3, 4 OR 5]]
QP2. Thinking about your recent purchases/shopping online, what would make you less likely to purchase a product in the future? Select all that apply.
[MULTICODE. RANDOMISE STATEMENTS 1-4]

1. The products shown not matching my requirements or interests
2. Not seeing products at the best available price
3. Not trusting the brand or online seller/provider
4. Not trusting the website to safeguard my personal data
9. Don't know [SINGLE ANSWER. FIX POSITION]

The table below summarises the questions in the consumer survey that can be used to explore broader impacts of personalised practices.

Table 31 : Consumer survey questions used to identify impacts on shopping/purchasing behaviour

Questions in consumer survey	Options selected	Interpretation
Non-negative impacts on consumer welfare		
- QTA1 - QPO1 - QPP1 - QTA2 - QPO2 - QPP2 - Q8 - Q13 - Q18	**-**respondents answer 'Yes' to QTA1 or QPO1 or QPP1 in the consumer survey – i.e. whether respondents notice targeted advertising, personalised offers or personalised pricing respectively; AND -respondents answer options 1 to QTA2, QPO2 or QPP2 – i.e. respondents click on targeted advertising, follow product recommendations or personalised pricing respectively; AND -respondents answer option 7 to Q8 and option 6 to Q13, Q18.	**Inferring positive impact on consumer welfare** If: -consumers indicate that they notice personalisation and continue to shop, or follow product recommendations, and -consumers also indicate in the consumer survey that they are concerned about how targeted advertising/personalised pricing/offers use their online data. This could indicate one of the following things: A) Consumers are aware of, and concerned about, impacts of personalised pricing/offers/targeted advertising on privacy, but they follow product recommendations and/or continue to shop. Therefore, respondents are concerned about privacy, but the benefits of personalisation may outweigh the costs B) Indication of the privacy paradox that consumers say they are concerned about their privacy but continue to follow product recommendations and/or continue to shop. C) Indication that consumers may be concerned about their privacy, but may not understand how online sellers may use their data

		to personalise prices/offers/target advertising to them.
Negative impacts on consumer welfare		
- QTA1 - QPO1 - QPP1 - QTA2 - QPO2 - QPP2 - Q8 - Q13 - Q18	**-**respondents answer 'Yes' to QTA1 or QPO1 or QPP1 in the consumer survey – i.e. whether respondents notice targeted advertising, personalised offers or personalised pricing respectively; AND -respondents answer options 3, 4, 5 or 6 to QTA2, QPO2 or QPP2 – i.e. respondents close browser windows, switch devices etc. -respondents delete cookies, switch platforms or do not continue shopping in the behavioural experiment.	**Inferring negative impacts on consumer welfare**: If consumers indicate that they close the browser window, or do not continue to shop when they notice personalisation, it can be inferred that personalisation may have a negative impact on those consumers' welfare, or even their propensity to purchase goods online.
Positive impacts on probability of purchase		
- Q7 - Q12 - Q17 - QP1	**-**respondents answer option 1 to Q7, Q12 or Q17; CROSSED WITH -respondents answer option 1 to QP1 OR	**Inferring positive impacts on probability of purchase**: for example, if a respondent indicates that a benefit of personalisation is that he/she sees the products that they are interested in, and also indicates that they are likelier to purchase a product if it is suited to their needs.

	-respondent answers option 5 to Q7, 2 to Q12, 2 to Q17; CROSSED WITH -respondents answer option 2 to QP1	
Negative impacts on probability of purchase		
- Q8 - Q13 - Q18 - QP2 -	**-**respondents answer options 1,2,3,4,7,8,to Q8, options 1, 2,3,6,7, to Q13 or Q18; CROSSED WITH -respondents answer options 3 or 4 to QP2 -respondent answers option 5 to Q8, option 4 to Q13 or Q18; CROSSED WITH -respondent answers option 1 to QP2 -respondent answers option 6 to Q8, 5 to Q13 or Q18; CROSSED WITH -respondent answers option 2 to QP2	**Inferring negative impacts on probability of purchase:** consumer indicates that a concern with personalisation is that it negatively affects his/her trust in e-commerce, and also indicates that they are less likely to purchase a product if they do not trust the vendor/platform to safeguard their data.

Source: LE Europe

Annex 2 Review of the legal framework

A2.1.1 Applicable EU legislation to the online environment and possible relevance to personalisation practices

The European Commission policies aim to ensure that both sides of the market –consumers and businesses – have the optimal environment at European level in which to sell, purchase and perform their online transactions. The challenges are multiple, beginning with finding the right balance between ensuring the protection of consumers and safeguarding their trust in the market, whilst at the same time, allowing all concerned parties to thrive in the European digital environment.

The current EU legislative framework related to personalised pricing and offers is linked to the different stages of online activities carried about by consumers. As a result of the tracking of these online activities/online behaviour, consumers can be profiled and hence may observe/receive targeted advertising and personalised pricing/offers.

Online tracking is possible due to the fact that the consumer follows certain patterns of behaviour that are stored on a server by data controllers. Data is processed by these entities or data processors, which are the terms first used by the Directive on Data Protection (95/46/EC) and, consequently, by the General Data Protection Regulation (see below). The data processing allows the building of consumer profiles, giving business operators the possibility to target advertisements for certain products and to sometimes offer certain consumers different prices and search results, based on the characteristics and behaviour of the individual consumer.

The box below provides a high-level overview of the legislation that is applicable to the protection of consumers (and their data) in the online environment and how it may be relevant to personalised pricing/offers.

Box 1 : EU legislative documents applicable to the online environment and their possible relevance to personalisation practices

Name	Type of document	Relevance
Services Directive 2006/123/EC	Directive	• Non-discrimination requirement based on nationality or place of residence • Based on the freedom to provide and obtain services in the Treaties, strengthens the rights of consumers to receive services • Ensures legal certainty for consumers and service providers cross-border • Reduces administrative formalities and procedures for services
Draft Regulation on geo-blocking COM(2016) 289 final	Draft Regulation	• Facilitates cross-border access to digital services by preventing discrimination of EU citizens, based on nationality or place of residence • Aims to prevent "unjustified" geo-blocking • Expands measures in the Services Directives on consumer discrimination issues
E-commerce Directive 2000/31/EC	Directive	• Facilitates cross-border trade for digital services • Country of origin principle for information society service providers • Non-liability for intermediary services (e.g. access, caching, hosting) • Obliges service providers to comply with a set of information requirements (transparency)
Consumer Rights Directive 2011/83/EC	Directive	• Applicable to all types of B2C contracts, such as sales and service ones and contracts for the supply of digital content not supplied on a tangible medium • Applies to distance contracts (including online contracts) • Seeks to ensure harmonisation of national consumer rights in the areas it applies (maximum harmonisation) • Pre-contractual information requirements on, among others, the total price, or how it is to be calculated, when it cannot be calculated in advance due to the nature of the concerned product (transparency)
Unfair Commercial Practices Directive (UCPD) 2005/29/EC	Directive	• B2C scope - this is a consumer protection full harmonisation Directive • Applies to digital context • Prohibits unfair commercial practices (contrary to professional diligence and that distort or are likely to distort the economic behaviour of the consumer) such as misleading actions and omissions, as well as aggressive practices (harassment, coercion, undue influence)

Name	Type of document	Relevance
		• Practices deemed under all circumstances unfair without a case-by-case assessment against the general provisions of art. 5-9, are listed in the Annex I • The UCPD Guidance also provides examples of personalised prices and price discrimination that under specific circumstances may amount to an unfair commercial practice • Covers the price or the manner in which the price is calculated, or the existence of a specific price advantage
EU Data Protection Directive (Directive 95/46/EC)	Directive	• Defines personal data as data relating to an identified or identifiable person (who can be identified, directly or indirectly) • Establishes data protection principles • Processing of personal data shall be based on the grounds enumerated in the Directive • Obligations on data controllers • Provisions on automated individual decisions • Individuals have rights to access their data and object to data processing under certain circumstances • Regulatory framework for transfer of personal data to third countries
General Data Protection Regulation 2016/679 (GDPR)	Regulation	• Builds on aspects not sufficiently covered by the Data Protection Directive • Goal to prevent fragmentation - fully harmonizes data protection law • Further reinforces the EU data protection legal framework by expanding the scope of obligations and responsibilities of data controllers/third parties when dealing with personal data and reinforcing citizens' rights • Updated definition of consent • Provisions on automated individual decision-making, including profiling (Art 22)
E-privacy Directive 2002/58/EC as amended by Directive 2009/136/EC	Directive	• Ensure the right to privacy of individuals' personal data in the electronic communication sector • Ensure the free movement of data across sectors • Obligations of providers of publicly available electronic communications services and public networks to ensure confidentiality of communication and report data breaches to the relevant authorities (e.g. national regulatory authorities or data protection authorities) and individuals concerned when personal data has been compromised • Complements and particularises the Data Protection Directive and the GDPR • The Commission presented on 10 January 2017 a proposal for a Regulation on Privacy and Electronic Communications, which is discussed in the European

Name	Type of document	Relevance
		Parliament and the EU Council. The intention is to see it adopted and replace Directive 2002/58/EC by May 2018 • Article 5 (3) requires prior & informed consent before cookies (or similar technology: information stored on terminal equipment) are placed on a user's computer
Proposal for Regulation on Privacy and Electronic Communication COM(2017) 10 final	Draft regulation	• The requirement for a revision of the e-privacy Directive stems from the Digital Single Market Strategy and is also called upon in recital 173 of the GDPR. The objective is to ensure consistency with another regulation announced in the strategy such as the GDPR **Key aspects of the new Regulation[49]:** • Expanding the scope in order to include new over-the-top communication service providers (since last revision in 2009) such as WhatsApp, Facebook Messenger and Skype and not only traditional telecom operators • Ensure the same level of protection for consumers and a level playing field for electronic communication service ('ECS') market players across the EU • Confidentiality of communications covers in terms of scope both the content and the metadata related to it (e.g. traffic and location information related to one's communication) • With the users' consent is essential electronic communications data may be processed by providers of electronic communications services • The making use of the processing and storage capabilities of terminal equipment and the collection of information from end-users' terminal equipment can only take place with the consent from the end-user, unless it is necessary for carrying out the transmission of an electronic communication over an electronic communications network; for providing an information society service requested by the end-user; or if it is necessary for web audience measurement, provided that such measurement is carried out by the provider of the information society service requested by the end-user, Art 8.

[49] Proposal for a Regulation of the European Parliament and of the Council concerning the respect for private life and the protection of the personal data in electronic communications and repealing Directive 2002/58/EC (Regulation on Privacy and Electronic Communications). COM(2017) 10 final. Available at: https://ec.europa.eu/digital-single-market/en/news/proposal-regulation-privacy-and-electronic-communications

Name	Type of document	Relevance
		• Software permitting electronic communications will be required to offer the option to prevent third parties from storing information on the terminal equipment of an end-user or processing information already stored on that equipment, Art 10. Web browsers are encouraged to provide easy ways for end-users to change the privacy settings at any time during use. • Stronger unsolicited direct marketing communications provisions: the new Regulation bans unsolicited calls or emails when citizens have not given their prior consent to be contacted. Marketing callers will be obliged to "inform end-users of the marketing nature of the communication and the identity of the legal or natural person on behalf of whom the communication is transmitted". Art 16(6). In addition, online marketing callers will be required to display the phone number and present a special prefix identifying the call as a marketing call, Art16(3) • Harmonised approach to enforcement of privacy rules: the regulation is entrusted to the data protection authorities, which are already responsible for the GDPR
Regulation (EC) 1008/2008 on Common Rules for the operation of air services in the Community	Regulation	• It regulates the licensing of Community air carriers, the right of Community air carriers to operate intra-Community air services and the pricing of intra-Community air services, Art 1 • Stipulates that air carriers may freely set prices, Art 22(1) • Art 23 (1) on price transparency requires, in particular, the conditions applicable to air fares are published, the final price to be paid is always indicated during the booking process, the air fare and all unavoidable and foreseeable items are added to the fare, and the optional price supplements relating to services that supplement the air service itself is communicated in a clear, transparent and unambiguous way at the start of any booking process and their acceptance by the customer shall be on an 'opt-in' basis • Its aim is that consumers are able to effectively compare prices for air services

Name	Type of document	Relevance
Communication on data-driven Economy COM(2014) 442 final	Communication	• Raises awareness about the opportunities for growth and innovation that a data-driven economy brings • Calls for an EU action plan for creating the right environment in the Digital Single Market for Big Data and cloud computing technologies
Communication on online platforms COM(2016) 288 final	Communication	• Raises awareness about the potential online platforms hold for improving trust and transparency, when complying with data protection rules • Seeks to help users understand how the information collected about them is personalised and filtered • Focuses on different types of online advertising and distribution platforms, online marketplaces, search engines etc.
European Union Competition Law	Competition Law	• Price discrimination may be an abuse of a dominant position (if the undertaking using price discrimination has a dominant position)

As can be observed from the box above, a certain complementarity exists between the different pieces of legislation, covering various aspects of consumers' experience when accessing goods and services online. The following sections offer an in-depth review of the EU regulatory framework for the online environment, highlighting, where relevant, the provisions for market practices of personalised pricing and offers in which traders and consumers operate.

A2.1.2 Services Directive

The **Services Directive**[50] establishes the general framework for business services operations to consumers. It aims at removing barriers, enable free cross-border movement of services and guarantee consumers and providers legal certainty. The Directive focuses, to a large extent, on public sector measures facilitating cross-border services by reducing administrative burdens and facilitating cross-border co-operation between Member States[51].

Relevant for the current study is Article 20(2) of the Services Directive, which establishes that service providers should not contain discriminatory provisions based on the nationality and location of residence, unless objective circumstances are included (e.g. differences in price due to shipping costs). It is mentioned that "the principle of non-discrimination within the internal market means that access by a recipient, and especially by a consumer, to a service on offer to the public may not be denied or restricted by application of a criterion, included in general conditions made available to the public, relating to the recipient's nationality or place of residence."[52] Termed differently, according to this article Member States must ensure that the general conditions (terms and conditions) do not contain such discriminatory provisions for the access of services. Discriminatory provisions based on nationality and residence of the recipient are prohibited, unless due to objective circumstances as exemplified in the Recital.

Article 20 (1), which corresponds to Recitals 94 and 95, on the other hand, indicates that exceptions to the non-discrimination provisions are allowed if they are based on legitimate and objective criteria. Moreover, Recital 95 indicates by way of exception that **it is not unlawful if different tariffs and conditions apply to the provision of a service, where those tariffs, prices and conditions are justified for objective reasons related to conditions that vary from country to country**. Examples given are:

- Additional costs incurred because of the distance involved or the technical characteristics of the provision of the service;
- Different market conditions, such as higher or lower demand influenced by seasonality;
- Different vacation periods;
- Different pricing by different competitors; and
- Extra risks linked to rules differing from those of the Member State of establishment.

Moreover, the Commission released **a Staff Working Document** (SWD) in 2012[53] presenting the state of the implementation of Article 20(2) across Member States and the applicable national complaint handling authorities[54]. According to the SWD, the majority of Member States have placed the responsibility for complaint handling with the Consumer

[50] Directive 2006/123/EC of the European Parliament and of the Council of 12 December 2006 on services in the internal market. Available at : http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006L0123&from=EN
[51] The Services Directive excludes gambling, audio-visual and financial services from its scope and points to the telecommunications regulatory regime as lex specialis.
[52] See reference to Directive 2006/123/EC.
[53] European Commission (2012), "Commission Staff Working Document with a view to establishing guidance on the application of Article 20(2) of Directive 2006/123/EC on services in the internal market'
[54] Idem

Protection authorities. This is relevant, due to the fact that the Directive emphasises that discrimination cases have to be observed on a case-by-case basis.

The SWD's main conclusion is that it is difficult to make a general rule on whether discrimination based on residence is prohibited, as the assessment must be made on a case-by-case basis. While it is clear that artificial market segmentation or active, direct discrimination are not allowed, it is also clear that service providers are free to choose which markets they engage in and set the conditions for each market, as long as this is based on objective criteria.

With regard to online services the Staff Working Document states: *"Techniques allowing service providers to identify the location of the recipient and thus to direct the consumer to the offer adapted to the territory where he is resident are not per se indicators of discrimination. However, when service providers target their activities to many Member States and recipients in each of these countries are completely barred from accessing information on the conditions of access offered to recipients resident in other Member States, this could be an indication of the fact that different treatment is being applied."* In addition, the Staff Working Document describes the means for targeting online services, but the limits set by Article 20 of the Services Directive seem unclear at the present time.

Regarding interplay with other EU legislation, the Commission's 'Inception Impact Assessment' for the Proposal on geo-blocking[55] highlights that Article 8(3) of the Consumer Rights Directive[56] is complementary to Article 20(2) of the Services Directive[57]. Article 8(3) specifies the principle of transparency towards the consumer for distance sellers and establishes that the information on delivery restrictions has to be clearly indicated.

Two additional market studies on the application of Article 20(2) were performed on behalf of the Commission. The studies focused on e-commerce transactions and found that most cases of different treatment appear to be related to the location rather than to nationality and happened in a wide range of services such as: *"the sale of electronic goods, textiles, sports equipment, Do-It-Yourself ('DIY') goods, music downloads, car rental and mobile phone contracts"*[58].

A2.1.3 Proposal for a Regulation on geo-blocking

Another (commercial) practice observed in the online market is referred to as geo-blocking. This involves "practices used for commercial reasons, when online sellers either deny consumers access to a website based on their location, or re-route them to a local store

[55] DG Connect (2016), "Proposals to address unjustified geo-blocking and other discrimination based on consumers' place of residence or nationality". Inception impact assessment. Available at: http://ec.europa.eu/smart-regulation/roadmaps/docs/2016_cnect_002_geo-blocking_en.pdf

[56] Directive 2011/83/EU of the European parliament and of the Council of 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council. Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0083&rid=1

[57] European Commission (2012), « Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of the Services Directive: A partnership for new growth in services 2012-2015 ». Available at: http://ec.europa.eu/internal_market/services/docs/services-dir/implementation/report/SWD_2012_146_en.pdf

[58] The studies were published in 2009: "Mystery shopping evaluation of cross-border e-commerce in the EU" and the "Matrix Insight: Access to services in the Internal Market: Study on business practices applying different condition of access based on the nationality or the place of residence of service recipients — Implementation of Directive 2006/123/EC on Services in the Internal Market". Idem op. cite, p. 4

with different offers or prices"[59]. Unjustified geo-blocking undermines online shopping and cross-border sales.

The prevention of unjustified geo-blocking by way of legislative proposals was one of the actions foreseen in the Digital Single Market strategy. Consequently, in May 2016 the Commission made a legislative proposal for the Regulation of geo-blocking, whereas the Council agreed on its common position in order to start negotiations with the European Parliament in November 2016[60]. The proposed Regulation aims at addressing the problem of customers not being able to buy goods and services from online traders located in a different Member State, or being discriminated in sales conditions and prices compared to nationals.

The proposal defines situations for consumers when there can be no justified reasons for geo-blocking or other discriminations based on nationality, residence or location. The draft Regulation contains further details on how to treat the issues of barriers to access to websites, goods and services in the context of online shopping and cross-border sales and discrimination, based on nationality, location and place of residence. It also prohibits the blocking of access to websites and all other online interfaces and the rerouting of customers from one country version to another, and the discrimination against customers in four specific cases during the sale of goods and services and does not allow the circumventing of such a ban on discrimination in passive sales agreements. It is important to note that the proposal does not directly address any topic regarding pricing and dynamic pricing.

However, the results of the conducted ex-post evaluations, stakeholder consultations and impact assessments, presented in Section 3 of the proposal are of relevance to this study since geo-blocking practices often result in personalisation and price differentiation, based on consumers' nationality and place of residence. The stakeholder consultations concluded that the goods and services most affected by geo-blocking are: *"clothing, footwear and accessories, physical media (books), computer hardware and electronics, airplane tickets, car rental, digital content such as streaming services, computer games and software, e-books and MP3s. A majority of consumers and businesses consider that traders should inform customers about sales restrictions".*

A2.1.4 E-commerce Directive

Besides the Services Directive, the **E-commerce Directive 2000/31/EC**[61] also stresses the importance of consumer protection for removing barriers to cross-border services. The Directive has a twofold objective to:

- Create a legal framework ensuring the free movement of information society services between Member States and not to harmonise the field of criminal law as such; and
- Ensure a high level of Community legal integration so to establish a real area without internal borders for information society services.

Articles 5 and 6 of the Directive contain provisions requiring service providers to ensure that the service corresponds to a set of conditions regarding the clarity of information provided. For example, consumers should be able to easily identify

[59] European Commission (2016). Glossary. Available at: https://ec.europa.eu/digital-single-market/en/glossary #letter_g

[60] Please refer to the Council of the European Union press release on geo-blocking accessible at: http://www.consilium.europa.eu/en/press/press-releases/2016/11/28-geo-blocking/

[61] Directive 2000/31/EC on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market ('Directive on electronic commerce'). Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32000L0031&from=EN

commercial communication such as promotional offers, competitions or games, and to identify their conditions. However, the transparency requirements do not specifically focus on profiling on how the information obtained is used. This is a measure that is clearly lacking (for example: information to Internet users about profiling and on how the information will be used, i.e. not just for advertising, but also concerning discrimination when users access services such as insurance[62]).

A2.1.5 Consumer Rights Directive

The **Consumer Rights Directive 2011/83/EU**[63] that applies to all types of business-to-consumer (B2C) contracts[64], aims to achieve a real B2C internal market with the right balance between a high level of consumer protection and the competitiveness of enterprises[65].

The Directive replaces Directive 97/7/EC, the Distance Selling Directive, on the protection of consumers in respect of distance contracts; and Directive 85/577/EEC to protect consumers in respect of contracts negotiated away from business premises. **It therefore contains the specific rules on distance selling (including online contracts).** Distance selling contracts are defined as "any contract concluded between the trader and the consumer under an organised distance sales or service-provision scheme without the simultaneous physical presence of the trader and the consumer, with the exclusive use of one or more means of distance communication up to and including the time at which the contract is concluded".[66]

Article 6 of the Consumer Rights Directive sets out a single set of fully harmonised, EU-wide, pre-contractual information requirements regarding distance and off-premises contracts, including information on the total price of the product, as well as any extra fees. These requirements also apply to digital content contracts.

The Consumer Rights Directive is also in line with the information requirements in the Unfair Commercial Practices Directive[67] (analysed later in this chapter), the E-commerce and Services Directives (although the information requirements apply cumulatively). As regards the E-commerce and Services Directive, the CRD includes similar or more detailed requirements with respect to the description of the product (main characteristics, functionality and interoperability of digital content) and price. Providing this information in accordance with the CRD is therefore sufficient to also comply with the requirements of the E-Commerce and Service Directives. There is one exception – the E-Commerce Directive additionally requires specific information about promotional offers (Art. 6 of the E-Commerce Directive).

The specific information requirements of Article 6 in the CRD are included in the box below:

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[62] For an anecdotal example see: https://www.theguardian.com/technology/2016/nov/02/admiral-to-price-car-insurance-based-on-facebook-posts?CMP=share_btn_link

[63] Directive 2011/83/EU of the European parliament and of the Council of 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council. Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0083&rid=1

[64] With the exception of those explicitly excluded by the Directive and under the conditions and to the extent set out in its provisions

[65] A report on the application of the CRD was published on 29 May 2017. The evaluation showed that the Directive has positively contributed to the functioning of the business-to-consumer internal market and ensured a high common level of consumer protection, while targeted legislative interventions could help streamline and clarify the application of the Directive. http://ec.europa.eu/newsroom/just/item-detail.cfm?item_id=59332

[66] Directive 2011/83/EU referenced above.

[67] Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2015 concerning unfair business-to-consumer commercial practices in the internal market. Available at: http://eur-lex.europa.eu /LexUriServ/LexUriServ.do?uri=OJ:L:2005:149:0022:0039:EN:PDF

Article 6 Information requirements for distance and off-premises contracts

1. Before the consumer is bound by a distance or off-premises contract, or any corresponding offer, the trader shall provide the consumer with the following information in a clear and comprehensible manner:

(a) the main characteristics of the goods or services, to the extent appropriate to the medium and to the goods or services;

(b) the identity of the trader, such as his trading name;

(c) the geographical address at which the trader is established and the trader's telephone number, fax number and e-mail address, where available, to enable the consumer to contact the trader quickly and communicate with him efficiently and, where applicable, the geographical address and identity of the trader on whose behalf he is acting;

(d) if different from the address provided in accordance with point (c), the geographical address of the place of business of the trader, and, where applicable, that of the trader on whose behalf he is acting, where the consumer can address any complaints;

(e) the total price of the goods or services inclusive of taxes, or where the nature of the goods or services is such that the price cannot reasonably be calculated in advance, the manner in which the price is to be calculated, as well as, where applicable, all additional freight, delivery or postal charges and any other costs or, where those charges cannot reasonably be calculated in advance, the fact that such additional charges may be payable. In the case of a contract of indeterminate duration or a contract containing a subscription, the total price shall include the total costs per billing period. Where such contracts are charged at a fixed rate, the total price shall also mean the total monthly costs. Where the total costs cannot be reasonably calculated in advance, the manner in which the price is to be calculated shall be provided;

(f) the cost of using the means of distance communication for the conclusion of the contract where that cost is calculated other than at the basic rate;

(g) the arrangements for payment, delivery, performance, the time by which the trader undertakes to deliver the goods or to perform the services and, where applicable, the trader's complaint handling policy;

(h) where a right of withdrawal exists, the conditions, time limit and procedures for exercising that right in accordance with Article 11(1), as well as the model withdrawal form set out in Annex I(B);

(i) where applicable, that the consumer will have to bear the cost of returning the goods in case of withdrawal and, for distance contracts, if the goods, by their nature, cannot normally be returned by post, the cost of returning the goods;

(j) that, if the consumer exercises the right of withdrawal after having made a request in accordance with Article 7(3) or Article 8(8), the consumer shall be liable to pay the trader reasonable costs in accordance with Article 14(3);

(k) where a right of withdrawal is not provided for in accordance with Article 16, the information that the consumer will not benefit from a right of withdrawal or, where applicable, the circumstances under which the consumer loses his right of withdrawal;

(l) a reminder of the existence of a legal guarantee of conformity for goods;

(m) where applicable, the existence and the conditions of after sale customer assistance, after-sales services and commercial guarantees;

(n) the existence of relevant codes of conduct, as defined in point (f) of Article 2 of Directive 2005/29/EC, and how copies of them can be obtained, where applicable;

(o) the duration of the contract, where applicable, or, if the contract is of indeterminate duration or is to be extended automatically, the conditions for terminating the contract;

(p) where applicable, the minimum duration of the consumer's obligations under the contract;

(q) where applicable, the existence and the conditions of deposits or other financial guarantees to be paid or provided by the consumer at the request of the trader;

Article 6 Information requirements for distance and off-premises contracts
(r) where applicable, the functionality, including applicable technical protection measures, of digital content; *(s) where applicable, any relevant interoperability of digital content with hardware and software that the trader is aware of or can reasonably be expected to have been aware of;* *(t) where applicable, the possibility of having recourse to an out-of-court complaint and redress mechanism, to which the trader is subject, and the methods for having access to it.*

However, none of the information requirements relate directly to profiling technologies or how the information obtained from profiling is used (by the trader or a third party data broker; the provision that traders must notify relevant Codes of Conduct could apply if there was an applicable Code of Conduct on profiling). This might be indeed an area, which at least in the future will be governed by Codes of Conduct to which online providers of services will subscribe. Note, for example the European Advertising Alliance has published Guidelines on Behavioural Advertising which contain a notice requirement for advertising.[68]

A2.1.6 Unfair Commercial Practices Directive

The **Unfair Commercial Practices Directive 2005/29/EC[69] (UCPD)** applies to B2C relationships and prohibits all unfair commercial practices (Article 5). Its scope is designed in such a way that it can "address a wide range of practices and is sufficiently broad to catch fast-evolving products, services and sales methods."[70] In Article 2(d), the UCPD defines B2C commercial practices as "any act, omission, course of conduct or representation, commercial communication including advertising and marketing, by a trader, directly connected with the promotion, sale or supply of a product to consumers".

Essentially, the Directive prohibits all practices which are against professional diligence of the trader (care & skill that can reasonably be expected from a trader, commensurate with honest commercial practices, good faith) and which cause or is likely to cause the consumer to 'take a transactional decision he or she would not have otherwise taken' (distorting the economic behaviour of the consumer)[71].

It also prohibits misleading statements and misleading omissions, concerning prices of goods and services. The following provisions make clear that traders must be transparent about the prices charged and how the prices are calculated.

- Article 6 (d) misleading statements about the price and / or the manner in which the price is calculated, and /or the existence of a specific price advantage; and
- Article 7 (4) (c) misleading omissions- the trader must give information about the price inclusive of any taxes, or if the nature if the product is as such that the price cannot reasonably be calculated in advance, the manner in which the price is calculated.

[68] Guide to online behavioural advertising and online privacy webpage. Available at: http://www. youronlinechoices.eu/

[69] Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2015 concerning unfair business-to-consumer commercial practices in the internal market. Available at: http://eur-lex.europa.eu /LexUriServ/LexUriServ.do?uri=OJ:L:2005:149:0022:0039:EN:PDF

[70] Guidance on the implementation/application of Directive 2005/29/EC on unfair commercial practices, SWD (2016) 163 final. Available at: http://ec.europa.eu/justice/consumer-marketing/files/ucp_guidance_en.pdf

[71] The UCPD was assessed in the broader Fitness Check of EU Consumer and marketing law covering 6 directives. It concluded that the substantive rules of these instruments remain overall fit for purpose and that the future efforts should focus on their better enforcement and awareness raising as well as some targeted amendments. http://ec.europa.eu/newsroom/just/item-detail.cfm?item_id=59332

While price discrimination and individualised, personalised pricing and behavioural profiling are not prohibited per se under the UCPD, under specific circumstances they might amount to a breach of the above-mentioned provisions.

Furthermore, the Directive prohibits aggressive practices involving harassment, coercion and undue influence, which distort the economic behaviour of consumers (Arts 8 and 9). Finally, the Directive lists certain practices that are unfair under all circumstances in a blacklist contained in the Annex I, including under No 18: "Passing on materially inaccurate information on market conditions or on the possibility of finding the product with the intention of inducing the consumer to acquire the product at conditions less favourable than normal market conditions."

The **Guidance on the implementation/application of Directive 2005/29/EC on Unfair Commercial Practices"**[72] provides further clarifications regarding Article 8 and 9 of the Directive on aggressive commercial practices and use of harassment: "marketing based on tracking and profiling must not involve aggressive commercial practices". "Persistent and unwanted solicitations" such as spam are also prohibited under point 26 of Annex I of the UCPD.

The Guidance further elaborates on the details surrounding the different practices and services concerned in the directive. It also provides some examples of business models often referred to as "platforms" and explains under which circumstances they fall within the scope of the UCPD.

Examples of business models often referred to as a platform:

- Search engines (e.g. Google, Yahoo!);
- Social media (e.g. Facebook, Twitter);
- User review tools (e.g. TripAdvisor);
- Comparison tools (e.g. Trivago.com, Rentalcars.com, Kayak.com, Booking.com);
- Collaborative economy platforms (e.g. Airbnb, Uber, BlaBlaCar);
- E-commerce platforms (marketplaces) (e.g. Zalando, Amazon, Alibaba, eBay);
- App stores (e.g. Apple App Store, Google Play, Amazon App Store); and
- Collective buying websites (e.g. Groupon).

Most importantly, and of particular relevance to this study, the Guidance also provides clarification regarding **dynamic pricing and price discrimination**. In Articles 6(1)(d) and 7(4)(c) UCPD, it is stated that "Under the UCPD, traders can freely determine the prices they charge for their products as long as they adequately inform consumers about total costs and how they are calculated. However, in some circumstances, dynamic pricing practices could meet the definition of 'unfair' under the UCPD." Personalised pricing follows the same criteria. In addition, the Guidance illustrates with relevant examples different cases of unfair practices. For example, as an unfair dynamic pricing practice (or a 'misleading action under Article 6(1)(d) UCPD) would be considered a case where the "…trader raises the price for a product after a consumer has put it in his digital shopping cart."

The figures below illustrate a few examples of misleading statements related to the availability of (online) goods and services and pricing/marketing methods that are considered as an unfair practice under the UCPD, as included in the Guidance:

[72] European Commission (2016), "Guidance on the implementation/application of Directive 2005/29/EC on unfair commercial practices". Available at: http://ec.europa.eu/justice/consumer-marketing/files/ucp_guidance_en.pdf

Figure 18 : Examples of misleading statements related to the availability of (online) goods and services and pricing/marketing methods

Misleading statements about limited availability of a product may be in breach of Article 6(1)(b) of the UCPD.

For example:

- *A major accommodation booking platform was fined by the Commercial Court of Paris for displaying misleading information on the availability of accommodation and the existence of price promotions.*[289]

- *In April 2014, the Dutch Advertising Code Committee found advertisements on a major accommodation booking platform to be misleading. The claims were: 'We have only 1 room left!' and 'Only 1 room left' at a specific price. The authority found that it was not clear to the average consumer that these claims only related to the rooms a hotel had made available through that platform. The platform's failure to inform consumers that its claims related to those rooms only meant that consumers could be misled into believing that the hotels were fully booked, whereas in fact the same hotels could have rooms available through other booking channels. In July 2014, this decision was upheld by the Appeals Board.*[290]

- *A comparison tool may use different techniques to imply to consumers that a product is not available. For example, by using the technique of "dimming", a comparison tool takes down pictures related to the offer of one specific provider while keeping the pictures of other providers. This could lead consumers to click much less frequently on the offer without pictures. If such a presentation is likely to deceive consumers, it could be contrary to Article 6(1)(b) as misleading in relation to the availability of a product and to Article 7(2) UCPD as information provided in an unclear manner.*

Source: European Commission (2016), "Guidance on the implementation/application of Directive 2005/29/EC on Unfair Commercial Practices"

Figure 19 : Examples of misleading statements related to the availability of (online) goods and services and pricing/marketing methods

Personalised pricing/marketing could be combined with unfair commercial practices in breach of the UCPD.

For example:

- *If the information gathered through profiling is used to exert undue influence e.g. a trader finds out that the consumer is running out of time to buy a flight ticket and falsely claims that only a few tickets are left available. This could be in breach of Article 6(1)(a) and Annex I No 7 UCPD.*

Source: European Commission (2016), "Guidance on the implementation/application of Directive 2005/29/EC on Unfair Commercial Practices"

An additional clarification offered in the Guidance that is relevant to the scope of this study concerns 'profiling' and its relation to both the UCPD and the General Data Protection Regulation[73]. Based on article 22 of the GDPR on automated processing of personal data, the Guidance concludes that the user has "the right not to be subjected to automated individual decision making will then extend to such profiling." Moreover, the conditions for the sending of direct marketing communications to consumers fall under Article 13 of the ePrivacy Directive.

Personalised pricing may be based on tracking technologies that entail the storing of information, or the gaining of access to information already stored in the terminal equipment. Article 5 (3) of the ePrivacy Directive provides that such practices shall only be allowed upon the user's consent, having been provided with clear and comprehensive information, in accordance with Directive 95/46/EC (to be replaced by the General Data Protection Regulation as of 25 May 2018).The UCPD guidance goes further to explain that the mention of 'material' in Article 7.5 also covers the information requirements for the processing of personal data, which must be provided to the consumers. As the document states, "if the trader does not inform a consumer that the data he is required to provide to the trader in order to access the service will be used for commercial purposes, this could be considered a misleading omission of material information". Market operators are obliged "to identify the commercial intent of the commercial practice if not already apparent from the context"[74] (Article 7.2).

Certain forms of differential or discriminatory pricing may therefore be in breach of the Unfair Commercial Practices Directive.

Complimentary to the above-mentioned Directives, several other legislative instruments exist in order to address specifically the aspects not covered, namely the privacy and security of personal data:

- The EU Data Protection Regulation;
- The General Data Protection Regulation (GDPR); and
- The ePrivacy Directive and the proposal for Regulation on privacy and electronic communications services

[73] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. Available at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679&from=EN

[74] Directive 2005/29/EC referenced above.

A2.1.7 EU Data Protection Directive

The **EU Data Protection Directive 95/46/EC**[75] applies to the processing of personal data (Article 3).

EU data protection law lays down principles relating to processing of personal data. Additionally, the Directive contains provisions on information in cases of collection of data from the data subject and information where the data have not been obtained from the data subject.

Article 2 of the Directive elaborates that:

- Personal data relates to "an identified or identifiable natural person ('data subject'); an identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity;" and
- The Directive contains provisions on 'special categories of data', defined in Article 8 of the Directive. The processing of such data is prohibited unless it is permitted on certain grounds enumerated in the Directive.

Member States shall, within the limits of the provisions of the Directive, determine more precisely the conditions under which the processing of personal data is lawful (Article 5). Article 7 of the Directive enumerates grounds for processing of personal data.

We hereby put the provisions of the EU Data Protection Directive in practice. To illustrate, when websites collect information, for instance by using profiling technologies, and share that information with third party data brokers, which is then used for dynamic or differential pricing on other websites, the first question to be assessed on a case-by-case basis is whether the data collected is 'personal', i.e. it allows the direct or indirect identification of the user. <u>If it is personal data, then the data controller (being, the original website and or the data broker) must inform the user about the purposes of the processing, including which third parties obtain the information and how it will be used</u>. Clearly, in the context of online profiling the question arises how specific the information given to the consumer has to be.

A further complicating factor is that some of the parties in the ad and profiling network are likely to be outside the EEA, which not only raises questions about the provisions on transfer of personal data to third countries but also about practical enforcement.

Article 15 of the Directive contains specific limitations on **automated decision-making**. This may be applicable to a price offered to a consumer as a consequence of automated profiling. However, the provision does not contain an absolute prohibition (which already in the early 1990s would have been unrealistic), but provides for exceptions, allowing automated decision-making for example in relation to the entering of a contract, if there are suitable measures to safeguard the individual's legitimate interests, either in the procedure employed or by legislation. As an illustration, in a UK Court of Appeal Decision in 2007 (*Johnson v Medical Defence Union)* the Court made a distinction between data protection and the fairness of the commercial practice (an insurance company deciding not to renew an insurance contract for a medical consultant based on an automated scoring system). The Court held that it was not the function of data protection law to assess the *fairness* of the commercial practice, but only granted procedural protection ensuring fair processing of personal data.

[75] Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data. Available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31995L0046:en:HTML

Secondly, according to Article 12 of the Data Protection Directive, the data subject has the right to access the data and receive intelligible information regarding the purpose of the processing, the categories and the recipients of their data:

Article 12 Right of Access

Member States shall guarantee every data subject the right to obtain from the controller:

(a) without constraint at reasonable intervals and without excessive delay or expense:

- confirmation as to whether or not data relating to him are being processed and information at least as to the purposes of the processing, the categories of data concerned, and the recipients or categories of recipients to whom the data are disclosed,

- communication to him in an intelligible form of the data undergoing processing and of any available information as to their source,

- knowledge of the logic involved in any automatic processing of data concerning him at least in the case of the automated decisions referred to in Article 15 (1);

(b) as appropriate the rectification, erasure or blocking of data the processing of which does not comply with the provisions of this Directive, in particular because of the incomplete or inaccurate nature of the data;

(c) notification to third parties to whom the data have been disclosed of any rectification, erasure or blocking carried out in compliance with (b), unless this proves impossible or involves a disproportionate effort.

There are different challenges related to the data protection legislation at EU level. For instance, a report on the implementation of the Directive by Member States found that the interpretation of some of the provisions vary from one Member State to another, such as the concept of 'special categories of data'.[76] As the Directive does not fully harmonise the law and leaves Member States a margin of discretion in transposing the Directive into national law, data protection law has varied significantly between the Member States. However, this lack of harmonisation is addressed with the revision of the legislation with the General Data Protection Regulation.

Secondly, and more generally, the data protection law focuses on procedural aspects and, in particular, data processing can be justified by consent or necessity. Although the Directive (and even more the Regulation) requires informed consent, it is doubtful whether this protects consumers sufficiently against unfair discriminatory pricing, as consumers may happily give consent when, for example, they read a 'free' online newspaper, not reading the Privacy Policy and quickly clicking 'agree' to the relevant cookie policy. Consumers are completely overloaded with information and frequently privacy policies and terms and conditions are lengthy (several hundred pages). Furthermore, the question why personal data is collected by data brokers is complex and dynamic, and any impacts on prices consumers pay much later based on their online profile may be opaque. New ways should be found to illustrate and to make transparent to consumers the relationship between data collection, browsing patterns and potential impacts on discriminatory pricing. The General Data Protection Regulation as described in the next sub-section addresses this issue.

A2.1.8 General Data Protection Regulation

Issues related to fragmentation of data protection create, across the EU, legal uncertainty and risks to the protection of personal data of natural persons, when it comes to online activity persisted. Thus, there was a need for reinforcing even further the EU Data Protection framework (see the EU Data Protection Directive 95/46/EC), in order to respond to the evolving economic and security realities, especially in the digital space.

[76] European Commission, "Analysis and impact study on the implementation of Directive EC 95/46 in Member States". Available at: http://ec.europa.eu/justice/policies/privacy/docs/lawreport/consultation/technical-annex_en.pdf

In fact, one of the main reasons for reforming Directive 95/46/EC was not only to take into account the rapid technological advances, but also to promote trust to consumers in the digital economy and with online traders in particular.

The **General Data Protection Regulation** (GDPR)[77] is considered to be one of the key regulations driving the DSM, as the market cannot function as long as EU citizens cannot trust that online services will sufficiently protect their personal data. The introduction of the GDPR explains the need for taking the measures to further prevent fragmentation and privacy issues: *"Differences in the level of protection of the rights and freedoms of natural persons, in particular the right to the protection of personal data, with regard to the processing of personal data in the Member States may prevent the free flow of personal data throughout the Union. Those differences may therefore constitute an obstacle to the pursuit of economic activities at the level of the Union, distort competition and impede authorities in the discharge of their responsibilities under Union law. Such a difference in levels of protection is due to the existence of differences in the implementation and application of Directive 95/46/EC."*[78]

The new Regulation entered into force on 24 May 2016 and will be applicable as of 25 May 2018 and fully harmonises data protection law across the EU/EEA. The key changes of this new Regulation are:

- Easier access for data subjects to their own data;
- New definition of consent requiring a clear affirmative action from data subjects;
- New provisions on transparency regarding the data processing;
- Data portability as right of data subjects to transfer their personal data from data processor to another;
- Obligation for businesses and organisations to notify data subjects of data breaches as well the competent authorities; and
- Increased responsibility and accountability for those processing personal data: businesses and organisations are obliged to frequently undertake data protection risk assessments, appoint data protection officers and apply the principles of "data protection by design" and "data protection by default" when processing personal data[79].

Article 17 lays down that the data subject has the right to request the erasure of their personal data ("*right to be forgotten*") under certain conditions. In addition, in relation to this study, Articles 21.2 and 21.3 cover personal data processed for direct marketing purposes, in which case "*<u>the data subject shall have the right to object at any time to processing of personal data concerning him or her for such marketing, which includes profiling to the extent that it is related to such direct marketing</u>".*

Moreover, Article 22 of the GDPR on the right not to be subject to decision-making based on automated processing, including profiling, is also relevant to the scope of the study. In a context of increasingly digitised and automated processes, it captures future implications of new technologies such as the Internet of Things, Big Data and Artificial Intelligence. The Article states that "*<u>The data subject shall have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her</u>."* Automated processing is to be understood as *"any form of automated processing of personal data consisting of the use of those data to evaluate certain personal aspects relating to an individual, in*

[77] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. Available at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679&from=EN

[78] Regulation referenced above(EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. Available at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679&from=EN

[79] European Commission, "How does the data protection reform strengthen citizens' rights", Factsheet, January 2016. Available at: http://ec.europa.eu/justice/data-protection/document/factsheets_2016/factsheet_dp_reform_citizens_rights_2016_en.pdf

particular to analyse or predict aspects concerning that individual's performance at work, economic situation, health, personal preferences, interests, reliability, behaviour, location or movements".

The GDPR also moves forward the concepts of 'data protection by design and by default' with Article 25.2. The data controller bears the responsibility of taking the measures to limit personal data processing to the necessary minimum and for specific purpose each time: *"That obligation applies to the amount of personal data collected, the extent of their processing, the period of their storage and their accessibility. In particular, such measures shall ensure that by default personal data are not made accessible without the individual's intervention to an indefinite number of natural persons."* As part of bearing the responsibility, the data controller is obliged to notify the data subject (Article 34) and the relevant data protection authorities and bodies in case that a data breach occurs and it is likely to result in a high risk to the freedom and rights of natural persons the data subjects,. Additionally, consumers can direct their complaints to the National Data Protection Authorities, whose tasks and powers have also been extended with this legislation[80].

A2.1.9 ePrivacy Directive and Proposal for a Regulation on privacy and electronic communications

The review of the **ePrivacy Directive 2002/58/EC**[81] is another key milestone set under the Digital Single Market that aims to reinforce trust and security across the EU. The current directive relies on the definitions of the EU Data Protection Directive (Directive 95/46/EC) and the EU telecom framework[82]. The Directive complements and particularises Directive 95/46/EC as it seeks to ensure the respect for private life, including confidentiality of communications, and the protection of personal data of natural persons in the electronic communications sector. The protection of private life is granted both to natural and legal persons, which means that business secret and companies' communications are also protected.

The scope includes the activities part of the electronic communications sector as prescribed in Article 1: *"This Directive harmonises the provisions of the Member States required to ensure an equivalent level of protection of fundamental rights and freedoms, and in particular the right to privacy, with respect to the processing of personal data in the electronic communication sector and to ensure the free movement of such data and of electronic communication equipment and services in the Community."*

Most importantly, the Directive prohibits any interference with the confidentiality of communications and the related traffic data by persons other than users, without the consent of the users concerned, except when legally authorised to do so (Article 5). <u>The Directive requires data controllers to also obtain consent from the user prior to storing or accessing information (such as cookies) on the user's electronic devices </u>(Article 5.3.). In addition to the confidentiality of communications (Article 5), the Directive establishes that service providers shall inform the consumer/user on the types of traffic data that is being recorded (when consent has been given) while users/consumers' consent can only be given for the provision of value-added services addressed to them (Article 6). With Article 15, 'the application of certain provisions of Directive 95/46/EC', the Directive leaves it to

[80] For a more in-depth analysis please refer to Deloitte Luxembourg (2016), "EU agrees on new Privacy Regulation". Available at: http://www2.deloitte.com/lu/en/pages/risk/articles/eu-agress-new-privacy-regulation.html

[81] Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector ('Directive on privacy and electronic communications'). http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002L0058:en:HTML

[82] European Commission, Regulatory Framework for electronic communications in the European Union. Available at: https://ec.europa.eu/digital-single-market/sites/digitalagenda/files/Copy%20of%20Regulatory%20Framework%20for%20Electonic%20Communications%202013%20NO%20CROPS.pdf

Member States to adopt legislative measures providing for the retention of data for a limited period, strictly justified on the grounds laid down in the same article.

The Directive's provision states that unsolicited communications provided through specific technologies have to be consented to: *"The use of automated calling systems without human intervention (automatic calling machines), facsimile machines (fax) or electronic mail for the purposes of direct marketing may only be allowed in respect of subscribers who have given their prior consent*" (Article 13).

The Commission announced as part of the DSM Strategy the ongoing review of the Directive that resulted in the proposal for a Regulation on privacy and electronic communications to adapt to technological challenges.

The reform of the ePrivacy Directive could only take place once the General Data Protection Regulation was adopted, as announced in the DSM Strategy, given the strong relationship between the two pieces of legislation. To this end, in 2016, the Commission ran a series of public consultations in the period of April – July 2016 in order to identify areas of improvement and assess the impact of the directive. The findings were published in a report[83] in December 2016 and were taken into account in the legislative proposal put forward by the Commission on the 10th January 2017 for a new Regulation on Privacy and Electronic Communications[84] (see end of the current Section for more information).

According to the results of the public consultation, the majority of citizens, consumer and civil society organisations' respondents finds that the ePrivacy Directive brings benefits in terms of enhancing trust, security and confidentiality in electronic communication. Nonetheless, the majority (76.2%) think that the directive has not fully achieved its objective for better confidentiality and free movement of data: *"or has done so to a small extent. Some 58.3% of the ECN[85]/ECS[86] industry agrees with this statement while the industry at large (57.4%) thinks this objective has been achieved to a significant or moderate extent."* [87] The areas of improvement include harmonisation of rules that allow for different national interpretations and the need for enforcement of the Directive in a less fragmented manner, more sector-specific instruments for confidentiality and the resolving issues related to the lack of real choice whether to accept cookies or not.

The main complaints from citizens and consumer organisations according to the public consultation report include:

- Unsolicited commercial communications: related to "unclear application to non ECS, unclear mix of opt-in and opt-out system, 'spam continues'";
- Confidentiality: identified problems include "unclear scope", "OTT services are not covered", "general distrust";
- Traffic and location data: *"unclear application of rules when data is both location and traffic data, scope only covers ECS whereas data is generated by apps and services which are not ECS"*;

[83] European Commission, Full report on the public consultation on the ePrivacy Directive. Available at: https://ec.europa.eu/digital-single-market/en/news/full-report-public-consultation-eprivacy-directive

[84] Proposal for a Regulation of the European Parliament and of the Council concerning the respect for private life and the protection of the personal data in electronic communications and repealing Directive 2002/58/EC (Regulation on Privacy and Electronic Communications). COM(2017) 10 final. Available at: https://ec.europa.eu/digital-single-market/en/news/proposal-regulation-privacy-and-electronic-communications

[85] ECN refers to "electronic communication network": through the ECN, the competition authorities inform each other of proposed decisions and take on board comments from the other competition authorities. In this way, the ECN allows the competition authorities to pool their experience and identify best practices. Retrieved from: http://ec.europa.eu/competition/ecn/index_en.html

[86] ECS refers to "electronic communication service": a service which consists wholly or in part in the conveyance of signals on networks. Excluded are broadcasting services which exercise editorial control over content, and information society services. Retrieved from: http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/586641/EPRS_BRI(2016)586641_EN.pdf

[87] Full report on the public consultation on the ePrivacy Directive referenced above.

- There are too many different competent authorities for notification of data breaches under the ePrivacy Directive and the GDPR; and
- The implementation on national level of the Directive has according to the majority not led to a significant improvement of data protection and that the right to protect their communication should be ensured by legislation (e.g. "securing Wi-Fi connections or by using encryption apps").

Regarding cookies, the overwhelming majority of 96.5% of citizens and consumer organisations would prefer to be asked for consent: *"69.4% said they want to be asked before cookies are used for frequency capping, 62.3% for website analytics and 60% before identifiers are used by information society services to detect fraud."*[88] They are also in favour of a single competent authority tasked with the enforcement of the Directive.

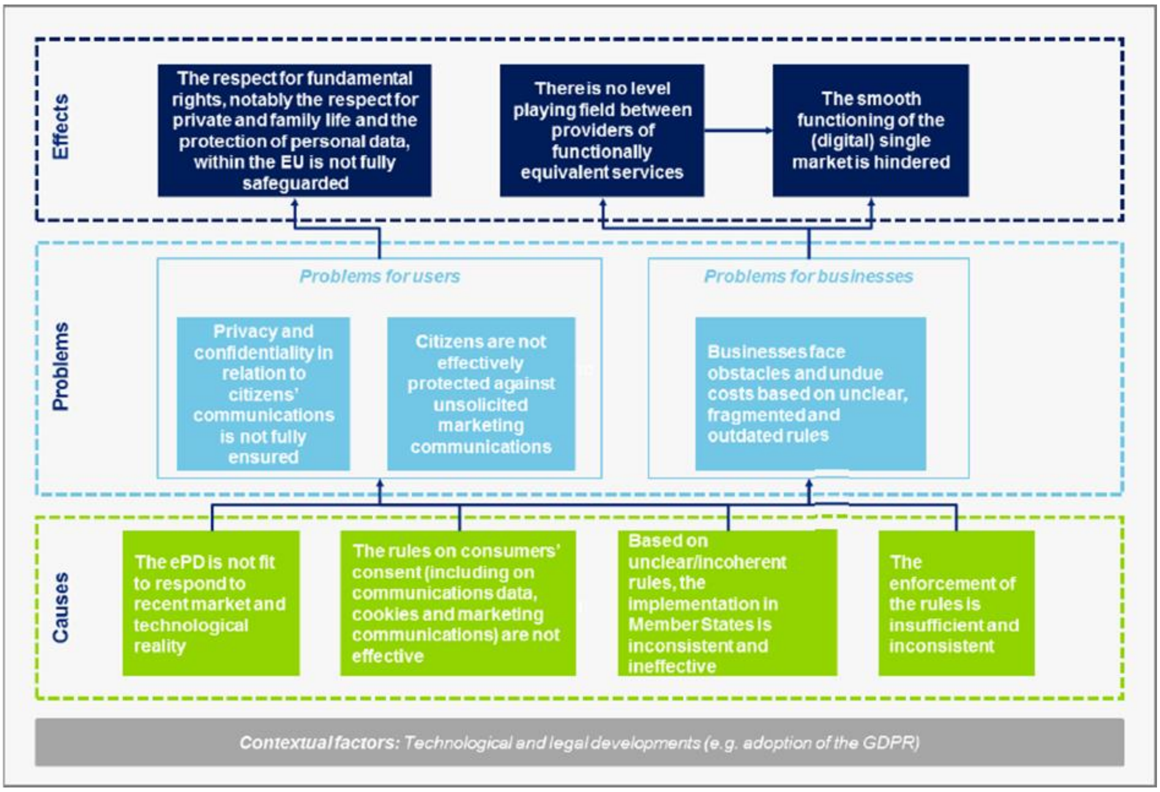
In line with the public consultations conducted, the results of a Eurobarometer survey on ePrivacy[89] also showed that out of 27,000 respondents 72% put a high priority on the confidentiality of their e-mails and instant messaging, and 71% do not approve their information to be shared with companies without their consent, regardless of the improvement of services they may receive. Respondents became even more privacy-conscious when it comes to their personal information on their devices being accessed without permission.

Following the public consultation, in January 2017 the Commission published the ex post **Regulatory Fitness and Performance Programme** (REFIT)[90] evaluating the efficiency, effectiveness and relevance of the ePrivacy Directive from 2009 to 2016. The REFIT found that the Directive has not fully met its objectives and it needs revision. As stated in the executive summary of the ex-post REFIT: "*the provisions of the Directive remain fully relevant to meet the objectives of ensuring privacy and confidentiality of communications but some of its rules are no longer fit for purpose in light of technological and market developments and changes in the legal framework*"[91].

Moreover, the Final report evaluating and reviewing the ePrivacy Directive conducted by Deloitte on behalf of DG CNECT supports these findings and illustrates some of the persistent issues:

[88] Idem
[89] European Commission, DG CONNECT, Flash Eurobarometer 443 (2016), "ePrivacy", Briefing Note, 2016. Available at: https://ec.europa.eu/digital-single-market/en/news/eurobarometer-eprivacy
[90] Ex-post REFIT evaluation on ePrivacy Directive 2002/58/EC. Available at: https://ec.europa.eu/digital-single-market/en/news/proposal-regulation-privacy-and-electronic-communications
[91] Executive summary of the ex-post REFIT evaluation. Available at: https://ec.europa.eu/digital-single-market/en/news/proposal-regulation-privacy-and-electronic-communications

Figure 20 : Persistent issues of the ePrivacy directive



Source: European Commission (2017), "Evaluation and review of Directive 2002/58 on privacy and the electronic communication sector" [92]

The results of the ex-post REFIT evaluation were published as an accompanying document to **the proposal for a Regulation on privacy and electronic communication**[93] that the Commission made in January 2017. The proposal seeks to be consistent with the GDPR, to respond to the new technological realities and address some of the persisting issues described above. The proposal is designed in such a way that "*all matters concerning the processing of personal data not specifically addressed by the proposal are covered by the GDPR*". The new Regulation seeks to resolve issues that were not sufficiently or clearly addressed by the ePrivacy Directive such as lack of harmonisation of data protection rules in electronic communication on national level, "*unnecessary burden on businesses and consumers*" due to at the same time under- and over-inclusive consent-based rule (such as the consent requirement of Article 5.3 regarding storing information (i.e. cookies) on users' electronic devices).

The ultimate objective of the proposal is to ensure the respect for private life, including confidentiality of communications, for end-users of electronic communications services and the protection of personal data of natural persons, as well as the free movement of data in the EU. Article 5 ensures the confidentiality of the electronic communications data while Articles 6 and 7 list the limited permitted use of such data and the requirements regarding deletion of these data. According to Article 9, the user should be periodically reminded that he/she has a right to withdraw consent regarding such processing. Unsolicited direct marketing communications is addressed in Article 16 giving the right to users not to receive unsolicited communications for direct marketing. In order to ensure alignment with the

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[92] Deloitte TTL on behalf of the European Commission, DG CONNECT (2017), "Evaluation and review of Directive 2002/58 on privacy and the electronic communication sector" (SMART 2016/0080), Final report. Available at: https://ec.europa.eu/digital-single-market/en/news/evaluation-and-review-directive-200258-privacy-and-electronic-communication-sector

[93] European Commission (2017), "Proposal for a Regulation on Privacy and Electronic Communications". Available at: https://ec.europa.eu/digital-single-market/en/news/proposal-regulation-privacy-and-electronic-communications

rest of the EU data protection framework, the Regulation is entrusted to the same data protection authorities responsible for the GDPR (Article 18).

Another key aspect is to simplify the rules on cookies. The making use of the processing and storage capabilities of terminal equipment and the collection of information from end-users' terminal equipment can only take place with the consent from the end-user, unless it is necessary for carrying out the transmission of an electronic communication over an electronic communications network; for providing an information society service requested by the end-user; or if it is necessary for web audience measurement, provided that such measurement is carried out by the provider of the information society service requested by the end-user. In addition, software placed on the market permitting electronic communications, including the retrieval and presentation of information on the internet, such as browsers, shall be required to offer the option to prevent other parties than the end-user from storing information on the terminal equipment of an end-user or processing information already stored on that equipment. Web browsers are encouraged to provide easy ways for end-users to change the privacy settings at any time during use and to allow the user to make exceptions for or to whitelist certain websites or to specify for which websites (third) party cookies are always or never allowed.

A2.1.10 Air Services Regulation

The **Air Services Regulation**[94] is another piece of legislation in relation to the scope of this study. Regarding information and non-discrimination, Article 23(1) of the Regulation relates to the transparency of pricing when it comes to air services. It indicates that "*the final price to be paid shall at all times be indicated and shall include the applicable air fare or air rate as well as all applicable taxes, and charges, surcharges and fees which are unavoidable and foreseeable at the time of publication*". Under this article, carriers and travel agencies are required to show in the final price all mandatory elements of the final price in a clear and detailed way, including the applicable taxes, charges and fees and surcharges. In addition, optional price supplements shall be communicated in a clear, transparent and unambiguous way at the start of any booking process and their acceptance by the customer shall be on an 'opt-in' basis.

A2.1.11 EU initiatives towards better and non-discriminatory access to goods and services online

Besides the standard legislative documents that aim to boost the digital economy across the EU, the European Commission also focuses on ensuring better and non-discriminatory access to goods and services online through other EU initiatives, including communications, initiatives, position papers and opinions.

Over the past years, several initiatives were launched to support the free movement of data, to put into place trusted online platforms and to ensure the security and privacy of the personal data in order to boost the digital economy. These initiatives are of particular relevance to the current study because of their focus on advances in data processing and analytics (Big Data) as well as the potential of valuable data-driven insights in the context of the digital economy for businesses, consumers and the overall economy across the EU.

The list of policy documents to be discussed in the next paragraphs are:

- Communication on Online Platforms;
- Free Flow of Data Initiative; and

[94] Regulation 1008/2008 of the European Parliament and of the Council of 24 September 2008 on common rules for the operation of air services in the Community. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF /?uri=CELEX:32008R1008&from=EN

- Communication on data-driven economy.

Communication on Online Platforms

The **Communication on Online Platforms**[95] released by the Commission in mid-2016, brings attention to the added value online platforms bring in terms of building trust and improving transparency in the information collection and sharing practices between different users, while complying with the EU Data Protection framework. One of the objectives of this Communication was to help users and consumers to "*understand how the information presented to them is filtered, shaped or personalised, especially when this information forms the basis*", which ultimately "*assists the efficient functioning of markets and consumer welfare*." Their activities fall in a spectrum relevant to the current study such as "*online advertising platforms, marketplaces, search engines, social media and creative content outlets, application distribution platforms, communications services, payment systems, and platforms for the collaborative economy*"[96].

The Communication also points to the network effects enjoyed by some platforms which put them in a position of power as regards the exploitation of business data (including that collected through online profiling). This is particularly important in the context of the relationship between the online platform (determining the purposes and means of online profiling) and the (small to medium-sized) businesses selling through the platform. **Thus data ownership (i.e. who owns the customer data which is then exploited for differential pricing or dynamic pricing) becomes a key regulatory issue,** also from a competition law perspective (as the relevant platform may have a dominant position in the market and/or impose restrictive agreements on suppliers). As the Communication points out, "EU competition policy is based on constant principles, but its tools are flexible and can be effectively applied to the specificities of different markets, including online platforms".

Data economy strategy

The European Commission aims to boost a data-driven economy, in order to stimulate research and innovation on data, to increase business opportunities and increase the availability of knowledge and capital across Europe.

The Commission adopted in July 2014 a **Communication**[97] **''Towards a thriving data-driven economy".** It highlights the need to ensure that all market participants benefit from the data-driven economy. From a consumer perspective, this translates to strengthening trust by an adequate level of protection of consumers' data and offering consumers "user-controlled cloud-based technologies for storage and use of personal data ('personal data spaces'), and support Research and Innovation (R&I) on tools to assist users in selecting the data sharing policies that best match their needs." [98] From a business perspective, the Communication recognises that SMEs and businesses need to receive proper guidance on key issues of the data-driven economy such as personal data risk analysis, tools that are in line with the concept of "privacy by design", data anonymisation, pseudonymisation etc. in order to also benefit from data. Finally, there is a requirement that all actors "are given all necessary information, are not misled, can rely on fair

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[95] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "Online Platforms and the Digital Single Market: Opportunities and Challenges for Europe". Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0288

[96] Idem

[97] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "Towards a thriving data-driven economy", COM/2014/0442 final. Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1404888011738&uri=CELEX:52014DC0442

[98] Idem

contracts, notably as regards the use of data collected from them. These measures will build the trust that is necessary to exploit the full potential of the data-driven economy."[99]

Subsequently, the DSM Communication highlights the data economy as one of the key factors to boost the "*growth potential of the Digital Economy*" for the economy, the society and individuals across the EU. **The Proposal for a Regulation on the free flow of non-personal data in the EU[100]** specifically tackles restrictions to the free movement of data on grounds, other than those covered by the EU Data Protection Regulation, the GDPR and the ePrivacy Directive. The proposal stems from the DSM strategy objectives to achieve "*free movement of goods, persons, services and capital is ensured and where citizens and businesses can therefore seamlessly access and exercise online activities under conditions of fair competition, irrespective of their nationality or place of residence*". Additionally, the DSM Communication calls to "*address the emerging issues of ownership, interoperability, usability and access to data in situations such as business-to-business, business to consumer, machine generated and machine-to-machine data*". This initiative is of particular relevance since it explores the exploitation rights of non-personal data, the "owners" of non-personal data and their role in the digital ecosystem and digital economy.

With the Communication "Building a European Data Economy" of 10 January 2017 and an accompanying Staff Working Document, the Commission has scoped these issues paired with a first preliminary problem analysis. This is the basis of an on-going stakeholder consultation dialogue. In the DSM mid-term review Communication of 10 May 2017, the Commission indicated that it would further assess the need for action concerning the emerging data issues.

[99] Idem

[100] Proposal for a Regulation of the European Parliament and of the Council on a framework for the free flow of non-personal data in the European Union (COM(2017)495). Available at: https://ec.europa.eu/digital-single-market/en/news/proposal-regulation-european-parliament-and-council-framework-free-flow-non-personal-data

Annex 3 Stakeholder survey – headline figures

A1.1.1 The nature and prevalence of practices used by online business operators to personalise their services/offers

Sub-topic 1 - The most prevalent online personalisation practices in the EU

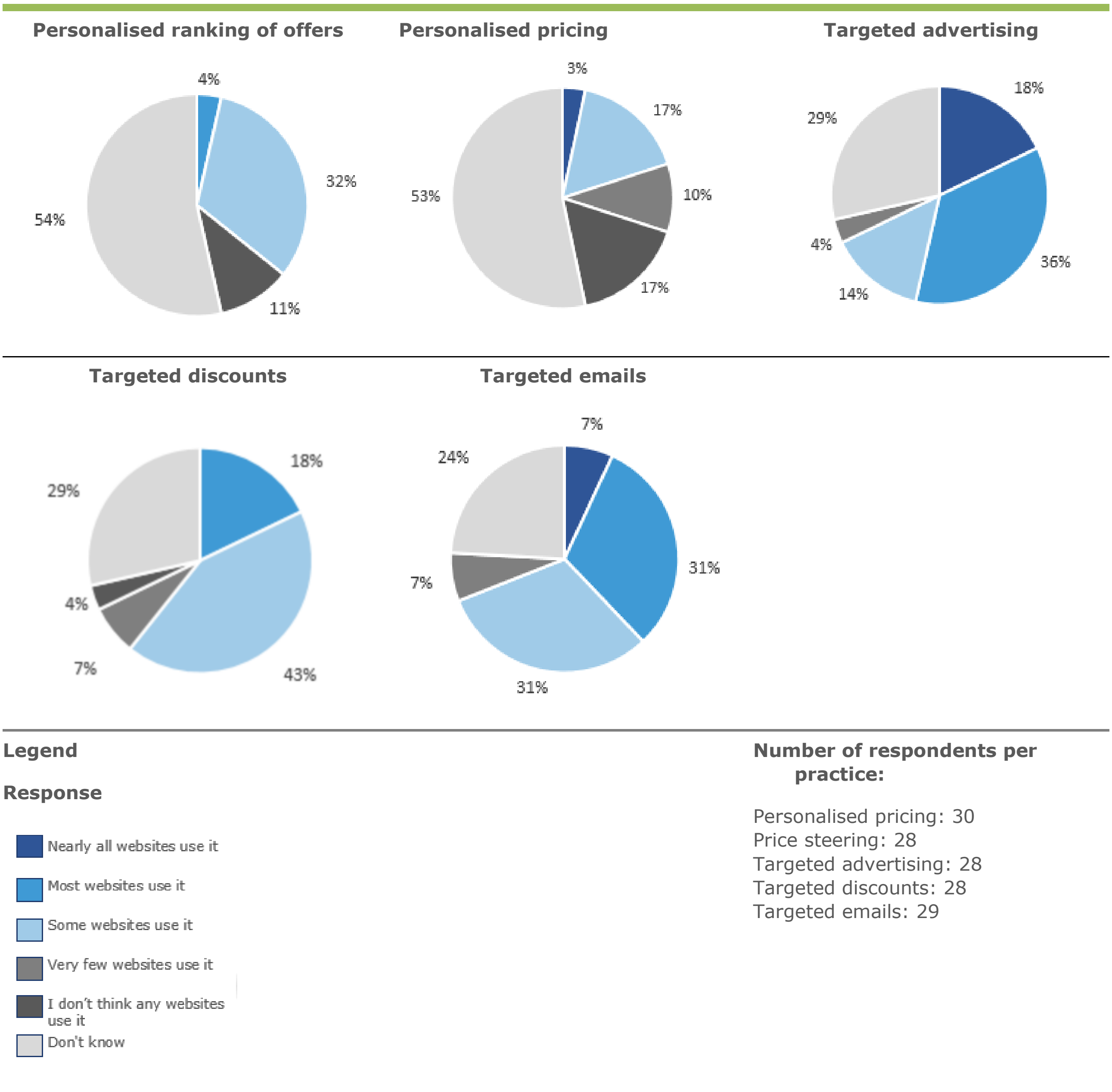
The personalised pricing/offers practices, selected as part of the study's stakeholder consultation which may be employed by online firms, could vary from:

- **Price steering –** a practice that uses information collected from an individual’s web-browsing behaviour to change the order of search results to highlight specific goods and services, when consumers search for the same products online. Also referred to as “personalised ranking of offers”;
- **Personalised pricing -** charging different prices to different consumers for the same goods/services. This practice uses information collected from an individual’s web-browsing behaviour to customize prices for goods and services for some users;
- **Targeted advertising**– a marketing practice that uses information collected from an individual’s web-browsing activity to select advertisements to display (e.g. via pop ups, banner ads, adverts seen on standard web-space etc.);
- **Targeted discounts -** a marketing practice where special offers are set to certain consumer groups (e.g. students, elderly etc.); and
- **Targeted emails –** a form of targeted advertising that companies use in order to “segment” users in a mailing list and “target” them with dedicated offers via emails.

Respondents across the three stakeholder surveys were asked to assess which of the above-mentioned practices are most common in the online market.

The figure below represents an overview of the prevalence of each personalisation practice according to all survey respondents.

Figure 21 : The most prevalent personalisation practices used by online business operators according to all respondents (CPA, DPA, National Experts)



Q2. According to your information, which personalised pricing/offers practices are employed by online business operators in your country and how widespread do you estimate these to be?
Source: All stakeholder surveys (DPAs, CPAs, national experts)

Across the three stakeholder surveys, the stakeholder consultation showed **that targeted advertising and targeted emails** are the practices that respondents consider to be the most widespread.

Most respondents deem **targeted advertising** to be a widespread practice used by online business operators for personalisation purposes: in total, 15 out of 28 (54%) respondents reported that this practice is used by "most websites" or "nearly all websites", whereas a further 4 respondents (14%) reported that "some websites" use this personalisation practice. On the other hand, only 1 respondent (4%) believed that the practice is used only by "very few websites". A total of 8 respondents (29%) were not aware whether targeted advertising is employed by online business operators ('Don't know'). According to 1 consumer organisation (feedback received at a later stage), some websites use targeted advertising.

The second most widespread practice is **targeted emails,** with 11 out of 29 (38%) respondents reporting that nearly all or most websites make use of this practice, whereas an additional 9 respondents (31%) mentioned that some websites do make use of targeted emails. A small number of respondents (7 out of 29 respondents, or 24%) were not aware whether online business operators use such practices, whereas 2 respondents gave the answer that "very few websites" use this method.

Whereas only 18% of respondents (5 out of 28 asked) mentioned that "most websites" use **targeted discounts,** a further 12 respondents (43%) mentioned that "some websites" indeed make use of this practice. Only 3 respondents (10%) said that "very few" or "no" websites use targeted discounts as a marketing practice. The remaining 8 respondents (29%) reported not to be aware whether this practice is prevalent or not in their country. An additional response from one consumer organisation (not included in the Figure above) suggested that some websites use this practice.

Concerning personalised ranking of offers, 9 out of 28 (32%) of respondents reported that some websites use this method, while only 1 respondent (4%) thought that most websites use this personalisation practice. Three respondents did not think that websites use this practice whatsoever. Much higher than with the rest of the practices, the majority of respondents (15 out of 28, or 54%) reported to not be aware. The additional consumer organisation respondent interviewed thought that some websites use this practice.

When it comes to personalised pricing, only 1 out of 30 respondents (3%) indicated that "nearly all websites" use this practice, whereas a further 5 out of 30 (17%) respondents reported that "some websites" use personalised pricing. On the other hand, 3 respondents (10%) mentioned that very few websites use this practice, whereas another 5 respondents (17%) did not think that any websites use personalised pricing. As can be seen in Figure 21**,** the majority of respondents (16 out of 30 or 53%) indicated that they did not know whether personalised pricing is prevalent or not. The national experts advocated that personalised pricing is a practice used by (at least some) online business operators. The consumer organisation respondent also was of the opinion that some websites do use this practice. However it is difficult to quantify the prevalence of this, as experts noted during the interviews that the technique is often negatively perceived by consumers, thus many retailers avoid overtly using them, as they would risk losing their customers. Nevertheless, according to most of the experts interviewed, due to technological advances and the increasing availability of data, personalised pricing is likely to become more widespread

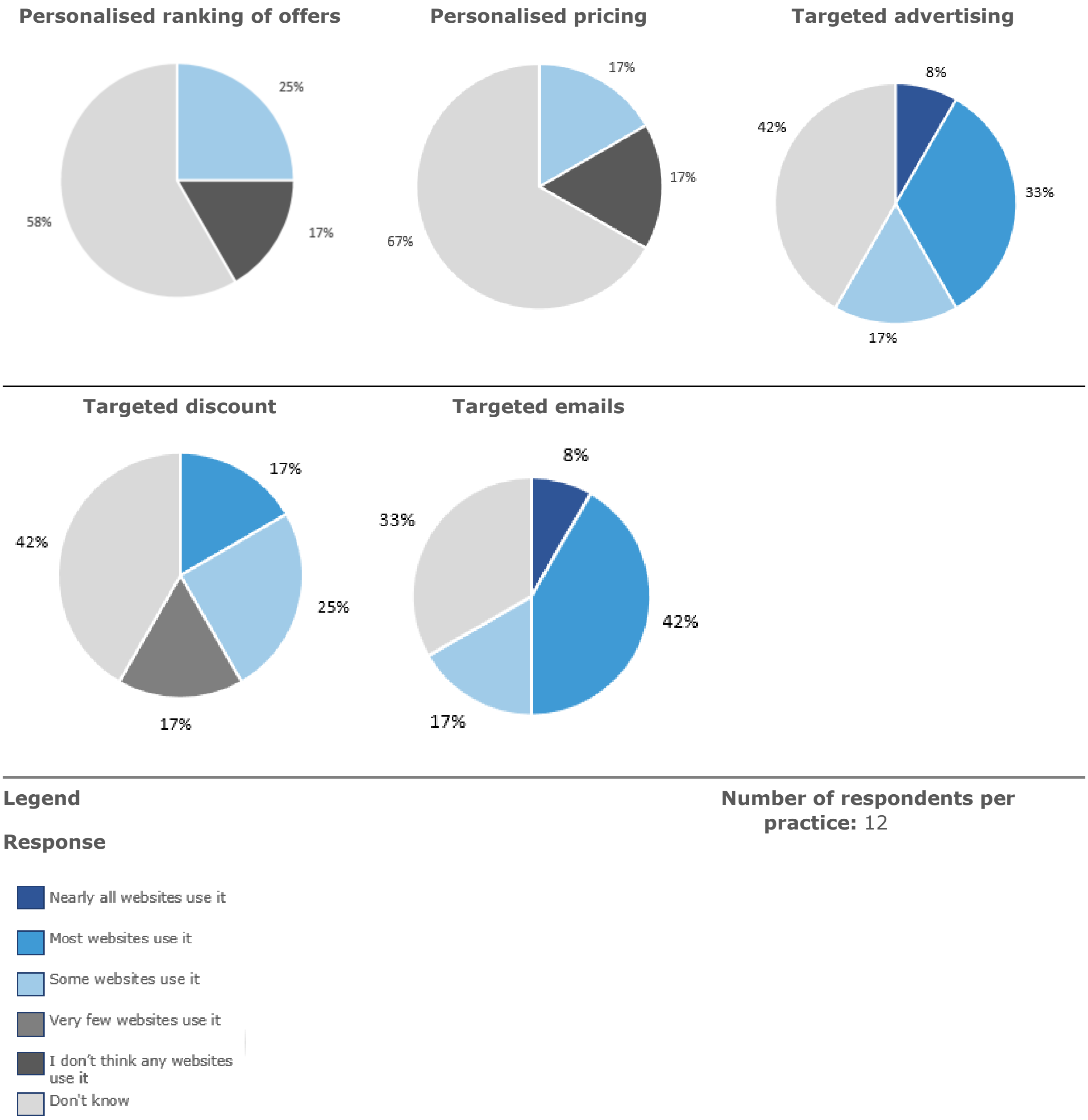
Another very common personalisation practice, as pointed out by the national experts during interviews, is the practice of **dynamic pricing;** defined by the Guidance on the implementation/application of Directive 2005/29/EC on unfair commercial practices as a practice that changes "the price for a product in a highly flexible and quick manner in response to market demands". National experts mentioned that **dynamic pricing** is one of the most common practices in online markets. It is particularly widespread on real-time bidding platforms where advertisers bid real-time for ad space, basing their choice on consumer data to determine the amount to bid**.**

In general, the stakeholder survey results suggest that DPA and CPA stakeholders are not very familiar with the prevalence of personalisation techniques. This holds especially true for personalised ranking of offers and personalised pricing –practices for which the awareness appears particularly low. Overall, a high share of "Don't' know" responses was recorded (varying between 1/3 and 1/2 of all responses in the five personalisation practices).

When analysing the output from the DPA and CPA surveys separately, it is to be noted that the responses are mostly in line with the grouped results with small variations between the two respondents' groups.

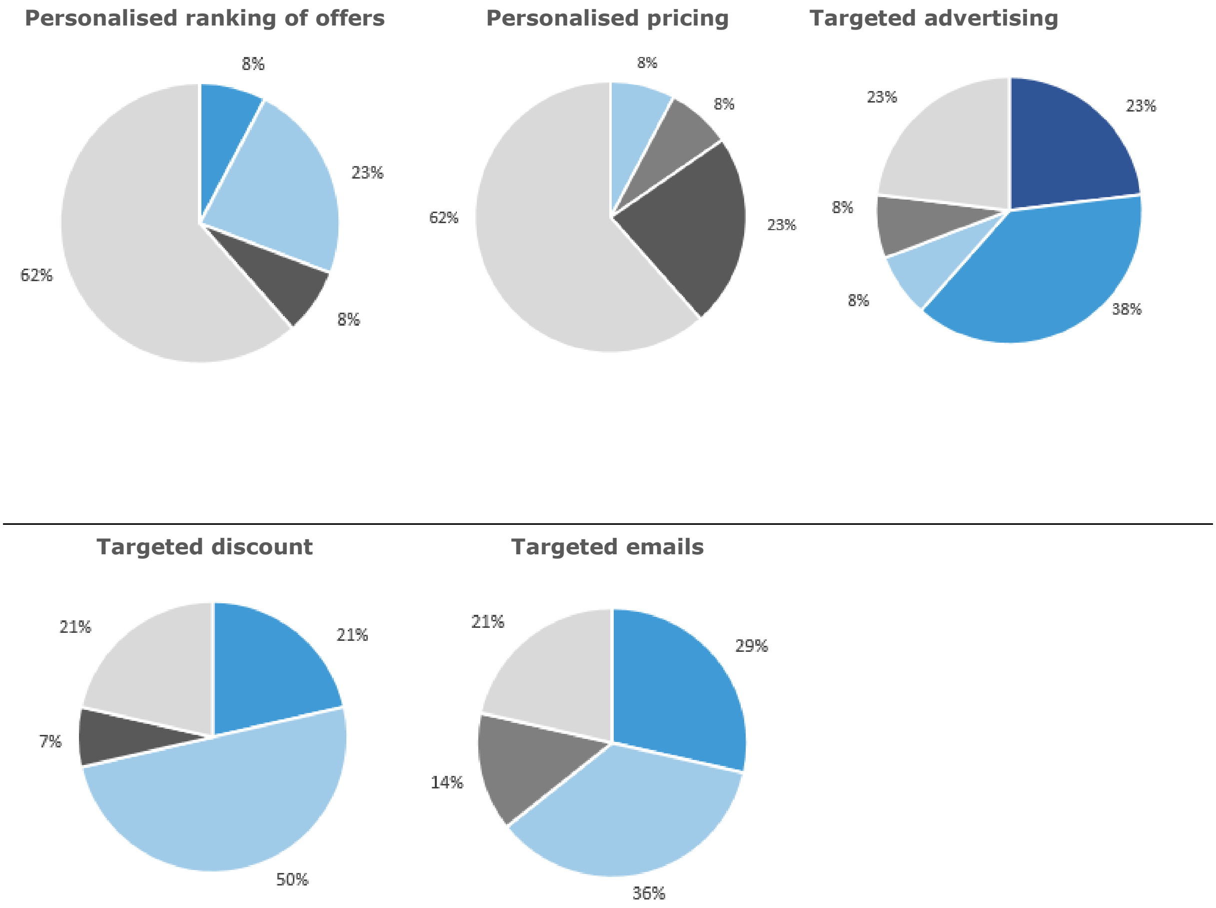
The figures below display the differences between the two groups.

Figure 22 : The most prevalent personalisation practices used by websites according to Data Protection Authorities



Q2. According to your information, which personalised pricing/offers practices are employed by online business operators in your country and how widespread do you estimate these to be?
Source: Survey to DPAs

Figure 23 : The most prevalent personalisation practices used by websites according to Consumer Protection Authorities



Legend

Response

- Nearly all websites use it
- Most websites use it
- Some websites use it
- Very few websites use it
- I don't think any websites use it
- Don't know

Number of respondents per practice:

Personalised pricing: 13
Price steering: 13
Targeted advertising: 13
Targeted discounts: 14
Targeted emails: 14

Q2. According to your information, which personalised pricing/offers practices are employed by online business operators in your country and how widespread do you estimate these to be?
Source: Survey to CPAs

The most notable differences between the 2 groups of respondents are observed in the results for **targeted emails, targeted discounts and targeted advertising.**

Business operators were also asked to assess the most prevalent personalisation practices in the online market, with the majority of them (6 out of 10) denoting **targeted advertising** and **targeted emails** as the most frequently used ones.

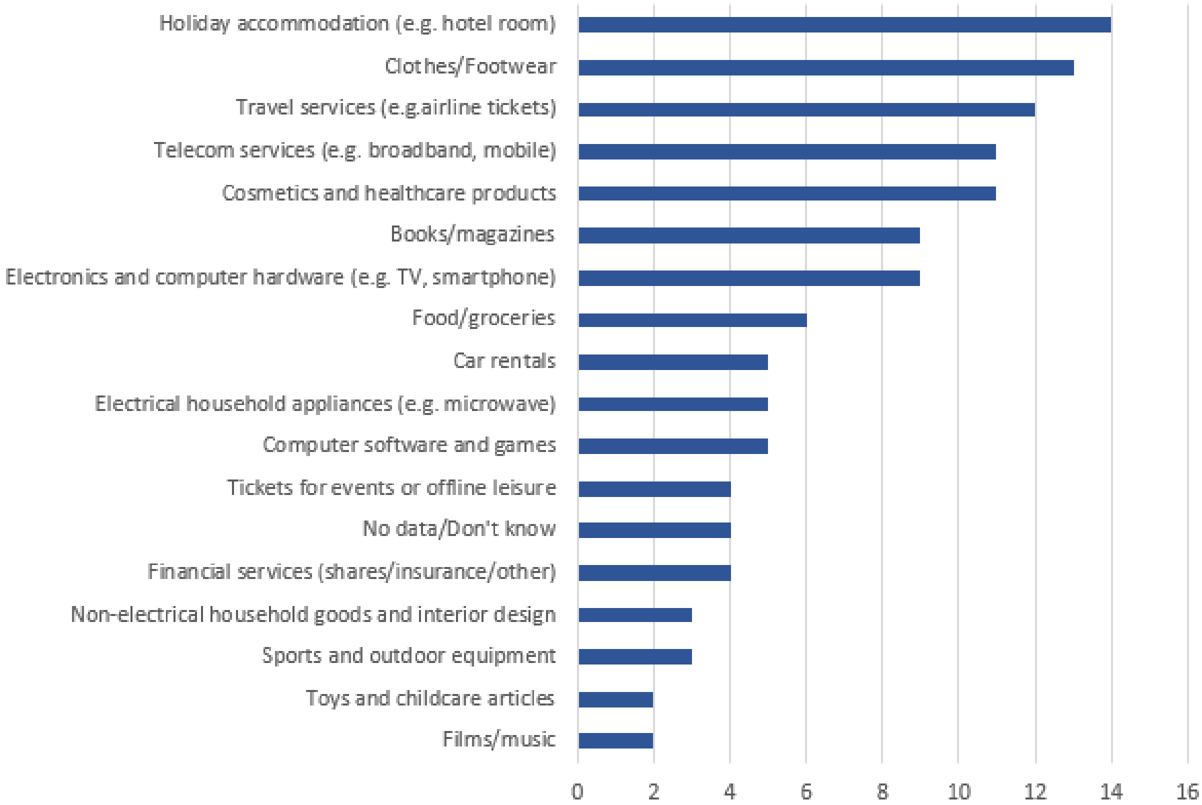
Sub-topic 2 - Goods and services for which online personalisation is most prevalent per country

The latest available data from Eurostat[101] (2016) on online purchases in the previous 12 months by individuals in the EU demonstrates that online shoppers in the EU are most likely to have bought clothing/sports goods and travel/holiday accommodation online in 2016. Among the top 12 goods and services most often bought online, we observe four services sectors: travel, online tickets for events, telecommunication services and financial services.

In this context, stakeholders were asked to assess for which goods and services online personalisation is most prevalent. The grouped results from the surveys to DPAs, CPAs and national experts showed that personalised practices are most common for holiday accommodation (reported by 14 out of 30 respondents), clothes/footwear (13 out of 30) and travel services (12 out of 30), as presented in the figure below.

[101] 2016 Eurostat isoc_ec_ibuy, % of individuals who ordered goods or services, over the internet, for private use, in the last year

Figure 24 : Goods and services for which online personalisation is most prevalent according to DPAs, CPAs and national experts

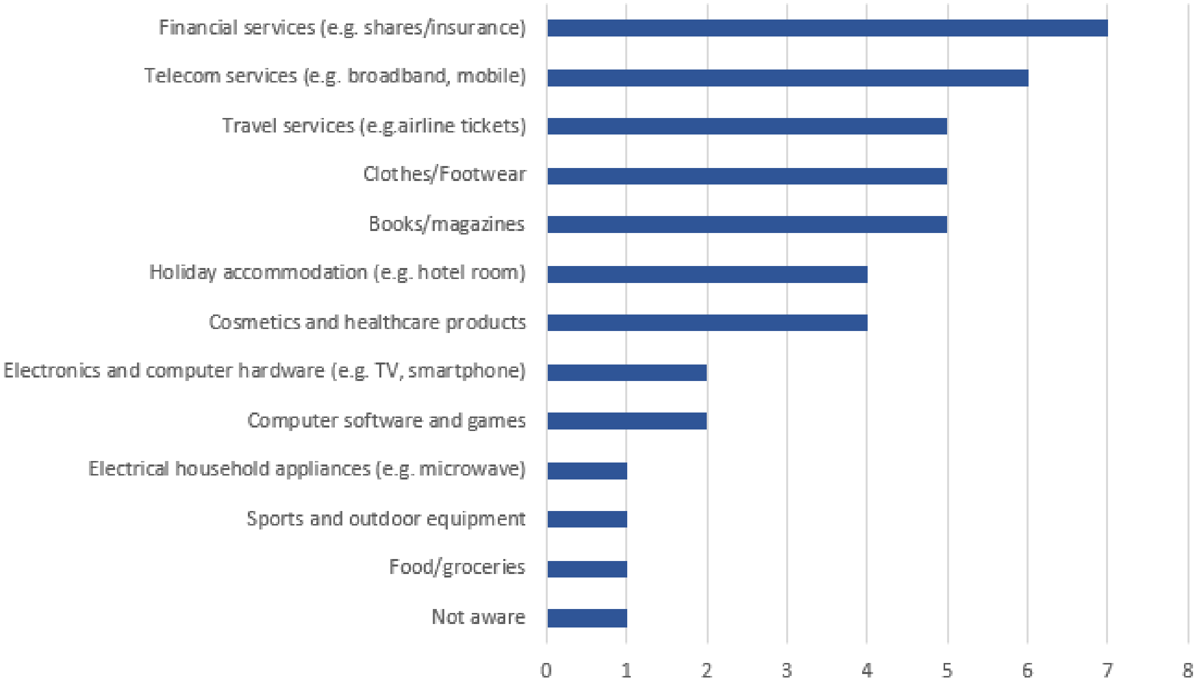


Q3 (DPAs and national experts), Q4(CPAs). For which good and services is online personalisation most prevalent in your country? Please select all options that apply. Total number of respondents: 30.
Note: The bar chart indicates the number of responses per item rather than percentages.
Source: Survey to DPAs, CPAs and National Experts

However, the individual responses of the CPAs and DPAs show differences in the top two categories of goods and services for which personalised practices are most common.

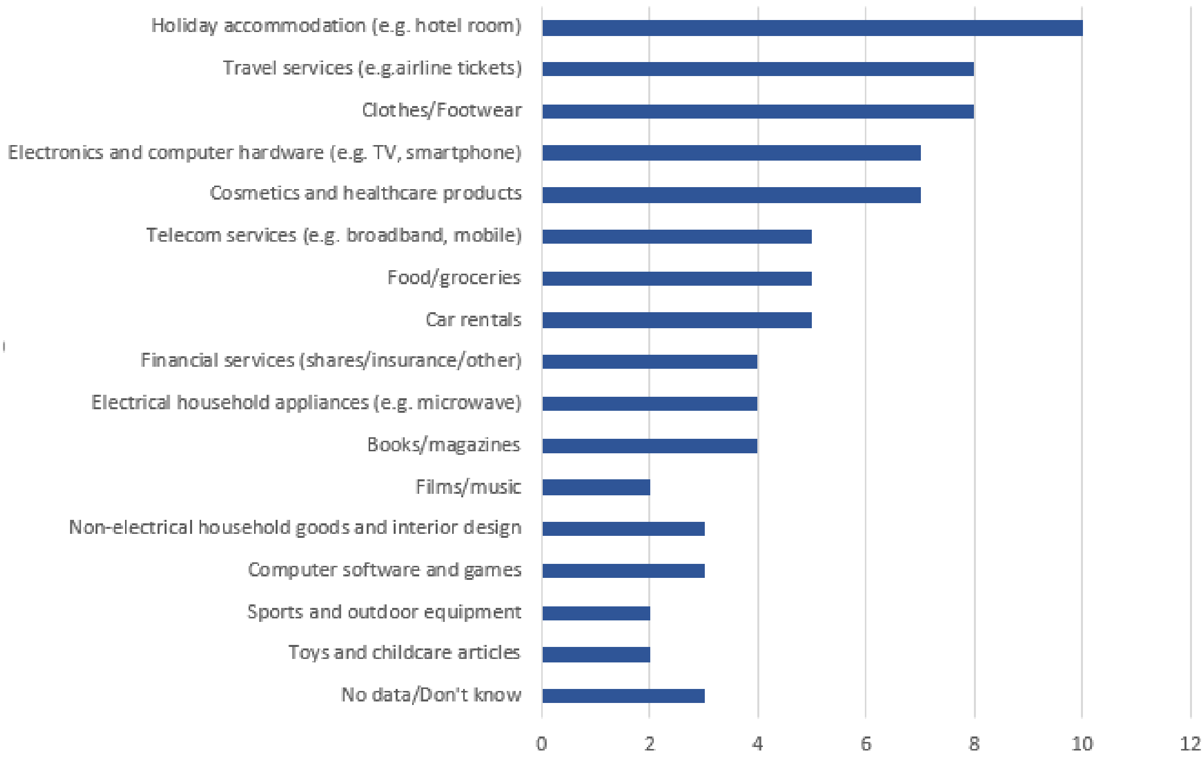
The figures below present the responses of the CPAs and DPAs respectively.

Figure 25 : Goods and services for which online personalisation is most prevalent according to DPAs



Q3. For which good and services is online personalisation most prevalent in your country? Please select all options that apply. Total number of respondents: 12.
Note: The bar chart indicates the number of responses per item rather than percentages.
Source: Survey to DPAs

Figure 26 : Goods and services for which online personalisation is most prevalent according to CPAs



Q4. For which goods and services is online personalisation most prevalent in your country? Please select all options that apply. Total number of respondents: 18.
Note: The bar chart indicates the number of responses per item rather than percentages.
Source: Survey to CPAs

The DPA respondents indicated that online personalisation is most common for financial services (e.g. shares/insurance), with 7 out of 12 DPA respondents selecting this sector, and for telecom services (e.g. broadband and mobile) with 6 out of 12 DPA respondents selecting this option. The CPA respondents, on the other hand, mentioned that holiday accommodation (10 out of 18) and travel services and clothes/footwear (8 out of 18) are the sectors targeted most by online personalisation. Travel services and clothes/footwear were ranked third in the DPA survey. The consumer organisation respondent specified that it is difficult to provide an answer to the question, as in general online personalisation may be applied to all of the above goods and services, depending on the company and type of platform.

In addition, across the different surveys, respondents were asked about typical differences in the way consumers in their country are targeted by personalised pricing/offers practices**, depending on the market sector, or company size[102].** In total, 22 out of 24 respondents of all categories (i.e. CPA, DPA and National Experts) noted not to be aware. On the other hand, the consumer organisation respondent argued that such differences do exist and provided online travel and package holidays as an example of a sector where consumers are targeted differently. Business operators suggested that consumers are targeted differently depending on their gender or age. One of the CPA respondents reported that according to them online personalisation is a well-established practice in e.g. the travel and tourism sectors.

The consulted national experts added that differences in the way consumers are targeted by personalised pricing/offers could be observed in certain EU Member States where there may be less strict data protection rules as opposed to other countries (e.g. Germany has a very strong data protection regulatory framework and German citizens are perceived as more sensitive when it comes to their online privacy / their personal data).

Business operators were also asked to assess for which goods and services online personalisation occurs most frequently. As noted in the previous sub-topic, not all 10 business operator respondents provided an answer to this. Because of **the low response rate, the results for this question are non-conclusive.** Nonetheless, it is worth noting that online business operators mentioned that online personalisation occurs in the following sectors (without specifying further details): **clothes/footwear**, **financial services, car rentals, the ITC sector and the pharmaceutical sector**. In addition, companies offering personalisation solutions indicated that personalisation occurs also for the following goods and services:

- Cosmetics;
- Books;
- Films/music;
- Holiday accommodation; and
- Computer software.

It is difficult to specify for which goods and services online personalisation occurs most often, because any type of company in the e-commerce sector could be using online personalisation practices, as was noted by the stakeholders consulted**.** For example, 3 out of 10 business operator respondents were technology companies offering personalisation solutions for a variety of actors in the e-commerce sector as well for other industries. According to them, personalisation practices are likely to evolve further in the future and are increasingly used across sectors.

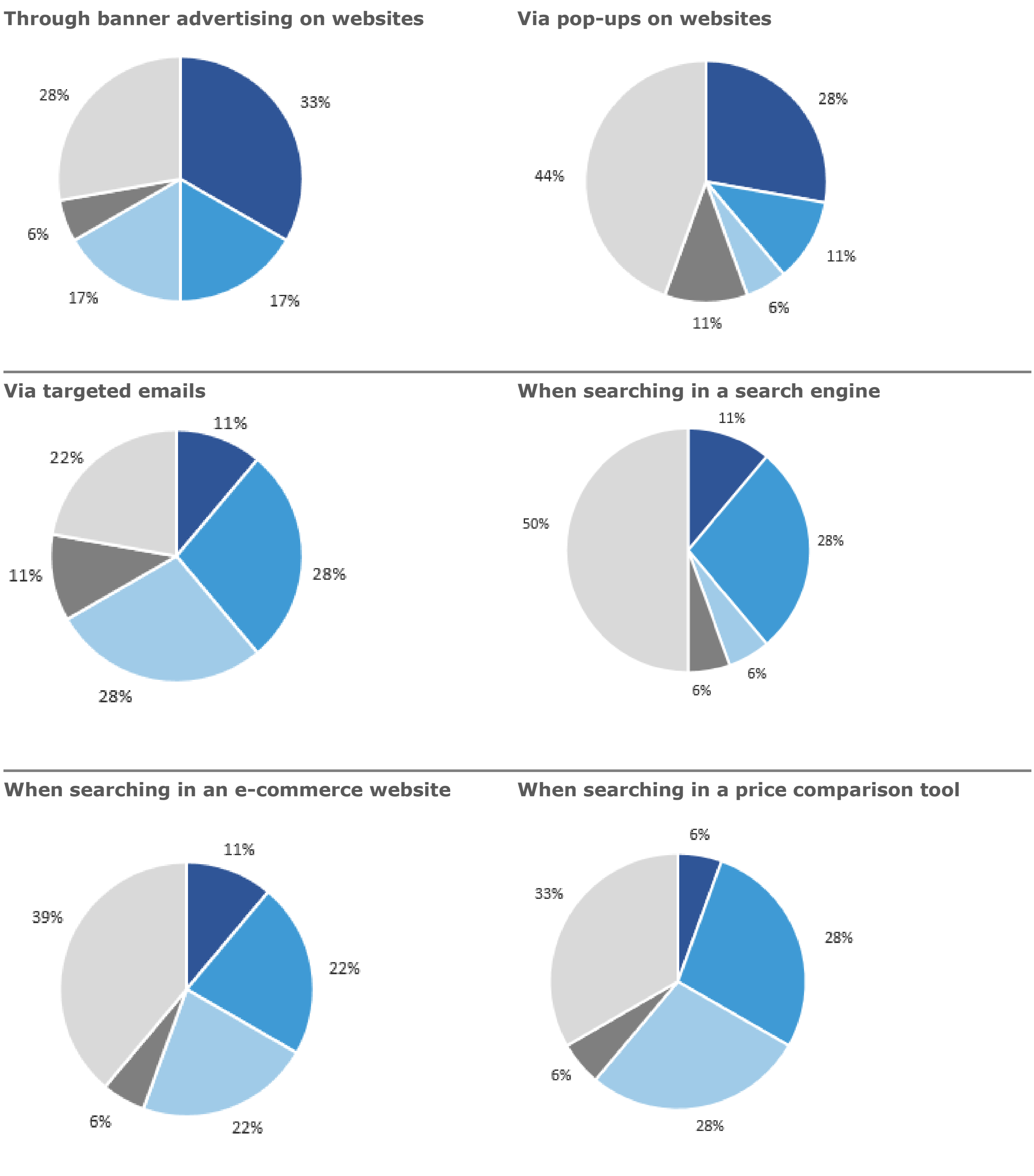
[102] Q4 from survey to DPAs, Q5 from survey to CPAs, Q4 from National experts survey.

Sub-topic 3 - The most common means for consumers to receive personalised pricing/offers

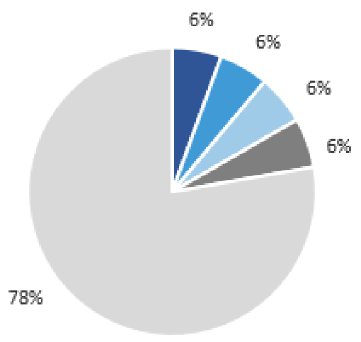
Consumers can be the recipients of personalised practices through different means, such as via pop ups they see on other websites, banner adverts, targeted emails, or when searching in a search engine or price comparison tool.

The figure below presents the different channels via which consumers receive personalised pricing/offers and their perceived frequency, as assessed during the CPA survey (17 responses received). Note that this question was not addressed through other surveys.

Figure 27 : Means via which consumers receive personalised pricing/offers according to CPAs

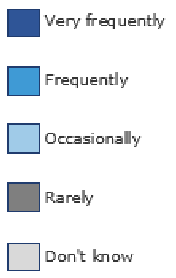


Other



Legend **Number of respondents per chart: 18**

Response



Q3. According to your information, via which of the following means do consumers receive personalised pricing/offers? Please rate the frequency.
Source: Survey to CPAs

The most frequent means of receiving personalised pricing/offers for consumers according to CPAs were:

- **Through banner advertising on websites** – the majority of CPA respondents (9 respondents out of 18 or 50%) indicated that this is a ″very frequently″ or ″frequently″ used technique, whereas 3 respondents (17%) reported this as ″occasionally″ used. One respondent reported that this is ″rarely″ used. Nonetheless, 5 respondents (or almost 30%) highlighted not to be aware of the frequency of occurrence of this method by reporting ″don't know″;
- **Via pop-ups on websites** – Whereas 8 out of 18 respondents (44%) indicated not to know the frequency with which pop-ups are used, 7 respondents (39%) reported this as a ″very frequently″ or ″frequently′″ used technique, and about 3 respondents (17%) estimated this as an "occasionally″ or ″rarely″ used technique;
- **Via targeted emails** – 7 out of 18 respondents (39%) indicated that this practice occurs ″very frequently″ or ″frequently″, whereas 5 additional respondents (28%) believed that this occurs ″occasionally″ and 2 reported that this happens ″rarely″. Another 4 respondents (22%) reported not to know of personalisation offers delivered via targeted emails to consumers;
- **When searching in a search engine** – the vast majority of respondents (9 out of 18 or 50%) could not provide a response, whereas 7 respondents (39%) indicated that this practice occurs '″very frequently″ or ″frequently″. One respondent believed personalisation via a search engine to be an ″occasionally″ used practice while another respondent reported that this practice occurs ″rarely″;
- **When searching in an e-commerce website** – Overall, 7 out of 18 respondents (39%) indicated not to be able to provide an answer. Six respondents (33%) believed it occurs ″very frequently″ or ″frequently″ while another 4 respondents (22%) reported that this practice is used only ″occasionally″. One respondent believed that this practice is ″rarely″ used;

- **When searching in a price comparison tool** – here the responses of the respondents were spread evenly. Overall, 6 respondents (33%) indicated not to know the answer, followed by 6 respondents who selected ”frequently” or ”very frequently (34%)”. Five additional respondents mentioned that this happens ”occasionally” (28%) and 1 respondent believed that this occurs ”rarely”;
- **Other** – the majority of respondents could not think of other means by which consumers receive personalised practices (14 out of 18 replied "do not know"). Some respondents reported that social media are frequently used as a means to personalise pricing/offers for consumers.

In addition to the results presented above, one of the consumer organisations consulted stated that consumers ”very frequently” receive personalised practices via banner advertisements on websites, as well as while browsing in a search engine. On the other hand, according to this respondent, searching in e-commerce websites is a less common way for consumers to receive personalised (ranking of) offers/prices (the respondent replied that this occurs "occasionally").

The findings highlighted above demonstrate that for most of the issues, the CPA respondents often did not have a clear view (i.e. frequently answered "Don't know") on the frequency of the occurrence of the selected means used for personalised practices, which adds to the ambiguity surrounding the use of such practices by online business operators.

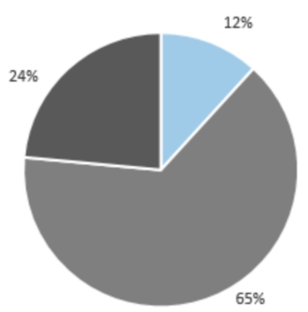
A1.1.2 Transparency of online business operators towards consumers

DPAs and CPAs were asked to what extent personal data collection practices and the subsequent processing of consumers' personal data (by online business operators) are transparent for consumers.

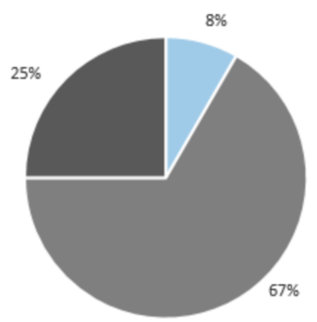
The figure below provides an overview of the grouped results across the stakeholder consultation per type of stakeholder.

Figure 28: Transparency of online business operators towards consumers in relation to personal data collection and processing practices

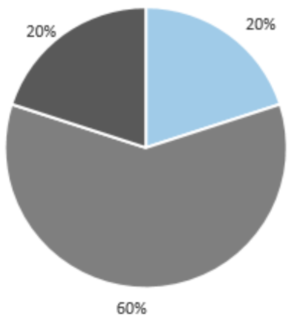
Grouped results from DPA and CPA Surveys



DPA Survey



CPA Survey



Legend

Number of respondents

Grouped responses: 17
CPA:5
DPA:12

Q12 (DPAs). Q10 (CPAs). To your knowledge, are personal data collection practices and the subsequent processing of consumers' personal data (including data on their online behaviour) by online business operators transparent to consumers? 1) No 2) Usually No 3) Usually Yes 4) Yes
Source: Surveys to DPAs and CPAs

About 11 out of 17 survey respondents from the DPAs and CPAs (or 65%) noted that usually business operators are not transparently informing the consumer about the collection of their personal data and the subsequent processing of this data ("Usually No"). At individual level, the majority (8 out of 12) of DPA respondents replied with "Usually No"; whereas 3 out of 5 CPA respondents supported this statement. Only a very limited number of respondents (2 out of 17 across both respondent categories) indicated that business operators are usually transparent about their personal data collection and processing practices towards consumers ("Usually Yes"). None of the respondents replied with an affirmative "Yes". The response from a consumer organisation was in line with the majority of views among stakeholders that personal data collection practices are usually not transparent to consumers ("Usually No"). According to half of the business operators interviewed (5 out of 10), users are usually informed about personalisation or data collection practices through privacy notices or cookies. However, as confirmed by the literature review, the business operators were of the opinion that consumers rarely read these types of notices.

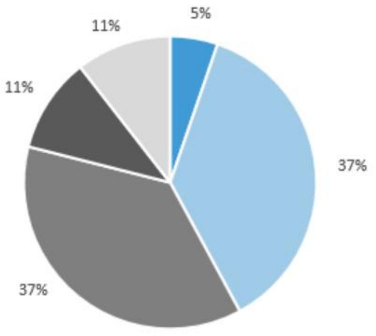
A1.1.3 Consumer awareness of the use and overall perception of personalised pricing/offers

The figures below represent the level of awareness of consumers, as perceived by DPAs and CPAs, regarding the personal data collection and processing practices by online business operators (Figure 29), how concerned consumers are about such practices (Figure 30) and whether such practices can have an influence on consumer decision making (Figure 31).

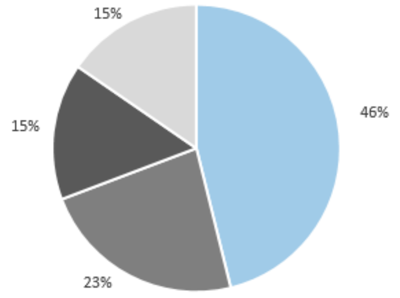
Sub-topic 1 - Consumer awareness of the use and processing of their personal data by business operators

Figure 29 : Consumers' level of awareness of the personal data collection and processing of online business operators

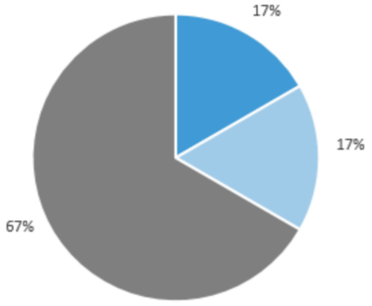
Grouped results from DPA and CPA Surveys



DPA Survey



CPA Survey



Legend

Number of respondents

Grouped responses: 19
DPA: 13
CPA: 6

Q7 (DPAs), Q8 (CPAs). To what extent do you think consumers are aware of the ways in which online firms collect and process personal data and data about their online behaviour?
Source: Surveys to DPAs and CPAs

A fair proportion of CPA and DPA respondents advocated that consumers are somehow aware of the fact that online firms collect and process their personal data and data about their online behaviour. More specifically, 7 out of 19 respondents (37%) believed that consumers are "somewhat aware" and 1 believed that consumers are "very aware". An equally large proportion (7 out of 19 respondents, 37%) thought that consumers are "little aware". Only 2 out of 19 respondents believed that consumers are not aware (11%) whatsoever of the way in which online firms collect and process their personal data/data on their online behaviour. However, when analysing the CPA and DPA survey results separately, none of the CPA respondents indicated that consumers are not aware. In particular, 4 out of 6 CPA respondents thought that consumers are mainly "little aware" (67%) of such practices and the subsequent processing of their data. For the DPAs on the other hand, about 15% believed that consumers are ”not aware”, but a significant 6 out of 13 supported that consumers are ”somewhat aware”.

The experts provided further insights during interviews as to the reasons why consumers are aware of such practices but only to a limited extent. They reported that consumers are usually informed via privacy statements or terms and conditions which they rarely read because of the high complexity and length. One respondent from the national experts’ interviews reported that some companies allow consumers to access and review the data being collected on them, however consumers rarely do so, most likely due to the fact that this option is included somewhere in the privacy statements and consumers can simply not be aware of it. One consumer organisation respondent also thought that consumers have little awareness of these practices.

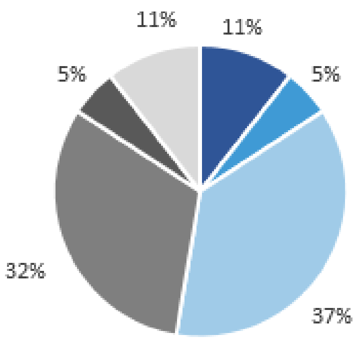
Sub-topic 2 - Consumer concerns about their personal data being used by online business operators for personalised pricing/offers

In line with the level of transparency with which online business operators inform consumers of data collection and processing techniques, the study assessed the overall consumer concerns regarding their personal data being collected and used by business operators for personalised practices.

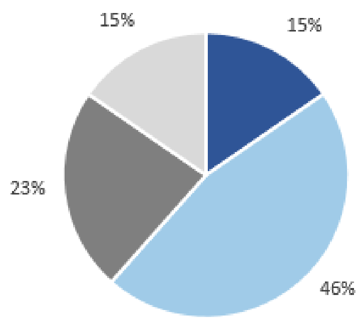
The Figure below provides an overview of the level of consumer concerns.

Figure 30: Level of consumer concerns regarding the personal data collection for personalised pricing/offers

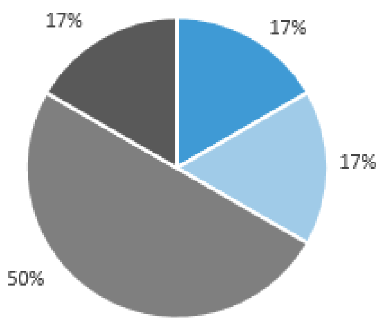
Grouped results from DPA and CPA Surveys



DPA Survey

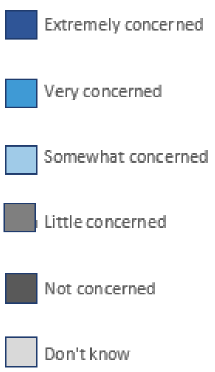


CPA Survey



Legend

Response



Number of respondents

Grouped responses: 19
DPA:13
CPA: 6

Q8 (DPAs), Q9 (CPAs). How concerned do you think consumers are about their personal data being used by online business operators for personalised pricing/offers?
Source: Surveys to DPA and CPA surveys

The grouped resulted from the DPA and CPA surveys showed that the majority of respondents (13 out of 19) thought that the consumer is either "'somewhat concerned" (7 out of 19) or "little concerned" (6 out 19). Only three respondents (16%) reported that consumers are "extremely" or "very" concerned.

Regarding the results per respondent category, approximately half of the DPA respondents (6/13) believed that consumers are "somewhat concerned", whereas fewer CPA respondents supported this (1/6). On the other hand, 4 out of 6 CPAs indicated consumers are "little concerned" or "not concerned", whereas only 3 out of 13 DPA respondents mentioned the same.

In addition to the figures reported above, one consumer organisation also reported that consumers are very concerned about the way their personal data is used.

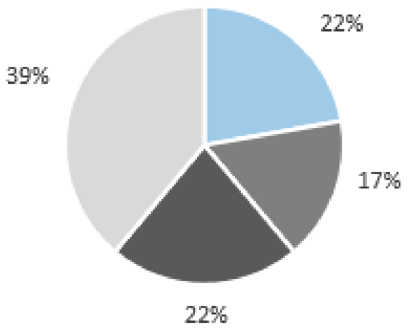
Sub-topic 3 – Impact of personalised pricing/offers on consumer decision-making

Personalised pricing does not necessarily lead to higher prices or harm for consumers, however there are instances where it could have adverse effects, especially when the trader is not transparent about the price differentiation or misleads/omits important information when presenting the price to the consumer.

CPA stakeholders were therefore requested to indicate the potential impact of personalised pricing/offers on consumers when it comes to their purchasing decisions.

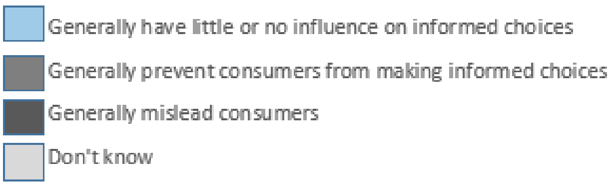
Figure 31 : Personalised pricing/offers influence on consumers (CPA)

CPA Survey



Legend **Number of respondents: 18**

Response



Q7. In your opinion, personalised pricing: 1) Generally lead consumers to make informed choices 2)Generally have little or no influence on informed choices 3)Generally prevent consumers from making informed choices 4) Generally mislead consumers, 5) Don't know.
Source: Survey to CPAs

About 7 out of 18 (39%) CPA respondents noted that online personalisation practices either generally mislead consumers (22%) or prevent them from making informed choices (17%). One reply received from a consumer organisation at a later stage is in line with the latter statement. None of the respondents indicated that personalised practices "generally lead consumers to make informed choices". Nonetheless, the largest number of respondents noted not to have any opinion or that they do not know the impact (7 out of 18 or 39%) of such practices, whereas a further 4 respondents noted that personalised practices generally have little or no influence on consumer decision making (22%).

A1.1.4 Consumer complaints

Sub-topic 1 - Consumer complaints in relation to data protection and online personalisation practices

The ePrivacy Directive 2002/58/EC applies when personalised pricing is based upon technologies that entail the storing of information, or the gaining of access to information already stored in the terminal equipment (e.g. when websites collect information, for instance by using profiling technologies such as tracking cookies, and transmit that information to third party data brokers, which is then used for dynamic or differential pricing on other websites). Article 5 (3) of the ePrivacy Directive provides that such practices shall only be allowed upon the user's consent, having been provided with clear and comprehensive information, in accordance with Directive 95/46/EC (to be replaced by the General Data Protection Regulation as of 25 May 2018).

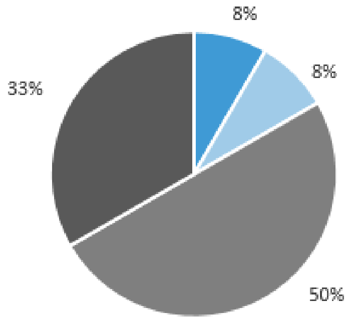
If individuals (including consumers) do not agree with how their personal data is collected and / or are not adequately informed about the purpose of data processing, they may reach out to any of the competent authorities to file a complaint.

In practice however, half of the DPA survey respondents indicated that they rarely receive complaints from citizens about personalised pricing/offers practices (6 out of 12), whereas 4 DPA respondents (33%) noted that they never receive such complaints. Only 2 DPA respondents reported to receive either ”frequently” or “occasionally” complaints on data protection issues related to personalised pricing. An important factor is that DPAs are not necessarily the competent authorities to enforce Directive 2002/58/EC, as Member States are free to appoint the authority under the Directive (such as a national telecommunications regulator or a consumer protection authority)[103].

[103] It is important to note that this will change with the new ePrivacy Regulation which will ensure that the data protection supervisory authorities for monitoring the application of the GDPR will also be responsible for monitoring the application of the ePrivacy Regulation (Art 18). Currently, this depends on the national implementation of the ePrivacy Directive.

Figure 32 : Extent to which DPAs receive complaints from citizens about data protection issues

DPA Survey



Legend **Number of respondents: 12**

Response

Q14. To what extent do you receive complaints from citizens in your country about personalised pricing/offers practices by online business operators?
Source: Survey to DPAs

Through an additional question [104] DPAs were invited to provide insights on the type of complaints they receive from consumers in relation to personalised pricing/offers. It should be noted that due to the low response rate to this question, it is difficult to assess the predominant problems that consumers experience. Of the 3 DPA respondents who provided input all 3 reported to have frequently received complaints about the **transmission of consumers' personal data and online consumer profiles to third parties without consumers' knowledge or the use of such data for other purposes**. In addition, 3 DPA respondents reported receiving either frequently (2) or occasionally (1) complaints **regarding the lack of transparency on how personal or behavioural data is processed**.

Regarding consumers **experiencing discomfort about being tracked online,** the survey showed that only 1 DPA respondent reported receiving such complaints "rarely", whereas 2 more could not quantify the exact frequency of such complaints received. None of the respondents reported receiving complaints about embarrassing or inappropriate content. Only 1 DPA respondent reported to have "rarely" received complaints about websites not allowing consumers to refuse cookies[105]. In this regard, an important factor is that the surveyed authorities are not necessarily the competent authority to enforce Article 5(3) of Directive 2002/58/EC, as Member States are free to appoint the authority under the Directive (e.g. a national telecommunications regulator or a consumer protection

[104] Survey to DPA, Q16 "From your information, of those consumers in your country who complain about personalised pricing/offers practices, which of the following issues do they complain about? Please provide details on the frequency of each issues."

[105] Please note that national DPAs have actively cooperated with the Article 29 Working Party and the regulators responsible for the enforcement of the Art 5 (3) of Directive 2002/58/EC on the cookie sweep analysis of up to 478 websites in the e-commerce, media and public sector in 8 Member States. The report, which assessed the level of cookies usage by websites and the degree of users' control over cookies, found that only 16% of websites among the three sectors offered users the choice of accepting or refusing certain categories of cookies.

authority)[106]. Therefore, the survey does not necessarily reflect the amount of complaints filed in a Member State.

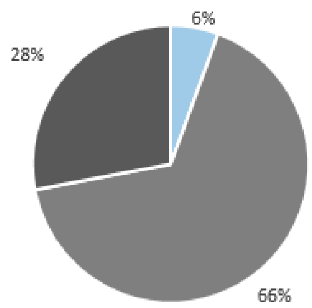
Sub-topic 2 - Consumer complaints in relation to consumer protection issues and online personalisation practices

Considering their key role in ensuring the well-functioning of consumer protection in online markets, CPA respondents were asked as well about their opinion on consumer complaints in relation to personalised practices.

The majority of the CPA respondents indicated that they rarely receive complaints from citizens about any types of personalised pricing/offers practices (12 out of 18, or around 66%). Moreover, 5 CPA respondents indicated to have never received any such complaints (28%). Only 1 (6%) CPA respondent declared that they occasionally received such complaints. No CPA respondent answered that they frequently or very frequently receive such complaints.

Figure 33 : Extent to which CPAs receive complaints from citizens about personalised pricing/offers practices

CPA Survey



Legend **Number of respondents: 18**

Response

Occasionally

Rarely

Never

Q11. To what extent do you receive complaints from consumers in your country about personalised pricing/offers practices by online business operators?
Source: Survey to CPAs.

Because of the small sample, it is particularly difficult to draw any robust conclusions. In addition, it is important to note that some questions, or elements of questions, concern practices regulated by Article 5(3) of Directive 2002/58/EC, practices that entail the storing of information, or the gaining of access to information already stored, in the terminal equipment of a user. The Directive leaves it up to Member States to appoint the competent authority or authorities to enforce the Directive. The surveyed authorities are not necessarily the authorities competent for enforcement of Article 5(3) of the Directive and may thus not be addressed with complaints concerning these practices. Nonetheless, here

[106] As noted above, this will change with the new ePrivacy Regulation.

are some results worth mentioning on the issues related to personalised pricing/offers that consumers report most frequently when they complain, according to CPAs[107]:

- **Being offered products consumers are no longer interested in** – 3 out of 12 CPA respondents indicated that this issue occurs frequently while 1 respondent reported that they very frequently receive such type of complaints when consumers choose to complain about personalised practices. On the other hand, another 3 respondents highlighted not to be aware of the exact frequency of occurrence of this issue. A further 3 respondents replied that this occurs rarely;
- **Discomfort for being tracked online and hence profiled** – 5 of the respondents indicated that this issue occurs rarely. As with the previously described option, the rest of respondents who provided input indicated not knowing the frequency of this type of complaint;
- **Lack of transparency on how personal data/data on online behaviour is processed and communicated to individuals**– 5 out of 12 respondents reported that this issue occurs occasionally, while 4 respondents indicated that consumers rarely (2) or never (2) complain about this issue. The rest of the responses were equally distributed across the categories ”very frequently”, "‘frequently” and ”don’t know”, thus not allowing to draw robust conclusions;
- **Not being able to view all results that correspond to the customer’s search but a limited ”steered” selection** – Overall, 8 out of 12 CPA respondents who provided input indicated that this either never occurs (4) or occurs rather rarely (4);
- **Paying higher prices –** in most cases, paying higher prices was reported as a consumer complaint either frequently or occasionally according to 6 respondents (3 respondents per option). Taking into account that the responses of 5 additional respondents were scattered between ”rarely” and ”don’t know”, it is difficult to draw any clear conclusions here as well;
- **Receiving the same offer as others but with higher prices (or lower discounts) -** Three respondents reported to have never received complaints regarding the issue, whereas an additional 4 respondents reported to have received complaints ”occasionally” or ”rarely”;
- **Receiving embarrassing or inappropriate adverts –** Three respondents (or 25%) reported not knowing the frequency regarding this type of complaint, while another 5 reported to have rarely received such complaints. The frequencies ”occasionally” and ”frequently” were reported by an additional 3 respondents (2 and 1 respectively);
- **Personal data being used for other purposes –** ”occasionally” was the frequency reported by 4 respondents amongst those who reported receiving this type of complaints from consumers.
- **Transmission of their personal data/online profiles to 3rd parties without their knowledge/consent** – 3 out of 12 respondents indicated that this happens rather frequently while one respondent indicated that they received related complaints very frequently. Three additional respondents reported not knowing the exact frequency with which such complaints take place (“not aware”);
- **Websites not allowing to refuse cookies –** almost half of respondents who reported such complaints could not report on the exact frequency of their occurrence (5 respondents or 42%).

Overall, the findings highlighted above demonstrate that for most of the issues, the CPA respondents regularly do not have a clear view (“Don’t know’) on the frequency of occurrence of the respective issues. In this regard, as mentioned above, an important factor is that the surveyed authorities are not necessarily the competent authority to enforce Article 5(3) of Directive 2002/58/EC, as Member States are free to

[107] Survey to CPAs, Q12. “To your information, of those consumers in your country who complain about personalised pricing/offers, which of the following issues do they complain about? Please rate the frequency of the complaints received for each issue.”

appoint the authority under the Directive. Therefore, the survey does not necessarily reflect the amount of complaints filed in a Member State.

Furthermore, in line with the results presented above, national experts reported that **consumers have many different concerns regarding personalised pricing/offers,** including the following:

- The lack of transparency on how personal data and behaviour data are processed;
- Receiving embarrassing or inappropriate adverts;
- Discomfort of being tracked and profiled online;
- Websites not allowing consumers to refuse cookies;
- Paying higher prices;
- Being presented with a limited "steered" selection of results; and
- Being offered products that they are no longer interested in.

In addition, national experts suggested that price differentiation could occur based on the location/neighbourhood of consumers (e.g. urban versus rural areas) or based on consumer profiles that are considered risky and as a result, these consumers are receiving higher credit prices.

In relation to the impact of personalised pricing on certain socio-demographic groups of consumers (Q14), 4 out of 16 (25%) CPA respondents reported that personalised pricing/offers could negatively impact certain types of consumers, while 2 replied that they do not think these practices negatively impact specific consumers. The majority of the CPA respondents were not aware of the impact of personalised pricing on specific socio-demographic groups (62%). It is important to note that according to some respondents, people with low income and those who are considered wealthier do not pay the same prices. Algorithms usually charge a higher price to the latter, it was reported. Senior citizens, students and small businesses are also charged differently according to some responses, although the respondents did not specify whether price differentiation impacts these socio-demographic groups negatively or positively. One respondent coming from a consumer organisation suggested that consumers who provide limited data about themselves might also experience detriment as they might become excluded once certain personalised pricing/offers practices favourable to consumers become more widespread.

The majority of the CPA respondents (12 out of 16 or 67%) reported that consumers may **experience detriment when purchasing a good or service resulting from personalised pricing/offers (Q13)** while (4 out of 16 or 25%) of respondents did not have knowledge of such cases. According to most respondents, the main types of detriment caused by personalised pricing/offers is linked to:

- Consumers paying higher prices as result of their search history;
- Consumers not being presented all the search results due to their search history;
- Consumers being generally misled by personalised pricing/offers and steered into buying products they did not intend to;
- Financial harm; and
- Loss of personal data.

According to the respondents, the above-mentioned issues that consumers encounter could lead to loss of trust in the online environment.

Nevertheless, based on some respondents from the CPA survey, as well as on interviews with experts, it was noted that personalised pricing does not always result in disadvantage for consumers. However, the fact that these practices are often not transparent and are rather difficult for the average consumer to understand, may present an issue.

Respondents were mostly not able to provide an estimation of the average financial detriment due to the difficulties in evaluating the price of personal data or lack of evidence at this stage. A few respondents reported having already conducted research on the topic in their countries, such as Norway[108].

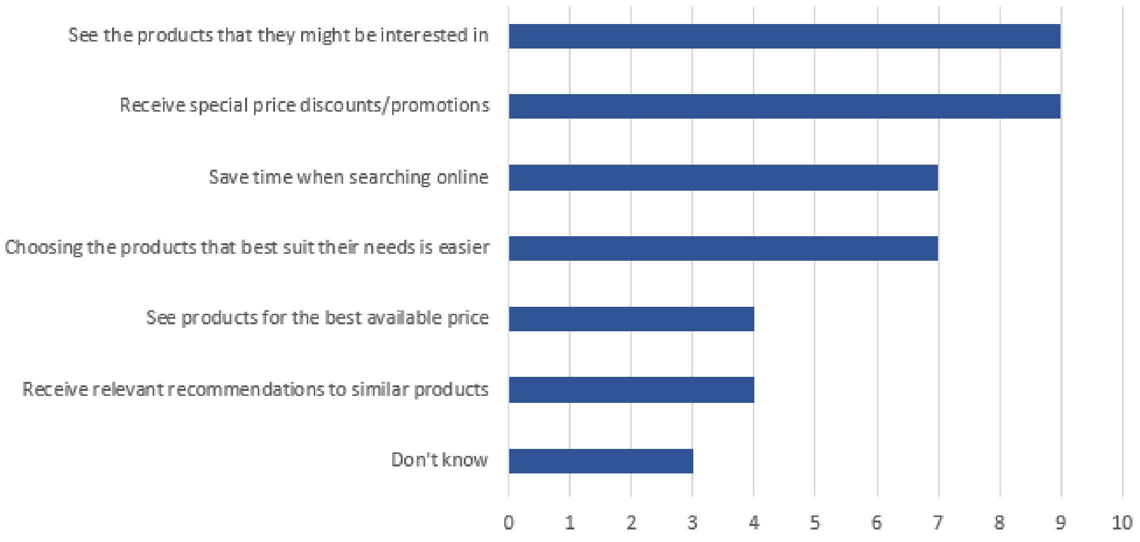
A1.1.5 Benefits for consumers and businesses from the use of personalised pricing/offers

Sub-topic 1 – Benefits of personalised pricing/offers for consumers as indicated by consumers

In the figures below potential benefits of personalisation practices are shown. The first figure shows what CPAs think the benefits of personalised pricing/offers are for consumers, as indicated by *consumers*.

Figure 34 : The benefits of personalised pricing/offers for consumers as indicated by consumers (CPA)

CPA Survey



Q16. What are the benefits of personalised pricing/offers as indicated by consumers. Please tick the options that apply. Total number of respondents: 17.
Note: The bar chart indicates the number of responses per item rather than percentages.
Source: Survey to CPAs.

Overall, the main benefits for consumers as reported by CPAs are ”seeing products they might be interested in” (52%), ”receiving special price discounts/promotions” (reported by 9 out of 17 respondents, or 52%), ”saving time when searching online” and ”choosing products that best suits their needs”(reported by 7 respondents). To a lesser extent, consumers believe personalised pricing/offers help them to ”see products for the best available price” (4/17 respondents) and to ”receive relevant recommendations to similar products” (4/17 respondents).

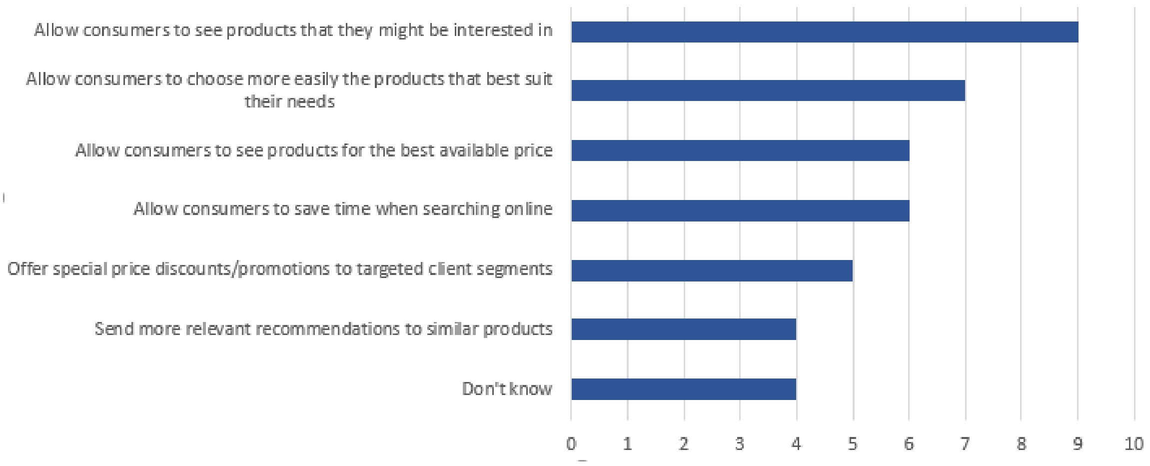
[108] Datasylnet, “The Great Data Race: How commercial utilisation of personal data challenges privacy”, Report. November 2015. Available at: https://www.datatilsynet.no/globalassets/global/english/engelsk-kommersialisering-endelig.pdf

Sub-topic 2 – Benefits for consumers as indicated by companies that make use of personalised pricing/offers

This following figure shows what CPAs perceive as benefits of personalised pricing/offers for consumers, *according to online firms*.

Figure 35: The benefits for consumers as indicated by companies that make use of personalised pricing/offers (CPA)

CPA Survey



Q17. What are the benefits for consumers as indicated by companies that make use of personalised pricing/offers. Please tick the options that apply. Total number of respondents: 17.
Note: The bar chart indicates the number of responses per item rather than percentages.
Source: Survey to CPAs

The main benefits for consumers, as companies see it and as reported by CPA respondents, are to ”allow consumers to see products they might be interested in”' (9 out of 17 respondents, or 52%) and ”allow consumers to choose easily the products that best suit their needs” (41%). When it comes to other benefits, the results were evenly distributed between ”allowing consumers to save time when searching online” (6 out of 17 respondents, or 35%) and ”allowing consumers to see products for the best available price” (same as above).

National experts were also asked to report on the main benefits of personalisation practices for companies (Q18 of questionnaire). Due to the low response rate and small sample, it is difficult to provide any detailed overview of the main benefits for companies, however there are valuable insights that could be drawn from the experts' input. Respondents reported that personalisation practices for online business operators are highly likely to raise profitability for the companies involved. Personalised pricing could also help raise market share over competitors, reduce costs of advertising and increase advertising impact. Targeted discounts and targeted advertising help to reduce costs for advertising and increase its impact. In addition, targeted discounts and price steering could help to increase market share.

In line with the results from the CPA survey, the majority of **business operators** (7 out of 10) reported that personalisation allows consumers to see products they may be interested in. According to the respondents, other major benefits for consumers are receiving more relevant recommendations (7 out of 10) and saving time while searching online (6 out of 10). Furthermore, respondents listed additional benefits for consumers such as receiving special discounts, allowing consumers to choose more easily the products that best suit their needs, seeing products for the best available price, and making online search more enjoyable as a result of personalisation.

Annex 4 Consumer Survey – all tables

A4.1 Country tables

D1_recode. Age

	Base	16 - 24	25 - 34	35 - 44	45 - 54	55 – 64	65+
EU28	***21,734***	***17%***	***21%***	***21%***	***20%***	***14%***	***7%***
BE	801	17%	20%	20%	20%	15%	8%
BG	814	18%	27%	25%	17%	10%	3%
CZ	811	15%	22%	26%	18%	14%	6%
DK	801	17%	**17%**	19%	20%	16%	**12%**
DE	828	15%	19%	18%	**23%**	16%	8%
EE	804	15%	23%	21%	19%	15%	8%
IE	801	17%	24%	25%	18%	11%	5%
EL	800	19%	24%	25%	19%	10%	3%
ES	813	15%	21%	**27%**	21%	12%	5%
FR	829	18%	20%	20%	19%	15%	8%
HR	802	20%	24%	22%	18%	12%	4%
IT	810	17%	20%	24%	22%	13%	5%
CY	501	**24%**	**28%**	21%	15%	**9%**	4%
LV	801	17%	24%	21%	19%	14%	6%
LT	801	22%	23%	20%	19%	12%	4%
LU	503	**15%**	20%	21%	20%	15%	8%
HU	801	18%	21%	25%	18%	14%	5%
MT	503	20%	24%	20%	16%	14%	6%
NL	802	16%	17%	18%	21%	17%	11%
AT	800	17%	21%	20%	22%	13%	7%
PL	821	20%	28%	23%	**15%**	12%	3%
PT	802	19%	22%	26%	18%	10%	5%
RO	837	22%	26%	24%	16%	10%	**2%**
SI	804	17%	24%	25%	19%	11%	4%
SK	802	19%	26%	24%	17%	10%	4%
FI	801	16%	19%	**18%**	19%	**18%**	10%
SE	827	17%	19%	18%	18%	15%	12%
UK	814	17%	20%	19%	20%	14%	10%
IS	513	19%	20%	18%	19%	15%	9%
NO	803	17%	19%	20%	19%	15%	10%

D2. Gender

	Base	Male	Female
EU28	***21,734***	***51%***	***49%***
BE	801	50%	50%
BG	814	50%	50%
CZ	811	51%	49%
DK	801	50%	50%
DE	828	52%	49%
EE	804	49%	51%
IE	801	48%	52%
EL	800	51%	49%
ES	813	51%	49%
FR	829	50%	50%
HR	802	**53%**	**47%**
IT	810	53%	47%
CY	501	50%	50%
LV	801	**47%**	**53%**
LT	801	47%	53%
LU	503	52%	48%
HU	801	50%	50%
MT	503	52%	48%
NL	802	50%	50%
AT	800	53%	47%
PL	821	50%	50%
PT	802	51%	49%
RO	837	52%	48%
SI	804	53%	47%
SK	802	50%	50%
FI	801	50%	50%
SE	827	51%	49%
UK	814	50%	50%
IS	513	51%	49%
NO	803	51%	49%

D4. Urbanisation

	Base	Large town or city	Small or medium sized town	Rural area or village
EU28	***21,734***	***34%***	***42%***	***24%***
BE	801	25%	45%	31%
BG	814	**66%**	29%	**5%**
CZ	811	32%	38%	29%
DK	801	40%	40%	20%
DE	828	29%	43%	28%
EE	804	46%	33%	21%
IE	801	45%	26%	29%
EL	800	56%	34%	9%
ES	813	38%	41%	21%
FR	829	20%	46%	34%
HR	802	31%	**48%**	21%
IT	810	41%	47%	12%
CY	501	45%	28%	27%
LV	801	42%	34%	24%
LT	801	62%	**23%**	15%
LU	503	**19%**	38%	**43%**
HU	801	45%	40%	15%
MT	503	29%	43%	28%
NL	802	26%	48%	26%
AT	800	35%	27%	37%
PL	821	29%	42%	29%
PT	802	37%	43%	21%
RO	837	45%	45%	10%
SI	804	25%	41%	34%
SK	802	22%	36%	42%
FI	801	38%	43%	20%
SE	827	36%	44%	20%
UK	814	41%	40%	18%
IS	513	52%	37%	11%
NO	803	28%	41%	30%

D5_Recode. Education level (Low/ Medium/ High)

	Base	Low	Medium	High
EU28	***21,734***	***13%***	***47%***	***40%***
BE	801	6%	48%	46%
BG	814	2%	29%	70%
CZ	811	**37%**	44%	**19%**
DK	801	16%	35%	49%
DE	828	14%	55%	31%
EE	804	5%	47%	48%
IE	801	4%	28%	68%
EL	800	2%	36%	63%
ES	813	27%	28%	46%
FR	829	17%	50%	33%
HR	802	**1%**	45%	53%
IT	810	12%	53%	35%
CY	501	5%	34%	61%
LV	801	7%	46%	47%
LT	801	4%	**23%**	**73%**
LU	503	13%	49%	39%
HU	801	6%	54%	41%
MT	503	9%	29%	63%
NL	802	18%	44%	39%
AT	800	29%	45%	26%
PL	821	5%	**60%**	34%
PT	802	10%	38%	52%
RO	837	5%	39%	56%
SI	804	2%	50%	48%
SK	802	7%	55%	38%
FI	801	12%	56%	32%
SE	827	7%	57%	36%
UK	814	6%	45%	49%
IS	504	4%	55%	41%
NO	803	6%	40%	54%

D6. Work status

	Base	Employed	Retired	Pupil / Student / In education	Self-employed	Unemployed but looking for a job	Housewife / Homemaker	Long-term sick or disabled	Studying in combination with a part-time job	Unemployed and not looking for a job
EU28	***21,734***	***55%***	***10%***	***9%***	***8%***	***6%***	***6%***	***3%***	***2%***	***2%***
BE	801	53%	13%	14%	4%	6%	3%	5%	**0%**	1%
BG	814	68%	5%	7%	10%	4%	2%	0%	2%	1%
CZ	811	58%	14%	7%	7%	3%	6%	1%	4%	1%
DK	801	45%	**22%**	10%	5%	7%	2%	3%	3%	3%
DE	828	57%	12%	11%	7%	3%	6%	2%	2%	1%
EE	804	70%	9%	5%	**4%**	4%	3%	3%	2%	1%
IE	801	58%	7%	6%	9%	7%	5%	2%	5%	1%
EL	800	**44%**	8%	11%	**16%**	14%	3%	0%	2%	1%
ES	813	53%	6%	7%	8%	13%	**9%**	1%	1%	2%
FR	829	55%	7%	7%	4%	10%	7%	5%	1%	**5%**
HR	802	57%	11%	**15%**	4%	8%	**1%**	1%	3%	1%
IT	810	53%	6%	11%	13%	7%	7%	0%	2%	1%
CY	501	56%	**3%**	13%	13%	9%	2%	0%	2%	1%
LV	801	63%	7%	**3%**	9%	7%	6%	2%	2%	1%
LT	801	65%	4%	5%	9%	6%	3%	2%	4%	1%
LU	503	60%	15%	12%	5%	**2%**	5%	1%	1%	0%
HU	801	63%	11%	10%	4%	4%	5%	0%	1%	0%
MT	503	**71%**	9%	4%	6%	3%	3%	**0%**	2%	1%
NL	802	53%	11%	10%	9%	3%	6%	5%	2%	1%
AT	800	53%	14%	12%	8%	6%	3%	1%	3%	1%
PL	821	57%	9%	7%	7%	5%	8%	4%	2%	1%
PT	802	55%	6%	11%	14%	10%	1%	0%	1%	0%
RO	837	65%	9%	10%	8%	3%	3%	0%	1%	0%
SI	804	55%	10%	12%	6%	10%	1%	1%	3%	2%
SK	802	54%	9%	9%	9%	5%	7%	2%	4%	0%
FI	801	44%	21%	8%	6%	**14%**	1%	1%	2%	3%
SE	827	51%	18%	8%	5%	6%	1%	5%	3%	1%
UK	814	55%	15%	8%	7%	3%	6%	4%	2%	1%
IS	513	63%	6%	6%	9%	3%	1%	6%	**5%**	**0%**
NO	803	59%	11%	11%	4%	4%	**1%**	**8%**	1%	1%

D6_Recode. Work status (Active/ Inactive)

	Base	ACTIVE	INACTIVE
EU28	***21,734***	***71%***	***29%***
BE	801	64%	36%
BG	814	**85%**	**15%**
CZ	811	71%	29%
DK	801	**61%**	**39%**
DE	828	68%	32%
EE	804	80%	20%
IE	801	78%	22%
EL	800	76%	24%
ES	813	75%	25%
FR	829	70%	30%
HR	802	72%	28%
IT	810	75%	25%
CY	501	80%	20%
LV	801	80%	20%
LT	801	85%	16%
LU	503	68%	32%
HU	801	72%	28%
MT	503	83%	17%
NL	802	67%	33%
AT	800	69%	31%
PL	821	70%	30%
PT	802	80%	20%
RO	837	77%	23%
SI	804	74%	26%
SK	802	73%	27%
FI	801	66%	34%
SE	827	66%	34%
UK	814	66%	34%
IS	508	81%	19%
NO	803	68%	32%

D7. Household's financial situation

	Base	Very easy	Fairly easy	Fairly difficult	Very difficult	Prefer not to say
EU28	***21,734***	***8%***	***44%***	***36%***	***9%***	***3%***
BE	801	9%	44%	33%	9%	4%
BG	814	5%	48%	35%	8%	4%
CZ	811	6%	52%	31%	8%	3%
DK	801	17%	48%	24%	6%	5%
DE	828	8%	49%	33%	8%	2%
EE	804	8%	48%	34%	7%	4%
IE	801	10%	43%	33%	8%	6%
EL	800	2%	**21%**	**55%**	**19%**	2%
ES	813	4%	40%	40%	11%	4%
FR	829	6%	36%	41%	14%	3%
HR	802	9%	31%	45%	14%	**2%**
IT	810	4%	36%	43%	14%	3%
CY	501	7%	46%	35%	10%	3%
LV	801	4%	35%	44%	13%	4%
LT	801	6%	44%	39%	6%	4%
LU	503	17%	51%	26%	3%	4%
HU	801	**1%**	28%	54%	11%	6%
MT	503	9%	51%	29%	4%	**7%**
NL	802	18%	48%	25%	5%	3%
AT	800	10%	41%	37%	8%	4%
PL	821	5%	**61%**	28%	3%	3%
PT	802	5%	36%	44%	12%	3%
RO	837	4%	42%	44%	6%	4%
SI	804	6%	48%	35%	6%	5%
SK	802	5%	39%	40%	13%	4%
FI	801	7%	46%	34%	10%	3%
SE	827	23%	44%	23%	7%	3%
UK	814	12%	48%	31%	6%	2%
IS	513	17%	42%	28%	10%	3%
NO	803	**29%**	49%	**15%**	**2%**	5%

Q1_sum. How frequently do you use the internet for the following activities? - Summary

	To look for information on goods/ services	To buy goods/ services online	For online banking and for other financial services	To read news or blogs	To play games online	To watch videos or listen to music online	To stream live content, such as a live football match	To visit social networking sites (Facebook, Twitter, etc.)
Base (EU28)	***21,734***	***21,734***	***21,734***	***21,734***	***21,734***	***21,734***	***21,734***	***21,734***
At least once a day	25%	4%	19%	46%	18%	29%	**5%**	60%
At least once a week	42%	21%	43%	26%	15%	31%	13%	15%
At least once a month	21%	41%	21%	11%	11%	15%	14%	6%
At least once every 3 months	7%	21%	4%	5%	**7%**	8%	10%	3%
At least once in the last 12 months	2%	9%	**2%**	**4%**	9%	**6%**	11%	**2%**
Never	2%	**4%**	11%	8%	41%	11%	46%	13%

Q1_1. How frequently do you use the internet for the following activities? - To look for information on goods/services

	Base	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
EU28	***21,734***	***25%***	***42%***	***21%***	***7%***	***2%***	***2%***
BE	801	25%	41%	21%	8%	3%	3%
BG	814	**61%**	30%	**7%**	**2%**	0%	1%
CZ	811	27%	47%	18%	5%	1%	0%
DK	801	20%	43%	23%	8%	3%	3%
DE	828	17%	44%	**27%**	9%	2%	1%
EE	804	33%	44%	17%	4%	2%	1%
IE	801	40%	40%	15%	3%	1%	1%
EL	800	56%	30%	10%	2%	1%	**0%**
ES	813	27%	41%	20%	8%	3%	2%
FR	829	**17%**	36%	26%	**11%**	**5%**	4%
HR	802	40%	44%	12%	2%	1%	0%
IT	810	39%	40%	14%	3%	1%	3%
CY	501	50%	**29%**	10%	3%	1%	**6%**
LV	801	22%	44%	22%	9%	3%	1%
LT	801	39%	44%	13%	3%	1%	0%
LU	503	29%	43%	20%	5%	2%	1%
HU	801	35%	42%	16%	3%	2%	1%
MT	503	45%	40%	11%	3%	**0%**	1%
NL	802	25%	43%	20%	7%	2%	2%
AT	800	21%	**48%**	21%	7%	3%	1%
PL	821	22%	46%	21%	9%	2%	1%
PT	802	40%	39%	14%	5%	1%	1%
RO	837	44%	36%	14%	4%	1%	0%
SI	804	34%	42%	16%	5%	1%	1%
SK	802	33%	44%	16%	5%	2%	1%
FI	801	21%	46%	23%	6%	2%	1%
SE	827	22%	43%	24%	7%	3%	1%
UK	814	20%	47%	23%	6%	3%	2%
IS	513	38%	46%	12%	3%	1%	**0%**
NO	803	28%	45%	19%	6%	1%	1%

Q1_2. How frequently do you use the internet for the following activities? - To buy goods/ services online

	Base	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
EU28	***21,734***	***4%***	***21%***	***41%***	***21%***	***9%***	***4%***
BE	801	2%	**11%**	35%	27%	13%	11%
BG	814	5%	20%	41%	23%	9%	3%
CZ	811	4%	19%	44%	22%	10%	**1%**
DK	801	3%	12%	41%	28%	12%	4%
DE	828	4%	26%	**46%**	17%	5%	2%
EE	804	9%	16%	36%	23%	13%	3%
IE	801	4%	22%	46%	19%	7%	3%
EL	800	**11%**	21%	38%	17%	10%	3%
ES	813	3%	15%	41%	23%	12%	6%
FR	829	3%	13%	39%	27%	12%	6%
HR	802	3%	14%	38%	23%	15%	7%
IT	810	9%	23%	39%	18%	6%	5%
CY	501	4%	12%	34%	18%	8%	**25%**
LV	801	2%	13%	**33%**	27%	17%	8%
LT	801	8%	25%	35%	20%	9%	3%
LU	503	4%	20%	41%	22%	10%	3%
HU	801	5%	15%	37%	25%	13%	5%
MT	503	6%	22%	41%	22%	5%	4%
NL	802	**2%**	15%	43%	25%	12%	4%
AT	800	4%	18%	39%	28%	9%	4%
PL	821	5%	22%	44%	21%	6%	2%
PT	802	5%	13%	34%	24%	15%	9%
RO	837	10%	23%	41%	16%	9%	2%
SI	804	4%	15%	35%	28%	13%	5%
SK	802	4%	19%	40%	25%	9%	3%
FI	801	3%	12%	36%	26%	**17%**	6%
SE	827	3%	16%	41%	24%	13%	3%
UK	814	4%	**35%**	40%	**16%**	**3%**	2%
IS	513	2%	13%	36%	27%	14%	7%
NO	803	3%	14%	37%	**30%**	13%	3%

Q1_3. How frequently do you use the internet for the following activities? - For online banking and for other financial services

	Base	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
EU28	***21,734***	***19%***	***43%***	***21%***	***4%***	***2%***	***11%***
BE	801	14%	51%	22%	2%	2%	10%
BG	814	12%	35%	26%	6%	6%	15%
CZ	811	19%	54%	22%	2%	1%	3%
DK	801	19%	48%	26%	4%	1%	3%
DE	828	16%	42%	22%	3%	3%	14%
EE	804	19%	60%	19%	**1%**	0%	**1%**
IE	801	26%	48%	**15%**	3%	1%	8%
EL	800	13%	34%	32%	7%	4%	10%
ES	813	19%	38%	21%	7%	3%	12%
FR	829	26%	38%	15%	4%	3%	14%
HR	802	17%	44%	21%	4%	3%	11%
IT	810	15%	37%	24%	6%	3%	15%
CY	501	13%	**30%**	16%	4%	1%	**36%**
LV	801	9%	50%	**36%**	3%	1%	1%
LT	801	18%	51%	25%	3%	1%	2%
LU	503	11%	57%	25%	2%	0%	3%
HU	801	**7%**	36%	34%	5%	3%	14%
MT	503	12%	53%	26%	4%	1%	4%
NL	802	18%	56%	19%	2%	1%	3%
AT	800	16%	48%	26%	3%	1%	7%
PL	821	**27%**	48%	17%	3%	2%	3%
PT	802	12%	41%	27%	7%	4%	9%
RO	837	15%	34%	27%	**8%**	**7%**	10%
SI	804	12%	39%	23%	5%	2%	17%
SK	802	18%	46%	24%	4%	2%	5%
FI	801	12%	62%	22%	1%	1%	2%
SE	827	12%	46%	35%	4%	1%	2%
UK	814	20%	46%	19%	4%	1%	10%
IS	513	22%	54%	20%	1%	1%	2%
NO	803	17%	**63%**	17%	2%	**0%**	1%

Q1_4. How frequently do you use the internet for the following activities? - To read news or blogs

	Base	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
EU28	***21,734***	***46%***	***26%***	***11%***	***5%***	***4%***	***8%***
BE	801	48%	28%	11%	3%	2%	9%
BG	814	**80%**	15%	**3%**	1%	1%	**0%**
CZ	811	61%	24%	7%	3%	3%	2%
DK	801	50%	25%	10%	4%	3%	7%
DE	828	35%	29%	13%	6%	5%	12%
EE	804	67%	23%	5%	2%	2%	1%
IE	801	71%	20%	4%	3%	**0%**	3%
EL	800	77%	15%	5%	2%	1%	0%
ES	813	47%	25%	12%	6%	6%	4%
FR	829	**33%**	27%	**14%**	7%	**6%**	**13%**
HR	802	77%	17%	3%	2%	1%	0%
IT	810	58%	25%	8%	3%	1%	4%
CY	501	70%	16%	4%	1%	1%	9%
LV	801	67%	20%	6%	3%	2%	2%
LT	801	79%	15%	3%	1%	1%	1%
LU	503	64%	20%	7%	4%	2%	4%
HU	801	66%	21%	7%	2%	1%	2%
MT	503	78%	16%	3%	**0%**	1%	1%
NL	802	50%	24%	7%	5%	3%	12%
AT	800	41%	27%	12%	6%	5%	8%
PL	821	38%	**32%**	14%	**7%**	4%	5%
PT	802	67%	21%	7%	2%	1%	1%
RO	837	60%	25%	8%	3%	1%	2%
SI	804	61%	24%	7%	3%	1%	3%
SK	802	58%	27%	7%	4%	2%	2%
FI	801	53%	29%	8%	4%	3%	3%
SE	827	56%	24%	10%	5%	2%	3%
UK	814	43%	28%	11%	5%	3%	10%
IS	513	78%	**15%**	3%	3%	1%	1%
NO	803	73%	18%	5%	1%	2%	2%

Q1_5. How frequently do you use the internet for the following activities? - To play games online

	Base	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
EU28	***21,734***	***18%***	***15%***	***11%***	***7%***	***9%***	***41%***
BE	801	15%	14%	9%	6%	5%	50%
BG	814	28%	20%	11%	11%	11%	20%
CZ	811	17%	15%	11%	9%	13%	35%
DK	801	21%	16%	9%	7%	7%	40%
DE	828	16%	14%	11%	6%	8%	45%
EE	804	19%	18%	10%	10%	15%	28%
IE	801	16%	12%	8%	6%	8%	49%
EL	800	**30%**	19%	11%	7%	9%	23%
ES	813	17%	14%	12%	8%	9%	41%
FR	829	20%	12%	8%	6%	9%	44%
HR	802	18%	18%	14%	11%	14%	26%
IT	810	20%	18%	13%	7%	5%	38%
CY	501	15%	11%	**4%**	4%	**3%**	**62%**
LV	801	19%	17%	10%	10%	12%	33%
LT	801	23%	16%	11%	11%	13%	27%
LU	503	20%	14%	7%	4%	8%	47%
HU	801	16%	12%	9%	10%	11%	42%
MT	503	19%	**9%**	10%	**11%**	10%	41%
NL	802	16%	12%	5%	**4%**	4%	58%
AT	800	21%	14%	11%	7%	11%	36%
PL	821	17%	19%	13%	10%	**15%**	25%
PT	802	20%	17%	**17%**	8%	12%	27%
RO	837	30%	17%	14%	9%	10%	**19%**
SI	804	17%	14%	8%	10%	14%	38%
SK	802	18%	15%	10%	9%	14%	34%
FI	801	22%	**21%**	12%	6%	7%	31%
SE	827	15%	14%	11%	7%	11%	42%
UK	814	16%	14%	11%	6%	7%	47%
IS	513	21%	14%	8%	9%	10%	39%
NO	803	**9%**	12%	10%	11%	7%	52%

Q1_6. How frequently do you use the internet for the following activities? - To watch videos or listen to music online

	Base	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
EU28	***21,734***	***29%***	***31%***	***15%***	***8%***	***6%***	***11%***
BE	801	24%	30%	13%	8%	7%	17%
BG	814	61%	26%	7%	3%	2%	**1%**
CZ	811	35%	34%	15%	8%	5%	3%
DK	801	34%	26%	13%	7%	6%	13%
DE	828	**20%**	31%	16%	11%	6%	16%
EE	804	43%	29%	14%	7%	4%	3%
IE	801	47%	28%	9%	5%	3%	8%
EL	800	63%	25%	**6%**	2%	2%	1%
ES	813	30%	33%	16%	9%	6%	6%
FR	829	24%	27%	**17%**	9%	8%	14%
HR	802	45%	34%	10%	5%	3%	2%
IT	810	37%	**35%**	12%	6%	3%	7%
CY	501	**63%**	**18%**	7%	**2%**	**1%**	9%
LV	801	44%	31%	11%	6%	3%	5%
LT	801	55%	27%	10%	3%	2%	2%
LU	503	34%	28%	14%	9%	4%	11%
HU	801	43%	31%	14%	5%	3%	5%
MT	503	50%	30%	8%	2%	2%	7%
NL	802	20%	28%	16%	7%	5%	**23%**
AT	800	30%	30%	16%	8%	6%	12%
PL	821	27%	34%	17%	**11%**	6%	6%
PT	802	49%	31%	10%	4%	3%	3%
RO	837	40%	32%	15%	7%	2%	3%
SI	804	45%	30%	13%	6%	3%	4%
SK	802	41%	30%	13%	7%	5%	4%
FI	801	37%	32%	13%	6%	4%	8%
SE	827	29%	27%	15%	7%	**8%**	14%
UK	814	24%	30%	16%	9%	7%	15%
IS	513	46%	31%	11%	5%	3%	4%
NO	803	39%	33%	11%	7%	3%	7%

Q1_7. How frequently do you use the internet for the following activities? - To stream live content, such as a live football match

	Base	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
EU28	***21,734***	***5%***	***13%***	***14%***	***10%***	***11%***	***46%***
BE	801	3%	9%	10%	10%	9%	59%
BG	814	**14%**	**25%**	15%	11%	11%	24%
CZ	811	5%	13%	19%	14%	14%	36%
DK	801	7%	14%	11%	8%	11%	48%
DE	828	**1%**	7%	13%	10%	10%	59%
EE	804	6%	12%	21%	12%	17%	32%
IE	801	6%	14%	20%	10%	11%	38%
EL	800	9%	25%	22%	11%	11%	21%
ES	813	8%	19%	19%	13%	11%	31%
FR	829	4%	8%	10%	9%	9%	60%
HR	802	5%	17%	16%	**17%**	16%	29%
IT	810	13%	24%	16%	9%	10%	28%
CY	501	8%	13%	12%	7%	**5%**	55%
LV	801	7%	12%	17%	14%	14%	36%
LT	801	7%	13%	17%	11%	11%	40%
LU	503	5%	13%	15%	13%	**18%**	37%
HU	801	5%	10%	14%	12%	15%	43%
MT	503	10%	17%	17%	10%	9%	37%
NL	802	2%	**6%**	9%	9%	9%	65%
AT	800	3%	10%	14%	10%	13%	50%
PL	821	3%	12%	19%	13%	14%	39%
PT	802	10%	24%	**23%**	13%	12%	**19%**
RO	837	10%	24%	22%	15%	11%	19%
SI	804	5%	15%	20%	14%	13%	33%
SK	802	6%	18%	19%	15%	16%	26%
FI	801	3%	7%	**5%**	**3%**	6%	**74%**
SE	827	4%	10%	13%	9%	16%	47%
UK	814	4%	12%	14%	9%	11%	50%
IS	513	3%	10%	15%	13%	13%	46%
NO	803	2%	12%	15%	12%	14%	46%

Q1_8. How frequently do you use the internet for the following activities? - To visit social networking sites (Facebook, Twitter, etc.)

	Base	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
EU28	***21,734***	***60%***	***15%***	***6%***	***3%***	***2%***	***13%***
BE	801	65%	14%	5%	2%	1%	13%
BG	814	84%	8%	2%	1%	1%	4%
CZ	811	64%	15%	4%	3%	2%	11%
DK	801	63%	14%	5%	2%	2%	13%
DE	828	**41%**	**19%**	**8%**	5%	**3%**	**23%**
EE	804	73%	12%	3%	2%	2%	8%
IE	801	73%	11%	4%	2%	1%	10%
EL	800	80%	10%	3%	1%	1%	5%
ES	813	63%	15%	8%	**5%**	3%	6%
FR	829	56%	14%	8%	2%	3%	17%
HR	802	75%	10%	3%	1%	2%	9%
IT	810	68%	13%	7%	2%	1%	10%
CY	501	79%	9%	2%	0%	**0%**	10%
LV	801	77%	14%	3%	1%	1%	3%
LT	801	76%	10%	3%	2%	3%	7%
LU	503	67%	11%	4%	1%	1%	16%
HU	801	79%	11%	2%	1%	1%	6%
MT	503	86%	**6%**	**2%**	0%	1%	5%
NL	802	63%	15%	5%	2%	2%	13%
AT	800	56%	18%	6%	3%	3%	15%
PL	821	66%	15%	7%	3%	3%	7%
PT	802	81%	11%	3%	2%	1%	**2%**
RO	837	84%	8%	3%	1%	1%	3%
SI	804	71%	10%	4%	1%	1%	12%
SK	802	79%	9%	3%	2%	1%	6%
FI	801	56%	18%	7%	3%	2%	14%
SE	827	62%	14%	5%	4%	3%	11%
UK	814	56%	16%	6%	3%	3%	16%
IS	513	**86%**	8%	2%	**0%**	1%	2%
NO	803	75%	11%	3%	1%	1%	8%

Q2_sum. How often do you use the following methods to protect your online privacy when browsing the internet? - Summary

	Ad-blocker	The incognito/ private mode of my browser	Delete cookies	Instruments to hide my IP address such as TOR, VPNs etc.	Other apps/plugins designed to protect privacy online
Base (EU28)	***21,734***	***21,734***	***21,734***	***21,734***	***21,734***
Always	21%	**5%**	9%	**3%**	**5%**
Very Often	16%	13%	21%	6%	11%
Sometimes	17%	24%	**33%**	14%	20%
Rarely	14%	21%	21%	17%	20%
Never	23%	**25%**	11%	**45%**	**30%**
Don’t know	9%	11%	**5%**	15%	15%

Q2_1. How often do you use the following methods to protect your online privacy when browsing the internet? - Ad-blocker

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***21,734***	***21%***	***16%***	***17%***	***14%***	***23%***	***9%***
BE	801	17%	12%	**12%**	13%	29%	16%
BG	814	23%	16%	15%	16%	19%	11%
CZ	811	17%	20%	21%	17%	20%	5%
DK	801	18%	16%	15%	16%	26%	9%
DE	828	25%	16%	17%	14%	22%	6%
EE	804	27%	20%	21%	14%	13%	5%
IE	801	26%	13%	21%	15%	20%	5%
EL	800	**31%**	24%	17%	14%	10%	3%
ES	813	17%	14%	20%	17%	27%	5%
FR	829	24%	16%	16%	10%	22%	11%
HR	802	29%	19%	14%	14%	17%	6%
IT	810	16%	13%	14%	11%	29%	17%
CY	501	26%	14%	13%	10%	**34%**	2%
LV	801	22%	17%	21%	15%	19%	5%
LT	801	26%	18%	18%	15%	18%	5%
LU	503	23%	15%	15%	10%	18%	18%
HU	801	26%	16%	16%	14%	21%	8%
MT	503	21%	15%	20%	19%	17%	8%
NL	802	15%	**10%**	13%	**8%**	31%	**23%**
AT	800	25%	18%	15%	17%	19%	6%
PL	821	20%	18%	18%	16%	22%	6%
PT	802	22%	**26%**	26%	14%	**10%**	3%
RO	837	16%	17%	**26%**	20%	20%	**2%**
SI	804	23%	18%	16%	18%	22%	4%
SK	802	19%	19%	19%	15%	23%	6%
FI	801	22%	20%	17%	11%	22%	8%
SE	827	21%	13%	15%	**21%**	22%	7%
UK	814	23%	14%	19%	15%	22%	7%
IS	513	**14%**	11%	17%	18%	31%	8%
NO	803	16%	13%	13%	11%	25%	23%

Q2_2. How often do you use the following methods to protect your online privacy when browsing the internet? - The incognito/private mode of my browser

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***21,734***	***5%***	***13%***	***24%***	***21%***	***25%***	***11%***
BE	801	7%	10%	20%	16%	27%	19%
BG	814	7%	17%	27%	23%	21%	5%
CZ	811	6%	15%	28%	22%	18%	10%
DK	801	6%	11%	23%	19%	25%	15%
DE	828	5%	11%	22%	22%	28%	11%
EE	804	5%	13%	31%	21%	15%	14%
IE	801	8%	15%	28%	18%	21%	10%
EL	800	8%	21%	28%	23%	14%	6%
ES	813	3%	15%	23%	24%	28%	6%
FR	829	7%	15%	26%	20%	19%	14%
HR	802	6%	16%	27%	22%	22%	6%
IT	810	7%	15%	24%	19%	28%	7%
CY	501	**13%**	10%	**12%**	**14%**	**44%**	7%
LV	801	7%	12%	26%	20%	23%	12%
LT	801	5%	11%	28%	21%	26%	10%
LU	503	10%	17%	19%	16%	20%	17%
HU	801	6%	14%	28%	17%	27%	8%
MT	503	8%	17%	25%	24%	18%	9%
NL	802	3%	**7%**	17%	16%	32%	**26%**
AT	800	6%	12%	25%	19%	24%	14%
PL	821	**2%**	15%	28%	24%	22%	10%
PT	802	6%	**21%**	**32%**	23%	**13%**	**5%**
RO	837	7%	14%	31%	23%	19%	6%
SI	804	7%	13%	26%	23%	23%	8%
SK	802	5%	15%	27%	22%	23%	8%
FI	801	3%	18%	27%	17%	21%	14%
SE	827	4%	8%	17%	**30%**	29%	13%
UK	814	4%	10%	25%	21%	27%	12%
IS	513	6%	14%	22%	21%	27%	10%
NO	803	4%	10%	25%	21%	23%	18%

Q2_3. How often do you use the following methods to protect your online privacy when browsing the internet? - Delete cookies

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***21,734***	***9%***	***21%***	***33%***	***21%***	***11%***	***5%***
BE	801	8%	20%	33%	19%	13%	7%
BG	814	11%	24%	28%	21%	12%	4%
CZ	811	5%	21%	33%	21%	13%	7%
DK	801	9%	22%	26%	23%	15%	6%
DE	828	14%	21%	32%	21%	9%	4%
EE	804	6%	19%	33%	24%	9%	9%
IE	801	9%	22%	32%	22%	13%	2%
EL	800	9%	27%	35%	19%	7%	**2%**
ES	813	8%	23%	31%	20%	14%	4%
FR	829	9%	21%	33%	19%	12%	6%
HR	802	11%	22%	32%	22%	10%	2%
IT	810	10%	25%	31%	18%	13%	3%
CY	501	**16%**	17%	**19%**	17%	**25%**	5%
LV	801	7%	24%	31%	21%	9%	8%
LT	801	10%	17%	31%	19%	16%	7%
LU	503	12%	22%	33%	18%	9%	6%
HU	801	10%	21%	29%	22%	12%	6%
MT	503	9%	20%	35%	23%	9%	4%
NL	802	9%	22%	35%	**14%**	13%	7%
AT	800	9%	21%	35%	22%	10%	4%
PL	821	5%	18%	35%	26%	11%	5%
PT	802	11%	**30%**	34%	18%	**4%**	2%
RO	837	11%	18%	**38%**	23%	8%	2%
SI	804	9%	16%	33%	23%	15%	3%
SK	802	6%	18%	31%	24%	14%	7%
FI	801	6%	22%	33%	20%	11%	7%
SE	827	7%	**11%**	26%	**38%**	14%	5%
UK	814	9%	18%	35%	22%	12%	5%
IS	513	**3%**	16%	25%	27%	22%	7%
NO	803	6%	16%	32%	22%	12%	**11%**

Q2_4. How often do you use the following methods to protect your online privacy when browsing the internet? - Instruments to hide my IP address such as TOR, VPNs etc.

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***21,734***	***3%***	***6%***	***14%***	***17%***	***45%***	***15%***
BE	801	2%	4%	11%	14%	47%	21%
BG	814	5%	7%	15%	25%	37%	12%
CZ	811	3%	8%	15%	20%	37%	18%
DK	801	3%	7%	12%	18%	43%	17%
DE	828	3%	6%	15%	16%	46%	14%
EE	804	5%	8%	14%	22%	32%	19%
IE	801	4%	4%	11%	20%	49%	13%
EL	800	5%	**10%**	17%	28%	31%	9%
ES	813	2%	7%	12%	20%	50%	10%
FR	829	**2%**	6%	13%	13%	48%	18%
HR	802	2%	5%	12%	22%	51%	9%
IT	810	4%	8%	16%	16%	46%	10%
CY	501	**11%**	7%	10%	**8%**	54%	9%
LV	801	4%	5%	10%	17%	45%	18%
LT	801	4%	5%	12%	19%	45%	15%
LU	503	5%	5%	11%	18%	42%	19%
HU	801	4%	7%	13%	16%	44%	16%
MT	503	4%	7%	13%	21%	42%	14%
NL	802	2%	**3%**	11%	11%	48%	**26%**
AT	800	4%	6%	14%	18%	44%	15%
PL	821	2%	7%	16%	19%	43%	13%
PT	802	5%	9%	**22%**	**28%**	**29%**	9%
RO	837	7%	6%	18%	24%	38%	**7%**
SI	804	3%	4%	12%	19%	50%	11%
SK	802	5%	7%	16%	19%	39%	14%
FI	801	5%	7%	15%	17%	39%	17%
SE	827	2%	5%	**9%**	23%	47%	14%
UK	814	2%	6%	14%	17%	47%	16%
IS	513	2%	4%	12%	16%	**55%**	10%
NO	803	4%	4%	9%	20%	44%	20%

Q2_5. How often do you use the following methods to protect your online privacy when browsing the internet? - Other apps/plugins designed to protect privacy online

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***21,734***	***5%***	***11%***	***20%***	***20%***	***30%***	***15%***
BE	801	4%	10%	16%	18%	31%	22%
BG	814	8%	14%	28%	22%	**15%**	13%
CZ	811	5%	10%	18%	26%	23%	19%
DK	801	8%	11%	17%	18%	26%	20%
DE	828	6%	11%	20%	20%	30%	14%
EE	804	5%	10%	22%	24%	18%	21%
IE	801	7%	7%	19%	21%	34%	12%
EL	800	6%	**15%**	24%	25%	19%	10%
ES	813	4%	10%	19%	22%	35%	10%
FR	829	5%	11%	17%	14%	33%	20%
HR	802	5%	13%	22%	**30%**	21%	9%
IT	810	5%	12%	20%	19%	31%	13%
CY	501	**12%**	7%	**12%**	**10%**	**53%**	**6%**
LV	801	5%	10%	22%	25%	21%	17%
LT	801	8%	8%	26%	23%	21%	15%
LU	503	7%	9%	19%	16%	28%	21%
HU	801	11%	13%	24%	21%	17%	14%
MT	503	7%	9%	24%	23%	24%	13%
NL	802	5%	7%	17%	15%	32%	25%
AT	800	6%	11%	23%	22%	24%	15%
PL	821	4%	12%	25%	25%	21%	12%
PT	802	5%	13%	29%	24%	19%	10%
RO	837	7%	11%	**30%**	25%	19%	7%
SI	804	8%	11%	21%	25%	25%	10%
SK	802	6%	11%	24%	25%	20%	14%
FI	801	**3%**	9%	19%	16%	32%	22%
SE	827	5%	**6%**	13%	24%	39%	14%
UK	814	6%	10%	16%	18%	34%	15%
IS	513	4%	8%	17%	25%	34%	13%
NO	803	4%	6%	14%	21%	30%	**25%**

Q3_sum. When searching and shopping online for goods or services, how often do you do the following? - Summary

	Switch browsers (for example between Chrome and Firefox)	Switch devices (for example between a smartphone and laptop)	Search goods or services using a search engine (like Google)	Navigate to an e-commerce website (found) via social media	Use a price comparison website	Buy rather low-end (cheaper) products as opposed to high end (more expensive) ones	Delete/ prevent cookies	Use the incognito/ privacy mode of the browser
Base (EU28)	***20,704***	***20,704***	***20,704***	***20,704***	***20,704***	***20,704***	***20,704***	***20,704***
Always	2%	4%	25%	**3%**	8%	5%	7%	**4%**
Very Often	10%	20%	45%	12%	30%	22%	17%	11%
Sometimes	25%	34%	22%	28%	38%	42%	33%	24%
Rarely	28%	20%	5%	24%	16%	19%	26%	23%
Never	33%	21%	2%	28%	7%	8%	14%	30%
Don’t know	2%	**2%**	**1%**	5%	**1%**	**4%**	**4%**	8%

Q3_1. When searching and shopping online for goods or services, how often do you do the following? - Switch browsers (for example between Chrome and Firefox)

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***20,704***	***2%***	***10%***	***25%***	***28%***	***33%***	***2%***
BE	714	2%	9%	25%	28%	34%	3%
BG	794	5%	15%	25%	32%	22%	1%
CZ	803	2%	8%	24%	29%	34%	2%
DK	767	2%	9%	24%	28%	34%	3%
DE	812	2%	8%	25%	24%	40%	2%
EE	778	2%	11%	30%	32%	21%	3%
IE	771	2%	6%	21%	31%	39%	2%
EL	775	3%	13%	25%	33%	25%	1%
ES	764	3%	12%	29%	28%	27%	1%
FR	782	1%	11%	21%	25%	40%	2%
HR	747	2%	8%	25%	33%	32%	**0%**
IT	768	4%	15%	**32%**	25%	22%	1%
CY	376	6%	10%	**14%**	**17%**	**51%**	3%
LV	735	3%	8%	22%	35%	31%	2%
LT	775	**6%**	8%	24%	27%	34%	2%
LU	489	2%	10%	21%	26%	39%	3%
HU	760	2%	11%	25%	26%	35%	1%
MT	487	3%	7%	22%	32%	35%	1%
NL	771	1%	**4%**	23%	27%	39%	**5%**
AT	772	2%	9%	25%	26%	37%	1%
PL	808	2%	9%	29%	32%	26%	2%
PT	735	4%	**16%**	30%	32%	**16%**	1%
RO	822	2%	9%	28%	32%	27%	2%
SI	765	3%	9%	26%	31%	31%	1%
SK	781	3%	7%	25%	34%	29%	3%
FI	749	2%	14%	29%	29%	26%	1%
SE	802	2%	6%	17%	**40%**	33%	2%
UK	802	2%	8%	23%	29%	36%	2%
IS	477	**1%**	8%	24%	28%	37%	2%
NO	780	1%	10%	24%	31%	30%	3%

Q3_2. When searching and shopping online for goods or services, how often do you do the following? - Switch devices (for example between a smartphone and laptop)

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***20,704***	***4%***	***20%***	***34%***	***20%***	***21%***	***2%***
BE	714	3%	20%	34%	17%	24%	2%
BG	794	7%	25%	28%	23%	16%	1%
CZ	803	4%	28%	27%	17%	23%	1%
DK	767	4%	26%	31%	16%	22%	2%
DE	812	3%	**13%**	31%	20%	**30%**	3%
EE	778	4%	13%	34%	**32%**	15%	2%
IE	771	6%	25%	38%	16%	14%	0%
EL	775	7%	27%	31%	24%	12%	**0%**
ES	764	6%	23%	34%	21%	14%	3%
FR	782	5%	22%	30%	18%	24%	2%
HR	747	5%	25%	38%	19%	13%	1%
IT	768	6%	25%	38%	17%	13%	1%
CY	376	**10%**	25%	**25%**	18%	22%	1%
LV	735	4%	21%	29%	24%	20%	1%
LT	775	4%	14%	31%	28%	22%	1%
LU	489	2%	22%	36%	20%	18%	1%
HU	760	6%	21%	27%	21%	24%	2%
MT	487	6%	28%	35%	18%	12%	2%
NL	771	1%	15%	39%	19%	24%	2%
AT	772	3%	22%	31%	20%	23%	1%
PL	808	3%	22%	36%	22%	16%	2%
PT	735	7%	**30%**	34%	20%	**8%**	1%
RO	822	8%	24%	**40%**	17%	9%	2%
SI	765	7%	23%	32%	**16%**	22%	1%
SK	781	4%	16%	36%	21%	19%	**4%**
FI	749	4%	18%	32%	21%	23%	2%
SE	802	3%	15%	29%	31%	20%	3%
UK	802	3%	18%	37%	19%	23%	1%
IS	477	**1%**	23%	32%	25%	18%	2%
NO	780	5%	29%	36%	16%	12%	2%

Q3_3. When searching and shopping online for goods or services, how often do you do the following? - Search goods or services using a search engine (like Google)

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***20,704***	***25%***	***45%***	***22%***	***5%***	***2%***	***1%***
BE	714	17%	50%	24%	6%	3%	1%
BG	794	43%	42%	11%	3%	0%	0%
CZ	803	24%	50%	20%	5%	1%	0%
DK	767	19%	49%	24%	5%	2%	1%
DE	812	20%	46%	23%	7%	2%	1%
EE	778	39%	42%	14%	5%	1%	0%
IE	771	38%	43%	15%	**2%**	1%	0%
EL	775	39%	44%	13%	3%	1%	**0%**
ES	764	28%	39%	24%	6%	2%	1%
FR	782	26%	45%	22%	4%	1%	**2%**
HR	747	36%	46%	14%	3%	1%	0%
IT	768	27%	44%	22%	5%	2%	1%
CY	376	**54%**	**25%**	11%	3%	**6%**	1%
LV	735	27%	50%	17%	5%	1%	0%
LT	775	37%	44%	14%	4%	1%	0%
LU	489	21%	48%	20%	7%	2%	0%
HU	760	39%	40%	13%	4%	3%	1%
MT	487	38%	35%	18%	5%	3%	0%
NL	771	15%	45%	**32%**	5%	2%	1%
AT	772	24%	51%	18%	6%	1%	0%
PL	808	17%	49%	26%	6%	1%	1%
PT	735	32%	49%	15%	3%	**0%**	0%
RO	822	37%	43%	15%	3%	1%	1%
SI	765	48%	39%	**10%**	3%	0%	0%
SK	781	26%	52%	16%	3%	1%	1%
FI	749	24%	52%	21%	3%	0%	0%
SE	802	20%	38%	31%	**9%**	2%	1%
UK	802	26%	45%	22%	4%	1%	1%
IS	477	**13%**	**56%**	22%	6%	2%	1%
NO	780	14%	54%	26%	4%	1%	1%

Q3_4. When searching and shopping online for goods or services, how often do you do the following? - Navigate to an e-commerce website (found) via social media

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***20,704***	***3%***	***12%***	***28%***	***24%***	***28%***	***5%***
BE	714	2%	11%	32%	25%	27%	4%
BG	794	4%	22%	37%	27%	9%	1%
CZ	803	2%	17%	34%	26%	19%	1%
DK	767	2%	9%	34%	26%	25%	4%
DE	812	1%	4%	**19%**	23%	**44%**	9%
EE	778	3%	18%	39%	26%	11%	3%
IE	771	1%	6%	25%	34%	28%	5%
EL	775	**7%**	**33%**	39%	16%	**5%**	**0%**
ES	764	5%	20%	38%	22%	14%	2%
FR	782	2%	11%	24%	24%	34%	5%
HR	747	7%	31%	42%	**14%**	6%	0%
IT	768	5%	19%	35%	22%	18%	2%
CY	376	7%	20%	26%	22%	24%	1%
LV	735	2%	9%	36%	35%	13%	4%
LT	775	4%	18%	37%	21%	15%	4%
LU	489	3%	9%	25%	26%	33%	4%
HU	760	3%	16%	36%	21%	21%	4%
MT	487	2%	10%	39%	27%	18%	4%
NL	771	**0%**	**4%**	27%	26%	33%	**10%**
AT	772	1%	6%	22%	31%	32%	9%
PL	808	3%	19%	39%	25%	13%	1%
PT	735	3%	25%	43%	20%	8%	1%
RO	822	7%	22%	41%	22%	8%	1%
SI	765	3%	11%	35%	29%	20%	3%
SK	781	5%	22%	**43%**	20%	8%	2%
FI	749	1%	14%	39%	22%	21%	3%
SE	802	1%	8%	20%	**40%**	28%	3%
UK	802	1%	6%	21%	26%	42%	4%
IS	477	1%	11%	38%	27%	20%	3%
NO	780	1%	7%	36%	32%	19%	5%

Q3_5. When searching and shopping online for goods or services, how often do you do the following? - Use a price comparison website

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***20,704***	***8%***	***30%***	***38%***	***16%***	***7%***	***1%***
BE	714	4%	22%	43%	18%	11%	2%
BG	794	17%	39%	28%	12%	2%	1%
CZ	803	15%	41%	30%	9%	3%	1%
DK	767	8%	29%	40%	14%	7%	2%
DE	812	7%	32%	35%	17%	7%	1%
EE	778	8%	22%	35%	23%	10%	2%
IE	771	3%	17%	43%	24%	12%	1%
EL	775	18%	40%	29%	9%	3%	1%
ES	764	8%	28%	40%	18%	6%	2%
FR	782	5%	23%	37%	22%	12%	1%
HR	747	13%	38%	32%	12%	5%	1%
IT	768	12%	34%	38%	12%	4%	1%
CY	376	10%	12%	**20%**	13%	**43%**	1%
LV	735	11%	34%	37%	15%	4%	0%
LT	775	7%	27%	39%	18%	8%	1%
LU	489	6%	29%	32%	21%	10%	1%
HU	760	**18%**	43%	26%	**9%**	4%	1%
MT	487	6%	14%	32%	**28%**	19%	1%
NL	771	4%	23%	**50%**	15%	6%	1%
AT	772	7%	32%	37%	17%	6%	**0%**
PL	808	8%	38%	38%	13%	**2%**	1%
PT	735	8%	37%	38%	12%	4%	1%
RO	822	11%	27%	38%	18%	5%	1%
SI	765	12%	35%	36%	13%	4%	0%
SK	781	11%	**43%**	32%	11%	3%	1%
FI	749	5%	25%	45%	18%	7%	1%
SE	802	9%	27%	38%	20%	4%	1%
UK	802	7%	27%	41%	17%	7%	1%
IS	477	**2%**	**11%**	26%	28%	30%	**3%**
NO	780	6%	24%	42%	18%	8%	1%

Q3_6. When searching and shopping online for goods or services, how often do you do the following? - Buy rather low-end (cheaper) products as opposed to high end (more expensive) ones

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***20,704***	***5%***	***22%***	***42%***	***19%***	***8%***	***4%***
BE	714	3%	14%	45%	21%	11%	7%
BG	794	2%	13%	33%	35%	**15%**	2%
CZ	803	8%	43%	33%	11%	2%	2%
DK	767	10%	26%	38%	17%	6%	4%
DE	812	5%	22%	37%	15%	12%	**9%**
EE	778	14%	39%	33%	8%	2%	3%
IE	771	3%	18%	50%	21%	6%	2%
EL	775	14%	44%	35%	6%	**0%**	**0%**
ES	764	5%	23%	44%	18%	7%	2%
FR	782	4%	18%	40%	26%	10%	3%
HR	747	7%	32%	42%	13%	5%	0%
IT	768	5%	22%	39%	22%	10%	2%
CY	376	**20%**	23%	35%	13%	8%	2%
LV	735	11%	39%	38%	8%	2%	2%
LT	775	4%	21%	41%	24%	8%	3%
LU	489	3%	16%	39%	29%	8%	5%
HU	760	8%	37%	36%	14%	3%	3%
MT	487	4%	25%	47%	15%	8%	1%
NL	771	**2%**	13%	50%	17%	10%	8%
AT	772	4%	26%	40%	17%	9%	5%
PL	808	2%	16%	50%	23%	5%	4%
PT	735	13%	43%	38%	5%	1%	0%
RO	822	6%	18%	**52%**	16%	6%	3%
SI	765	14%	38%	38%	9%	1%	0%
SK	781	6%	38%	39%	12%	4%	2%
FI	749	11%	43%	33%	7%	2%	4%
SE	802	3%	**8%**	**27%**	**42%**	14%	5%
UK	802	4%	20%	49%	21%	4%	3%
IS	477	10%	**46%**	31%	**5%**	3%	4%
NO	780	7%	34%	41%	11%	3%	4%

Q3_7. When searching and shopping online for goods or services, how often do you do the following? - Delete/prevent cookies

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***20,704***	***7%***	***17%***	***33%***	***26%***	***14%***	***4%***
BE	714	5%	19%	37%	23%	12%	4%
BG	794	7%	19%	31%	26%	14%	2%
CZ	803	4%	19%	31%	24%	15%	7%
DK	767	9%	18%	30%	23%	15%	5%
DE	812	11%	18%	30%	25%	12%	4%
EE	778	4%	16%	31%	29%	11%	9%
IE	771	7%	16%	30%	28%	16%	4%
EL	775	9%	19%	35%	27%	9%	2%
ES	764	7%	19%	30%	27%	15%	2%
FR	782	6%	21%	35%	23%	12%	4%
HR	747	6%	17%	36%	27%	13%	1%
IT	768	7%	20%	33%	23%	13%	3%
CY	376	**18%**	17%	**18%**	**16%**	26%	4%
LV	735	6%	19%	31%	24%	12%	8%
LT	775	7%	18%	30%	26%	14%	3%
LU	489	9%	21%	27%	26%	12%	5%
HU	760	6%	20%	30%	24%	16%	3%
MT	487	7%	16%	29%	31%	15%	2%
NL	771	6%	15%	**41%**	20%	14%	3%
AT	772	6%	17%	33%	26%	13%	4%
PL	808	3%	13%	35%	32%	13%	4%
PT	735	7%	**21%**	39%	24%	**7%**	2%
RO	822	8%	15%	35%	27%	11%	3%
SI	765	7%	14%	36%	29%	14%	**1%**
SK	781	5%	12%	30%	31%	16%	7%
FI	749	5%	18%	38%	23%	12%	5%
SE	802	4%	**9%**	23%	**39%**	21%	4%
UK	802	9%	13%	32%	26%	15%	4%
IS	477	**2%**	15%	25%	25%	**27%**	7%
NO	780	4%	11%	29%	28%	16%	**13%**

Q3_8. When searching and shopping online for goods or services, how often do you do the following? - Use the incognito/privacy mode of the browser

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***20,704***	***4%***	***11%***	***24%***	***23%***	***30%***	***8%***
BE	714	3%	10%	22%	19%	32%	15%
BG	794	3%	13%	24%	29%	26%	5%
CZ	803	3%	13%	24%	27%	24%	9%
DK	767	4%	10%	20%	23%	29%	14%
DE	812	4%	10%	21%	22%	34%	9%
EE	778	3%	9%	27%	27%	21%	13%
IE	771	4%	12%	23%	23%	31%	7%
EL	775	6%	13%	31%	26%	**17%**	5%
ES	764	4%	12%	25%	24%	32%	3%
FR	782	4%	14%	26%	22%	23%	10%
HR	747	3%	13%	26%	28%	26%	**3%**
IT	768	6%	13%	25%	21%	30%	5%
CY	376	**7%**	9%	15%	**13%**	**47%**	8%
LV	735	4%	8%	26%	24%	27%	10%
LT	775	3%	8%	26%	24%	32%	7%
LU	489	4%	11%	20%	23%	30%	13%
HU	760	3%	12%	25%	20%	33%	6%
MT	487	4%	8%	24%	30%	26%	7%
NL	771	**1%**	**5%**	20%	17%	35%	**21%**
AT	772	4%	10%	23%	22%	34%	8%
PL	808	2%	10%	28%	28%	25%	7%
PT	735	5%	**18%**	**32%**	23%	17%	4%
RO	822	4%	11%	30%	28%	23%	4%
SI	765	3%	9%	25%	25%	31%	7%
SK	781	3%	11%	27%	25%	27%	7%
FI	749	3%	13%	27%	20%	26%	11%
SE	802	3%	7%	**14%**	**33%**	34%	9%
UK	802	3%	10%	23%	21%	36%	8%
IS	477	3%	7%	19%	26%	37%	8%
NO	780	2%	6%	18%	28%	31%	15%

Q4. When buying goods or services online, have you signed-up to or used any of the following types of loyalty programmes/websites? Select all that apply.

	Base	Retail loyalty cards	Registered user of an e-commerce website	Registered user of travel booking website	Rewards for credit cards	Frequent flyer programmes	No, I did not	Don't know
EU28	***20,704***	***37%***	***30%***	***18%***	***14%***	***12%***	***33%***	***6%***
BE	714	27%	28%	20%	9%	7%	36%	11%
BG	794	34%	27%	**40%**	11%	11%	29%	7%
CZ	803	47%	61%	13%	16%	7%	20%	3%
DK	767	25%	22%	12%	11%	12%	43%	11%
DE	812	44%	**9%**	**9%**	11%	11%	44%	3%
EE	778	43%	64%	28%	19%	10%	17%	4%
IE	771	48%	19%	32%	15%	21%	28%	3%
EL	775	17%	61%	21%	33%	19%	19%	3%
ES	764	35%	33%	26%	17%	16%	27%	7%
FR	782	23%	24%	12%	8%	**3%**	43%	11%
HR	747	28%	52%	15%	17%	5%	27%	6%
IT	768	35%	50%	32%	13%	15%	23%	6%
CY	376	17%	41%	24%	23%	25%	35%	3%
LV	735	48%	26%	18%	11%	7%	28%	8%
LT	775	44%	**67%**	21%	18%	5%	**14%**	4%
LU	489	20%	36%	25%	7%	15%	36%	7%
HU	760	36%	36%	18%	14%	12%	33%	8%
MT	487	23%	28%	30%	14%	22%	32%	12%
NL	771	28%	15%	17%	**6%**	11%	**46%**	12%
AT	772	35%	13%	16%	11%	14%	44%	5%
PL	808	34%	59%	13%	16%	8%	19%	6%
PT	735	26%	45%	28%	11%	15%	27%	7%
RO	822	37%	54%	29%	32%	19%	20%	**2%**
SI	765	31%	41%	20%	9%	17%	25%	9%
SK	781	42%	47%	15%	18%	5%	17%	**14%**
FI	749	25%	51%	20%	8%	10%	29%	8%
SE	802	40%	45%	25%	18%	30%	23%	6%
UK	802	**55%**	15%	20%	21%	16%	31%	4%
IS	477	**11%**	44%	32%	**39%**	40%	23%	7%
NO	780	32%	37%	32%	24%	**54%**	19%	7%

QP1. Thinking about your recent purchases/shopping online, what would make you more likely to purchase a product in the future? Select all that apply.

	Base	Seeing products at the best available price	Trusting the brand or online seller/ provider	The products shown matching my requirements or interests	Trusting the website to safeguard my personal data	Don't know
Average	***6,395***	***66%***	***51%***	***48%***	***44%***	***7%***
CZ	803	**56%**	56%	61%	32%	6%
DE	812	67%	**39%**	46%	**29%**	9%
ES	764	63%	52%	51%	44%	6%
FR	782	64%	49%	**42%**	52%	8%
PL	808	64%	53%	43%	47%	5%
RO	822	65%	55%	**68%**	47%	**4%**
SE	802	62%	50%	50%	45%	**9%**
UK	802	**71%**	**63%**	50%	**55%**	5%

QP2. Thinking about your recent purchases/shopping online, what would make you less likely to purchase a product in the future? Select all that apply.

	Base	Not trusting the brand or online seller/ provider	Not trusting the website to safeguard my personal data	Not seeing products at the best available price	The products shown not matching my requirements or interests	Don't know
Average	***6,395***	***53%***	***52%***	***45%***	***45%***	***10%***
CZ	803	62%	48%	**33%**	58%	**6%**
DE	812	**44%**	**40%**	38%	43%	**16%**
ES	764	53%	52%	51%	45%	7%
FR	782	52%	57%	42%	41%	9%
PL	808	52%	50%	39%	**35%**	11%
RO	822	45%	44%	49%	**58%**	9%
SE	802	56%	53%	49%	50%	10%
UK	802	**66%**	**66%**	**57%**	51%	6%

Q5. How much would you say you know about targeted advertising used by online firms?

	Base	I understand how it works	I have some understanding about how it works	I have heard about it but don't know how it works	I had not heard about it until now	Don't know
EU28	***21,734***	***25%***	***42%***	***20%***	***8%***	***5%***
BE	801	33%	39%	17%	5%	7%
BG	814	22%	35%	28%	12%	3%
CZ	811	23%	47%	18%	6%	6%
DK	801	12%	47%	25%	10%	5%
DE	828	30%	46%	13%	7%	4%
EE	804	33%	39%	14%	7%	7%
IE	801	30%	48%	14%	6%	2%
EL	800	38%	40%	16%	3%	2%
ES	813	13%	37%	**32%**	11%	8%
FR	829	26%	38%	18%	8%	10%
HR	802	35%	42%	17%	5%	**1%**
IT	810	35%	39%	16%	6%	5%
CY	501	**40%**	**26%**	14%	14%	5%
LV	801	16%	38%	24%	12%	**11%**
LT	801	28%	39%	22%	6%	4%
LU	503	33%	44%	16%	4%	3%
HU	801	24%	43%	23%	7%	4%
MT	503	32%	39%	16%	9%	4%
NL	802	31%	43%	12%	7%	8%
AT	800	36%	42%	11%	7%	4%
PL	821	20%	38%	24%	11%	7%
PT	802	**11%**	**48%**	29%	9%	3%
RO	837	20%	37%	24%	**15%**	5%
SI	804	32%	41%	18%	6%	2%
SK	802	16%	47%	23%	11%	4%
FI	801	34%	37%	17%	7%	5%
SE	827	24%	48%	16%	8%	4%
UK	814	18%	45%	26%	9%	2%
IS	513	34%	44%	**10%**	8%	5%
NO	803	38%	44%	12%	**3%**	3%

Q6. Based on your experience, how widespread do you think that online targeted advertising is?

	Base	Nearly all websites use it	Most websites use it	Some websites use it	Very few websites use it	I don't think any websites use it	Don't know
EU28	***21,734***	***27%***	***43%***	***17%***	***2%***	***2%***	***9%***
BE	801	27%	46%	15%	1%	1%	10%
BG	814	29%	45%	14%	1%	2%	9%
CZ	811	23%	47%	17%	1%	0%	11%
DK	801	32%	42%	12%	2%	1%	10%
DE	828	25%	46%	18%	3%	2%	6%
EE	804	27%	48%	11%	1%	1%	12%
IE	801	40%	47%	9%	1%	1%	**4%**
EL	800	32%	50%	12%	1%	1%	4%
ES	813	22%	**36%**	22%	4%	3%	13%
FR	829	34%	40%	13%	1%	1%	10%
HR	802	26%	52%	15%	2%	0%	5%
IT	810	40%	37%	11%	2%	3%	7%
CY	501	23%	50%	13%	2%	2%	10%
LV	801	24%	41%	13%	2%	4%	**15%**
LT	801	28%	52%	10%	2%	1%	7%
LU	503	**44%**	44%	**6%**	1%	1%	4%
HU	801	27%	50%	12%	2%	1%	9%
MT	503	26%	**54%**	9%	1%	**0%**	10%
NL	802	26%	44%	13%	1%	2%	13%
AT	800	34%	48%	10%	1%	1%	6%
PL	821	**15%**	40%	**25%**	**5%**	2%	14%
PT	802	17%	47%	21%	2%	**5%**	7%
RO	837	24%	43%	14%	4%	3%	12%
SI	804	24%	50%	16%	2%	1%	7%
SK	802	23%	47%	16%	2%	1%	11%
FI	801	22%	46%	17%	3%	1%	11%
SE	827	27%	48%	13%	2%	1%	10%
UK	814	24%	45%	22%	1%	0%	8%
IS	513	33%	41%	13%	1%	0%	11%
NO	803	36%	49%	9%	**0%**	0%	6%

QTA1. Thinking about your recent browsing or shopping for products online, did you notice advertisements targeted to you because of your online behaviour?

	Base	Yes	No	Don't know
Average	***6,580***	***67%***	***20%***	***12%***
CZ	811	**77%**	**12%**	11%
DE	828	64%	**26%**	10%
ES	813	65%	19%	16%
FR	829	75%	14%	11%
PL	821	65%	16%	18%
RO	837	67%	14%	**20%**
SE	827	**59%**	22%	19%
UK	814	67%	25%	**8%**

QTA2. How did you respond to these advertisements? Select all that apply.

	Base	I ignored advertising because it was not (no longer) relevant and continued browsing or shopping in the same window	I closed the window and cleared cookies	I clicked on advertising because it was relevant to my interests or needs	I used the incognito/privacy mode on my browser	I switched browsers	I switched device	Other, please specify
Average	***4,418***	***70%***	***19%***	***16%***	***6%***	***3%***	***3%***	***2%***
CZ	622	72%	16%	21%	4%	2%	1%	4%
DE	529	76%	21%	11%	6%	3%	3%	1%
ES	526	68%	15%	20%	5%	3%	3%	2%
FR	621	61%	**30%**	13%	7%	4%	3%	2%
PL	535	59%	14%	26%	**7%**	**5%**	**4%**	3%
RO	556	62%	19%	**33%**	7%	3%	4%	1%
SE	485	76%	13%	15%	6%	4%	1%	**4%**
UK	544	**81%**	11%	11%	4%	3%	1%	2%

Q7. What do you see as the main benefits of online targeted advertising for internet users such as yourself? Select max. 3 answers.

	Base	I see the products that I might be interested in	It reduces the number of irrelevant adverts I see	It helps to fund the internet and allows "free" online content	It allows e-commerce websites to offer me reductions/ promotions	I see products for the best available price	It saves advertisers money, savings which could be passed on to me	I don't see any benefits	Don't know
EU28	***21,734***	***42%***	***23%***	***20%***	***19%***	***17%***	***12%***	***24%***	***7%***
BE	801	38%	22%	22%	18%	14%	11%	30%	9%
BG	814	61%	31%	18%	37%	27%	14%	9%	10%
CZ	811	50%	24%	21%	29%	12%	8%	23%	6%
DK	801	43%	22%	27%	18%	15%	**7%**	26%	8%
DE	828	39%	21%	21%	**13%**	16%	13%	31%	5%
EE	804	57%	30%	23%	28%	23%	19%	13%	7%
IE	801	53%	34%	24%	20%	12%	12%	22%	6%
EL	800	61%	40%	24%	33%	29%	26%	**5%**	4%
ES	813	38%	21%	19%	18%	15%	10%	21%	10%
FR	829	**31%**	**15%**	17%	14%	16%	11%	**33%**	9%
HR	802	**62%**	36%	23%	**37%**	30%	14%	13%	**3%**
IT	810	40%	22%	19%	27%	17%	15%	16%	9%
CY	501	54%	32%	23%	30%	**35%**	**27%**	9%	5%
LV	801	45%	20%	17%	17%	16%	10%	19%	**12%**
LT	801	57%	31%	17%	33%	14%	17%	17%	5%
LU	503	46%	25%	28%	22%	14%	12%	22%	7%
HU	801	56%	36%	15%	33%	18%	13%	14%	8%
MT	503	61%	**40%**	19%	21%	21%	18%	12%	8%
NL	802	37%	21%	18%	16%	13%	11%	32%	11%
AT	800	50%	26%	**31%**	20%	14%	18%	19%	5%
PL	821	46%	24%	17%	22%	22%	9%	17%	9%
PT	802	52%	31%	22%	30%	26%	13%	11%	8%
RO	837	57%	30%	18%	32%	35%	18%	8%	6%
SI	804	57%	32%	17%	25%	30%	19%	14%	6%
SK	802	57%	29%	20%	30%	21%	12%	13%	7%
FI	801	45%	24%	28%	26%	17%	13%	21%	9%
SE	827	33%	19%	**10%**	18%	13%	10%	30%	11%
UK	814	42%	28%	22%	15%	16%	13%	28%	5%
IS	513	53%	29%	20%	21%	**11%**	18%	19%	11%
NO	803	52%	37%	25%	21%	16%	13%	18%	8%

Q8. What are your main concerns with respect to online targeted advertising? Select max. 3 answers.

	Base	My personal data could be used for other purposes and/or I don't know with whom it might be shared	My online data is collected/ a profile is made about me	Cookies are installed on my computer	I cannot "opt-out"/ refuse	It could cause exposure to inappropriate advertising	I may end up paying more for products	It negatively affects my trust in e-commerce	It limits my choice of products	I don't have any concerns	Don't know
EU28	***21.734***	***49%***	***46%***	***27%***	***25%***	***19%***	***13%***	***13%***	***13%***	***7%***	***7%***
BE	801	47%	46%	29%	23%	21%	11%	13%	9%	8%	9%
BG	814	50%	50%	28%	27%	32%	8%	11%	11%	6%	9%
CZ	811	44%	50%	27%	11%	13%	11%	14%	10%	12%	9%
DK	801	52%	49%	25%	31%	21%	15%	14%	9%	5%	8%
DE	828	48%	50%	27%	34%	17%	16%	12%	15%	6%	5%
EE	804	55%	56%	26%	23%	24%	13%	12%	13%	5%	8%
IE	801	**68%**	65%	25%	**36%**	21%	11%	14%	9%	3%	3%
EL	800	56%	57%	**36%**	24%	19%	12%	11%	12%	6%	4%
ES	813	42%	39%	25%	22%	18%	11%	10%	9%	8%	8%
FR	829	47%	42%	32%	15%	19%	13%	16%	12%	10%	9%
HR	802	55%	**26%**	22%	27%	**38%**	12%	13%	15%	11%	4%
IT	810	44%	46%	29%	24%	18%	8%	11%	9%	6%	8%
CY	501	55%	34%	28%	17%	17%	16%	17%	10%	12%	5%
LV	801	40%	35%	24%	15%	14%	13%	12%	12%	7%	**15%**
LT	801	49%	40%	23%	33%	23%	12%	14%	16%	5%	8%
LU	503	67%	**66%**	31%	20%	16%	12%	14%	10%	**3%**	6%
HU	801	56%	53%	32%	**7%**	33%	16%	10%	13%	6%	5%
MT	503	62%	50%	23%	29%	23%	11%	**8%**	9%	5%	7%
NL	802	52%	55%	27%	27%	16%	10%	10%	**7%**	7%	12%
AT	800	59%	56%	26%	36%	17%	11%	11%	15%	3%	6%
PL	821	38%	39%	21%	16%	16%	13%	14%	16%	9%	11%
PT	802	54%	47%	34%	18%	31%	12%	11%	14%	5%	8%
RO	837	43%	34%	23%	16%	26%	15%	11%	18%	11%	8%
SI	804	54%	54%	23%	9%	26%	**6%**	18%	**19%**	9%	7%
SK	802	**37%**	40%	30%	23%	21%	13%	14%	13%	9%	9%
FI	801	54%	55%	31%	14%	16%	11%	13%	15%	6%	9%
SE	827	42%	38%	21%	13%	17%	12%	17%	15%	**12%**	8%
UK	814	58%	49%	23%	36%	18%	**18%**	13%	13%	5%	**3%**
IS	513	66%	55%	24%	11%	**12%**	13%	**19%**	12%	8%	9%
NO	803	63%	50%	**21%**	34%	22%	13%	14%	14%	4%	7%

Q9. What is your overall opinion about online targeted advertising?

	Base	I see both disadvantages and benefits	I see primarily disadvantages	I see primarily benefits	Don't know
EU28	***21,734***	***51%***	***29%***	***9%***	***11%***
BE	801	42%	38%	6%	14%
BG	814	60%	12%	13%	15%
CZ	811	52%	25%	8%	14%
DK	801	43%	38%	7%	12%
DE	828	51%	35%	7%	6%
EE	804	57%	19%	7%	18%
IE	801	61%	27%	5%	7%
EL	800	66%	14%	16%	**4%**
ES	813	55%	24%	11%	10%
FR	829	**41%**	**39%**	7%	13%
HR	802	**67%**	15%	11%	7%
IT	810	45%	29%	12%	15%
CY	501	64%	12%	**18%**	6%
LV	801	52%	19%	7%	**21%**
LT	801	50%	27%	10%	14%
LU	503	56%	34%	**3%**	8%
HU	801	57%	20%	10%	13%
MT	503	66%	13%	7%	14%
NL	802	43%	39%	5%	14%
AT	800	61%	26%	5%	8%
PL	821	58%	18%	8%	15%
PT	802	57%	19%	10%	14%
RO	837	63%	**10%**	14%	14%
SI	804	62%	18%	10%	10%
SK	802	55%	18%	10%	16%
FI	801	41%	30%	10%	18%
SE	827	45%	35%	10%	10%
UK	814	53%	30%	9%	8%
IS	513	62%	22%	5%	11%
NO	803	62%	23%	5%	9%

Q10. How much would you say you know about personalised offers used by online firms?

	Base	I understand how it works	I have some understanding about how it works	I have heard about it but don't know how it works	I had not heard about it until now	Don't know
EU28	***21,734***	***20%***	***42%***	***21%***	***11%***	***7%***
BE	801	27%	39%	18%	7%	9%
BG	814	19%	40%	26%	9%	6%
CZ	811	15%	46%	19%	11%	10%
DK	801	10%	37%	30%	13%	10%
DE	828	25%	**48%**	14%	8%	5%
EE	804	25%	40%	16%	10%	9%
IE	801	19%	44%	18%	14%	4%
EL	800	28%	43%	17%	9%	3%
ES	813	12%	35%	**31%**	12%	9%
FR	829	19%	36%	22%	11%	**13%**
HR	802	25%	44%	19%	10%	**2%**
IT	810	**31%**	42%	15%	6%	6%
CY	501	25%	**32%**	16%	18%	9%
LV	801	14%	36%	24%	16%	11%
LT	801	22%	42%	22%	9%	5%
LU	503	25%	46%	17%	7%	5%
HU	801	20%	44%	24%	8%	4%
MT	503	20%	38%	21%	14%	7%
NL	802	25%	44%	11%	10%	9%
AT	800	31%	45%	**11%**	8%	6%
PL	821	17%	37%	24%	12%	9%
PT	802	**7%**	48%	28%	12%	5%
RO	837	20%	45%	21%	**6%**	8%
SI	804	20%	41%	20%	14%	4%
SK	802	8%	32%	23%	**30%**	7%
FI	801	23%	36%	19%	15%	6%
SE	827	17%	45%	19%	10%	9%
UK	814	14%	42%	26%	14%	4%
IS	513	21%	42%	13%	15%	8%
NO	803	27%	43%	15%	7%	7%

Q11. How widespread do you think that online personalised offers are?

	Base	Nearly all websites use it	Most websites use it	Some websites use it	Very few websites use it	I don't think any websites use it	Don't know
EU28	***21,734***	***16%***	***38%***	***27%***	***4%***	***2%***	***14%***
BE	801	17%	38%	26%	3%	1%	14%
BG	814	15%	39%	28%	3%	2%	13%
CZ	811	12%	33%	29%	4%	2%	20%
DK	801	17%	39%	26%	3%	1%	16%
DE	828	17%	42%	25%	3%	3%	10%
EE	804	11%	32%	34%	5%	2%	16%
IE	801	15%	37%	30%	2%	1%	14%
EL	800	14%	37%	33%	4%	2%	**9%**
ES	813	13%	33%	29%	6%	4%	15%
FR	829	18%	40%	21%	3%	1%	16%
HR	802	11%	40%	32%	3%	1%	12%
IT	810	**24%**	37%	22%	3%	1%	12%
CY	501	14%	44%	**21%**	3%	2%	17%
LV	801	11%	34%	24%	6%	4%	20%
LT	801	15%	42%	28%	4%	2%	10%
LU	503	19%	46%	22%	3%	1%	11%
HU	801	13%	**48%**	23%	2%	2%	12%
MT	503	8%	40%	30%	4%	1%	17%
NL	802	17%	40%	21%	3%	1%	17%
AT	800	19%	43%	25%	2%	2%	10%
PL	821	10%	34%	29%	**6%**	4%	17%
PT	802	10%	32%	33%	4%	**7%**	14%
RO	837	18%	38%	26%	5%	2%	11%
SI	804	9%	33%	34%	**6%**	1%	17%
SK	802	**7%**	**22%**	32%	6%	2%	**31%**
FI	801	14%	32%	31%	5%	2%	16%
SE	827	15%	36%	27%	3%	1%	17%
UK	814	12%	34%	**34%**	4%	1%	14%
IS	513	12%	35%	26%	3%	1%	22%
NO	803	18%	42%	27%	**1%**	**0%**	12%

QPO1. Thinking about your recent browsing or shopping for products online, did you notice offers (e.g. the type of products shown in a search result) being personalised to you because of your online behaviour?

	Base	Yes	No	Don't know
Average	***6,580***	***50%***	***28%***	***23%***
CZ	811	53%	20%	27%
DE	828	49%	32%	18%
ES	813	53%	21%	25%
FR	829	50%	24%	26%
PL	821	51%	20%	29%
RO	837	**62%**	17%	20%
SE	827	40%	30%	**29%**
UK	814	47%	**35%**	19%

QPO2. How did you respond to these offers? Select all that apply.

	Base	I ignored product recommendations because they were no longer relevant to my interests or needs, and continued browsing or shopping in the same window	I followed product recommendations if they were relevant to my interests or needs	I closed the window and cleared cookies	I used the incognito/privacy mode on my browser	I switched browsers	I switched device	Other, please specify
Average	***3,352***	***63%***	***21%***	***18%***	***8%***	***4%***	***3%***	***1%***
CZ	439	71%	23%	13%	5%	3%	2%	**4%**
DE	406	63%	20%	20%	7%	4%	2%	1%
ES	433	63%	20%	18%	7%	3%	3%	1%
FR	422	59%	16%	**25%**	**10%**	4%	**5%**	1%
PL	419	55%	28%	17%	9%	4%	4%	3%
RO	523	46%	**49%**	17%	7%	**6%**	5%	1%
SE	332	65%	20%	14%	7%	5%	4%	2%
UK	378	**76%**	18%	9%	7%	4%	3%	2%

Q12. What do you see as the main benefits of online personalised offers for internet users such as yourself? Select max. 3 answers.

	Base	I see the type of products that I might be interested in	It saves me time when searching online	I can more easily choose products that suit my needs	It allows e-commerce websites to offer me reductions/promotions	I get the best available price for products	I don't see any benefits	Don't know
EU28	***21,734***	***34%***	***23%***	***23%***	***18%***	***17%***	***25%***	***12%***
BE	801	31%	22%	19%	17%	12%	31%	12%
BG	814	47%	41%	34%	28%	23%	11%	10%
CZ	811	40%	24%	26%	22%	14%	24%	11%
DK	801	35%	24%	20%	15%	15%	29%	15%
DE	828	35%	20%	22%	**11%**	15%	33%	9%
EE	804	47%	32%	29%	25%	16%	16%	11%
IE	801	47%	27%	26%	21%	14%	21%	12%
EL	800	47%	39%	32%	**37%**	30%	**8%**	**7%**
ES	813	26%	23%	20%	18%	20%	21%	13%
FR	829	**25%**	18%	17%	17%	16%	33%	14%
HR	802	49%	34%	25%	30%	28%	15%	10%
IT	810	34%	23%	23%	27%	15%	16%	11%
CY	501	45%	**45%**	35%	30%	25%	9%	10%
LV	801	32%	23%	21%	19%	11%	18%	18%
LT	801	44%	31%	33%	35%	15%	17%	8%
LU	503	44%	29%	29%	17%	11%	24%	10%
HU	801	**50%**	38%	33%	29%	19%	13%	9%
MT	503	50%	32%	36%	23%	18%	13%	13%
NL	802	31%	**15%**	**16%**	17%	9%	**36%**	15%
AT	800	46%	23%	28%	15%	10%	23%	11%
PL	821	31%	26%	28%	18%	16%	18%	16%
PT	802	43%	32%	32%	28%	24%	11%	16%
RO	837	43%	41%	**43%**	25%	**32%**	8%	7%
SI	804	41%	32%	32%	17%	21%	18%	15%
SK	802	31%	22%	26%	18%	18%	16%	**24%**
FI	801	36%	16%	19%	26%	13%	24%	18%
SE	827	27%	19%	20%	19%	16%	27%	14%
UK	814	36%	23%	21%	14%	22%	28%	10%
IS	513	36%	29%	23%	18%	**7%**	24%	20%
NO	803	43%	24%	25%	22%	10%	22%	16%

Q13. What are your main concerns with respect to online personalised offers? Select max. 3 answers

	Base	My personal data could be used for other purposes and/or I don't know with whom it might be shared	My online data is collected/ a profile is made about me	Cookies are installed on my computer	I cannot "opt-out"/ refuse	I may end up paying more when I buy a product	It limits my choice of products	It negatively affects my trust in e-commerce	I don't have any concerns	Don't know
EU28	***21,734***	***46%***	***42%***	***25%***	***22%***	***16%***	***16%***	***13%***	***9%***	***11%***
BE	801	47%	48%	30%	20%	14%	10%	12%	9%	13%
BG	814	53%	50%	31%	25%	14%	17%	12%	7%	9%
CZ	811	41%	43%	25%	11%	12%	16%	11%	11%	12%
DK	801	51%	45%	26%	26%	18%	13%	17%	5%	13%
DE	828	47%	45%	23%	29%	19%	17%	11%	7%	9%
EE	804	52%	52%	24%	18%	19%	21%	12%	5%	14%
IE	801	62%	**62%**	21%	32%	18%	15%	18%	4%	8%
EL	800	53%	54%	32%	19%	16%	15%	12%	10%	**6%**
ES	813	44%	37%	23%	21%	12%	12%	13%	8%	10%
FR	829	43%	35%	28%	13%	**12%**	13%	16%	14%	13%
HR	802	49%	**27%**	20%	23%	16%	21%	14%	**15%**	9%
IT	810	42%	40%	28%	17%	13%	16%	10%	8%	11%
CY	501	53%	38%	30%	14%	20%	**10%**	17%	12%	9%
LV	801	35%	30%	21%	12%	16%	14%	9%	12%	17%
LT	801	44%	39%	23%	28%	19%	22%	16%	7%	9%
LU	503	**66%**	57%	31%	18%	16%	18%	16%	**3%**	7%
HU	801	54%	52%	32%	**7%**	22%	19%	10%	7%	9%
MT	503	58%	49%	25%	24%	21%	19%	**8%**	5%	12%
NL	802	51%	52%	23%	24%	15%	12%	11%	7%	15%
AT	800	55%	54%	23%	33%	16%	18%	12%	4%	10%
PL	821	36%	37%	20%	15%	14%	17%	14%	9%	17%
PT	802	53%	47%	**33%**	15%	17%	17%	12%	5%	14%
RO	837	42%	35%	23%	14%	17%	21%	10%	13%	9%
SI	804	50%	48%	20%	7%	13%	**22%**	**20%**	8%	16%
SK	802	**29%**	29%	21%	14%	13%	18%	11%	11%	**25%**
FI	801	49%	49%	29%	9%	18%	16%	14%	7%	16%
SE	827	42%	37%	**18%**	12%	16%	19%	14%	14%	10%
UK	814	51%	45%	23%	**33%**	**22%**	17%	14%	7%	8%
IS	513	54%	50%	21%	15%	21%	14%	18%	8%	14%
NO	803	59%	49%	20%	28%	16%	17%	14%	5%	12%

Q14. What is your overall opinion about online personalised offers?

	Base	I see both disadvantages and benefits	I see primarily disadvantages	I see primarily benefits	Don't know
EU28	***21,734***	***49%***	***28%***	***9%***	***14%***
BE	801	42%	37%	6%	15%
BG	814	58%	15%	13%	15%
CZ	811	52%	21%	9%	19%
DK	801	39%	38%	7%	16%
DE	828	49%	34%	8%	9%
EE	804	53%	19%	8%	20%
IE	801	56%	25%	6%	14%
EL	800	62%	14%	17%	**8%**
ES	813	54%	23%	10%	13%
FR	829	40%	34%	6%	20%
HR	802	**65%**	13%	9%	13%
IT	810	46%	24%	15%	15%
CY	501	62%	13%	16%	9%
LV	801	48%	17%	11%	24%
LT	801	49%	23%	12%	15%
LU	503	53%	33%	**3%**	12%
HU	801	58%	16%	11%	15%
MT	503	63%	12%	8%	17%
NL	802	40%	**40%**	4%	16%
AT	800	57%	27%	6%	10%
PL	821	53%	17%	9%	21%
PT	802	57%	15%	9%	19%
RO	837	63%	**8%**	**17%**	12%
SI	804	57%	19%	7%	16%
SK	802	44%	16%	8%	**31%**
FI	801	**36%**	29%	11%	24%
SE	827	47%	30%	11%	13%
UK	814	50%	30%	8%	11%
IS	513	50%	26%	5%	19%
NO	803	54%	27%	4%	14%

Q15. How much would you say you know about personalised pricing used by online firms?

	Base	I understand how it works	I have some understanding about how it works	I have heard about it but don't know how it works	I had not heard about it until now	Don't know
EU28	***21,734***	***15%***	***28%***	***18%***	***29%***	***9%***
BE	801	19%	25%	15%	26%	14%
BG	814	18%	32%	24%	19%	6%
CZ	811	14%	34%	19%	24%	10%
DK	801	**5%**	24%	25%	36%	11%
DE	828	22%	35%	12%	25%	6%
EE	804	18%	32%	16%	21%	14%
IE	801	13%	29%	18%	34%	6%
EL	800	19%	29%	21%	24%	7%
ES	813	11%	22%	25%	32%	10%
FR	829	12%	**19%**	15%	38%	15%
HR	802	19%	**37%**	16%	24%	**4%**
IT	810	21%	32%	16%	22%	10%
CY	501	25%	26%	14%	25%	10%
LV	801	11%	29%	19%	25%	**15%**
LT	801	17%	30%	24%	21%	8%
LU	503	17%	29%	18%	26%	10%
HU	801	17%	33%	22%	20%	8%
MT	503	14%	28%	20%	27%	10%
NL	802	16%	34%	13%	24%	13%
AT	800	**27%**	30%	14%	22%	8%
PL	821	14%	30%	21%	24%	11%
PT	802	5%	35%	**27%**	26%	7%
RO	837	18%	36%	20%	**15%**	10%
SI	804	19%	35%	18%	21%	7%
SK	802	7%	26%	21%	39%	7%
FI	801	21%	27%	18%	24%	10%
SE	827	11%	23%	17%	**39%**	10%
UK	814	10%	25%	22%	39%	5%
IS	513	14%	36%	**11%**	28%	10%
NO	803	20%	29%	16%	25%	9%

Q16. How widespread do you think that online personalised pricing is?

	Base	Nearly all websites use it	Most websites use it	Some websites use it	Very few websites use it	I don't think any websites use it	Don't know
EU28	***21,734***	***8%***	***20%***	***27%***	***10%***	***5%***	***30%***
BE	801	9%	20%	28%	8%	3%	33%
BG	814	12%	25%	29%	8%	5%	21%
CZ	811	8%	22%	27%	8%	4%	31%
DK	801	9%	20%	28%	**6%**	**1%**	36%
DE	828	9%	20%	31%	10%	7%	24%
EE	804	5%	20%	29%	10%	5%	31%
IE	801	10%	19%	29%	7%	2%	33%
EL	800	6%	24%	29%	10%	6%	24%
ES	813	8%	20%	23%	10%	8%	32%
FR	829	6%	19%	22%	10%	4%	**39%**
HR	802	6%	27%	28%	9%	4%	26%
IT	810	11%	23%	25%	9%	5%	26%
CY	501	13%	**31%**	22%	8%	3%	22%
LV	801	8%	22%	**21%**	11%	8%	30%
LT	801	9%	27%	24%	12%	5%	22%
LU	503	9%	24%	25%	8%	2%	32%
HU	801	9%	27%	27%	10%	6%	22%
MT	503	5%	21%	32%	**6%**	4%	33%
NL	802	9%	20%	27%	8%	3%	32%
AT	800	10%	23%	31%	7%	3%	26%
PL	821	7%	21%	26%	10%	6%	30%
PT	802	7%	22%	27%	7%	**12%**	24%
RO	837	**14%**	26%	28%	10%	6%	**17%**
SI	804	7%	23%	32%	10%	3%	25%
SK	802	**4%**	15%	27%	**13%**	5%	35%
FI	801	11%	21%	31%	9%	2%	25%
SE	827	7%	**14%**	28%	12%	3%	36%
UK	814	6%	16%	29%	10%	4%	34%
IS	513	8%	17%	28%	8%	1%	37%
NO	803	9%	21%	**32%**	7%	1%	29%

QPP1. Thinking about your recent browsing or shopping for products online, did you believe that prices were personalised to you because of your online behaviour?

	Base	Yes	No	Don't know
Average	***6,580***	***21%***	***42%***	***36%***
CZ	811	26%	35%	39%
DE	828	**18%**	**51%**	**31%**
ES	813	24%	39%	37%
FR	829	20%	42%	38%
PL	821	27%	**26%**	**47%**
RO	837	**37%**	27%	36%
SE	827	26%	37%	37%
UK	814	18%	47%	35%

QPP2. How did you respond? Select all options that apply.

	Base	I continued with the transaction	I closed the window and cleared cookies	I stopped the transaction	I used the incognito/privacy mode on my browser	I switched browsers	I switched device	Other, please specify
Average	***1,618***	***38%***	***26%***	***26%***	***13%***	***10%***	***8%***	***2%***
CZ	211	42%	25%	23%	10%	10%	6%	**4%**
DE	146	35%	**30%**	28%	14%	**12%**	10%	1%
ES	194	41%	26%	21%	**15%**	7%	6%	4%
FR	167	**31%**	27%	**30%**	11%	8%	**11%**	**1%**
PL	227	39%	23%	26%	13%	12%	6%	2%
RO	311	52%	20%	21%	12%	8%	5%	1%
SE	217	**57%**	**15%**	**16%**	**8%**	**7%**	**5%**	4%
UK	145	35%	27%	26%	13%	11%	10%	3%

Q17. What do you see as the main benefits of online personalised pricing for internet users such as yourself? Select max. 3 answers.

	Base	It allows e-commerce websites to offer me reductions / promotions	I get the best available price for products	It allows e-commerce websites to increase product choice (incl. products they would otherwise make a loss on)	It ensures I can get the product I want as the higher price means that less people will buy it	I don't see any benefits	Don't know
EU28	***21,734***	***22%***	***21%***	***15%***	***12%***	***32%***	***22%***
BE	801	18%	15%	**8%**	9%	38%	29%
BG	814	38%	35%	28%	19%	14%	19%
CZ	811	30%	25%	18%	11%	26%	21%
DK	801	19%	16%	14%	11%	33%	31%
DE	828	16%	18%	10%	12%	**46%**	16%
EE	804	28%	23%	20%	14%	24%	27%
IE	801	20%	14%	14%	**7%**	38%	29%
EL	800	39%	30%	28%	19%	14%	22%
ES	813	21%	24%	16%	13%	25%	21%
FR	829	**15%**	17%	12%	9%	36%	29%
HR	802	**41%**	33%	25%	19%	19%	18%
IT	810	30%	25%	17%	17%	15%	25%
CY	501	39%	30%	**32%**	**25%**	21%	**14%**
LV	801	24%	21%	15%	13%	22%	25%
LT	801	36%	19%	25%	18%	21%	20%
LU	503	19%	11%	18%	9%	33%	29%
HU	801	41%	29%	24%	17%	18%	19%
MT	503	31%	29%	18%	13%	22%	26%
NL	802	19%	14%	9%	7%	40%	26%
AT	800	22%	17%	17%	11%	34%	22%
PL	821	25%	20%	18%	17%	21%	26%
PT	802	34%	32%	25%	16%	15%	27%
RO	837	38%	**40%**	28%	20%	**14%**	15%
SI	804	30%	29%	21%	16%	25%	21%
SK	802	26%	29%	16%	11%	20%	28%
FI	801	28%	19%	15%	14%	27%	28%
SE	827	19%	19%	11%	8%	32%	26%
UK	814	19%	22%	13%	8%	42%	19%
IS	513	20%	**9%**	11%	11%	39%	31%
NO	803	22%	16%	14%	9%	33%	**32%**

Q18. What are your main concerns with respect to online personalised pricing? Select max. 3 answers

	Base	My personal data could be used for other purposes and/or I don't know with whom it might be shared	My online data is collected/ a profile is made about me	I may end up paying more when I buy a product	Cookies are installed on my computer	I cannot "opt-out"/refuse	It negatively affects my trust in e-commerce	It limits my choice of products	I don't have any concerns	Don't know
EU28	***21,734***	***36%***	***33%***	***28%***	***18%***	***16%***	***14%***	***13%***	***7%***	***19%***
BE	801	36%	34%	25%	21%	13%	16%	**7%**	5%	25%
BG	814	43%	42%	25%	21%	17%	12%	14%	8%	15%
CZ	811	36%	35%	18%	18%	12%	11%	12%	12%	17%
DK	801	38%	35%	27%	17%	20%	18%	11%	5%	25%
DE	828	37%	35%	36%	17%	25%	14%	14%	5%	13%
EE	804	43%	43%	30%	17%	12%	13%	13%	5%	22%
IE	801	47%	**48%**	40%	16%	19%	19%	10%	2%	19%
EL	800	40%	38%	26%	22%	15%	13%	12%	7%	20%
ES	813	35%	30%	20%	19%	16%	11%	12%	9%	17%
FR	829	29%	27%	24%	19%	7%	16%	11%	9%	27%
HR	802	38%	**24%**	26%	14%	14%	14%	**18%**	**16%**	15%
IT	810	32%	31%	**18%**	21%	10%	10%	14%	9%	22%
CY	501	**48%**	33%	26%	**26%**	13%	17%	11%	12%	12%
LV	801	27%	**24%**	22%	16%	8%	10%	11%	10%	26%
LT	801	35%	31%	25%	17%	19%	17%	15%	7%	19%
LU	503	44%	41%	32%	19%	11%	17%	12%	**2%**	23%
HU	801	45%	44%	27%	25%	6%	10%	15%	7%	17%
MT	503	47%	37%	31%	19%	19%	11%	12%	5%	21%
NL	802	40%	41%	28%	17%	16%	13%	10%	6%	22%
AT	800	43%	40%	35%	16%	23%	16%	14%	4%	16%
PL	821	29%	28%	21%	15%	10%	14%	14%	8%	25%
PT	802	42%	36%	22%	25%	9%	14%	15%	5%	24%
RO	837	34%	29%	23%	17%	11%	**9%**	18%	14%	14%
SI	804	42%	41%	20%	15%	**4%**	20%	15%	10%	22%
SK	802	**26%**	27%	21%	16%	11%	16%	11%	9%	**27%**
FI	801	41%	41%	27%	21%	9%	16%	15%	4%	21%
SE	827	34%	30%	24%	**13%**	9%	16%	15%	11%	20%
UK	814	41%	37%	**40%**	18%	**25%**	19%	13%	6%	**11%**
IS	513	40%	36%	32%	14%	8%	**24%**	10%	7%	25%
NO	803	43%	37%	34%	14%	21%	16%	13%	4%	23%

Q19. What is your overall opinion about personalised pricing?

	Base	I see both disadvantages and benefits	I see primarily disadvantages	I see primarily benefits	Don't know
EU28	***21,734***	***36%***	***33%***	***8%***	***24%***
BE	801	27%	39%	5%	29%
BG	814	50%	17%	13%	19%
CZ	811	42%	21%	10%	27%
DK	801	25%	40%	6%	29%
DE	828	34%	45%	5%	15%
EE	804	40%	26%	5%	29%
IE	801	31%	42%	3%	24%
EL	800	46%	19%	12%	24%
ES	813	43%	24%	10%	22%
FR	829	**25%**	37%	6%	32%
HR	802	53%	18%	10%	19%
IT	810	38%	23%	14%	26%
CY	501	**59%**	18%	10%	**13%**
LV	801	41%	16%	9%	33%
LT	801	39%	27%	9%	25%
LU	503	30%	40%	2%	28%
HU	801	46%	18%	10%	25%
MT	503	42%	21%	7%	29%
NL	802	27%	**46%**	3%	24%
AT	800	34%	42%	4%	20%
PL	821	42%	21%	7%	30%
PT	802	48%	17%	8%	27%
RO	837	55%	**10%**	**17%**	18%
SI	804	48%	22%	7%	23%
SK	802	38%	21%	8%	**33%**
FI	801	28%	33%	8%	32%
SE	827	32%	35%	7%	26%
UK	814	32%	43%	5%	20%
IS	513	32%	39%	**1%**	28%
NO	803	36%	35%	3%	25%

Q20a_sum. Have you had any bad experiences related to…? - Summary

	Targeted adverts	Personalised offers	Personalised pricing
Base (EU28)	***21,734***	***21734***	***21734***
Yes	18%	14%	12%
No	72%	72%	66%
Don't know	10%	13%	22%

Q20a_1. Have you had any bad experiences related to…? - Targeted adverts

	Base	Yes	No	Don't know
EU28	***21,734***	***18%***	***72%***	***10%***
BE	801	17%	73%	11%
BG	814	18%	68%	14%
CZ	811	16%	70%	14%
DK	801	23%	60%	17%
DE	828	19%	71%	10%
EE	804	21%	64%	15%
IE	801	19%	72%	9%
EL	800	23%	72%	5%
ES	813	15%	77%	9%
FR	829	18%	73%	9%
HR	802	14%	78%	8%
IT	810	16%	75%	9%
CY	501	**11%**	**87%**	**1%**
LV	801	18%	66%	17%
LT	801	20%	67%	14%
LU	503	21%	64%	15%
HU	801	30%	58%	12%
MT	503	13%	77%	10%
NL	802	20%	69%	10%
AT	800	22%	65%	13%
PL	821	18%	64%	18%
PT	802	23%	68%	9%
RO	837	18%	70%	13%
SI	804	13%	72%	15%
SK	802	21%	69%	10%
FI	801	**32%**	**48%**	**20%**
SE	827	23%	63%	14%
UK	814	12%	81%	7%
IS	513	18%	65%	17%
NO	803	23%	60%	16%

Q20a_2. Have you had any bad experiences related to…? - Personalised offers

	Base	Yes	No	Don't know
EU28	***21,734***	***14%***	***72%***	***13%***
BE	801	15%	72%	13%
BG	814	13%	71%	15%
CZ	811	10%	74%	16%
DK	801	19%	61%	20%
DE	828	18%	66%	16%
EE	804	18%	65%	17%
IE	801	11%	74%	16%
EL	800	13%	80%	6%
ES	813	11%	79%	11%
FR	829	13%	75%	12%
HR	802	9%	82%	9%
IT	810	15%	75%	10%
CY	501	8%	**91%**	**1%**
LV	801	17%	68%	14%
LT	801	18%	69%	13%
LU	503	15%	69%	17%
HU	801	22%	65%	13%
MT	503	8%	75%	17%
NL	802	16%	69%	15%
AT	800	21%	63%	17%
PL	821	17%	63%	20%
PT	802	19%	72%	10%
RO	837	15%	76%	9%
SI	804	11%	75%	14%
SK	802	11%	70%	20%
FI	801	**24%**	**48%**	**28%**
SE	827	19%	67%	14%
UK	814	**8%**	81%	11%
IS	513	11%	68%	21%
NO	803	16%	62%	22%

Q20a_3. Have you had any bad experiences related to...? - Personalised pricing

	Base	Yes	No	Don't know
EU28	***21,734***	***12%***	***66%***	***22%***
BE	801	12%	63%	25%
BG	814	11%	71%	18%
CZ	811	9%	69%	22%
DK	801	14%	53%	33%
DE	828	16%	60%	25%
EE	804	13%	62%	25%
IE	801	11%	59%	30%
EL	800	9%	71%	20%
ES	813	10%	75%	15%
FR	829	12%	62%	26%
HR	802	8%	74%	18%
IT	810	10%	73%	17%
CY	501	8%	**89%**	**3%**
LV	801	14%	65%	21%
LT	801	12%	66%	23%
LU	503	11%	51%	**38%**
HU	801	17%	61%	21%
MT	503	8%	64%	28%
NL	802	11%	65%	24%
AT	800	17%	53%	30%
PL	821	13%	62%	25%
PT	802	16%	66%	18%
RO	837	13%	72%	15%
SI	804	9%	71%	20%
SK	802	**7%**	67%	26%
FI	801	**22%**	**44%**	35%
SE	827	13%	56%	32%
UK	814	9%	71%	20%
IS	513	13%	55%	33%
NO	803	12%	54%	34%

Q20b. What kind of bad experience did you have?

	Base	I was offered products I was not (or no longer) interested in	I ended up paying more for something I bought	I was shown embarrassing or inappropriate adverts	I could not obtain the product(s) I wanted	I had another bad experience, please specify	Don't know
EU28	***5,568***	***50%***	***27%***	***24%***	***18%***	***7%***	***6%***
BE	190	54%	29%	23%	14%	7%	6%
BG	191	53%	32%	21%	19%	7%	3%
CZ	163	60%	27%	30%	20%	6%	1%
DK	272	48%	30%	19%	23%	12%	5%
DE	247	61%	27%	15%	14%	9%	8%
EE	208	60%	25%	24%	18%	10%	**0%**
IE	172	47%	36%	25%	11%	11%	3%
EL	223	44%	**21%**	40%	19%	3%	4%
ES	160	42%	27%	21%	22%	5%	5%
FR	208	40%	27%	32%	22%	8%	4%
HR	144	54%	23%	25%	15%	16%	2%
IT	186	42%	28%	27%	20%	**2%**	7%
CY	97	**21%**	38%	**10%**	22%	**17%**	2%
LV	216	54%	30%	18%	15%	6%	4%
LT	218	**65%**	26%	27%	14%	9%	3%
LU	126	55%	27%	35%	21%	9%	2%
HU	293	49%	26%	**57%**	**10%**	7%	1%
MT	76	38%	33%	13%	14%	11%	**9%**
NL	214	58%	21%	21%	10%	8%	8%
AT	261	57%	33%	16%	17%	11%	3%
PL	207	53%	25%	16%	24%	5%	6%
PT	254	38%	32%	27%	20%	5%	4%
RO	211	49%	28%	19%	**30%**	5%	8%
SI	154	57%	21%	28%	19%	7%	5%
SK	185	55%	22%	19%	23%	8%	5%
FI	314	56%	25%	29%	12%	6%	5%
SE	240	55%	22%	23%	17%	8%	4%
UK	138	42%	31%	24%	14%	8%	5%
IS	110	39%	**43%**	23%	21%	14%	4%
NO	227	58%	25%	24%	11%	15%	3%

Q21. Have you complained and to whom about your bad experiences with targeted adverts or personalised offers and pricing? Select all that apply.

	Base	Yes, to the website(s) involved	Yes, to a national consumer organisation	Yes, to a data protection authority	Yes, to another public authority	Yes, I went to court	Yes, to an ombudsman	Yes, to the European Consumer Centre in your country	Yes, to an out-of-court dispute resolution body	Yes, to a lawyer	Yes, to someone else	No, I did not complain
EU28	***5,568***	***10%***	***6%***	***4%***	***3%***	***3%***	***3%***	***3%***	***3%***	***2%***	***2%***	***73%***
BE	190	10%	7%	4%	6%	4%	6%	2%	2%	3%	4%	71%
BG	191	15%	8%	6%	2%	2%	3%	2%	3%	2%	4%	70%
CZ	163	12%	4%	2%	1%	3%	2%	1%	2%	1%	4%	76%
DK	272	10%	6%	3%	6%	3%	5%	4%	3%	3%	4%	69%
DE	247	**6%**	5%	3%	2%	3%	2%	2%	1%	3%	1%	81%
EE	208	7%	5%	2%	3%	3%	3%	2%	2%	4%	2%	80%
IE	172	13%	4%	**0%**	0%	0%	1%	**0%**	**0%**	**0%**	3%	79%
EL	223	8%	5%	5%	3%	3%	1%	5%	1%	3%	2%	73%
ES	160	10%	5%	**7%**	6%	7%	4%	**6%**	6%	3%	**0%**	67%
FR	208	13%	7%	4%	3%	2%	4%	3%	3%	1%	6%	64%
HR	144	**43%**	7%	2%	3%	1%	1%	3%	1%	**0%**	**0%**	**48%**
IT	186	9%	**12%**	6%	4%	**7%**	5%	4%	**6%**	**5%**	1%	61%
CY	97	8%	1%	3%	**0%**	**0%**	1%	1%	**0%**	**0%**	5%	81%
LV	216	7%	5%	3%	5%	3%	3%	3%	4%	2%	2%	74%
LT	218	7%	5%	3%	2%	2%	2%	2%	2%	1%	3%	82%
LU	126	15%	2%	5%	1%	**0%**	1%	3%	2%	4%	2%	79%
HU	293	11%	3%	5%	1%	1%	2%	2%	1%	1%	1%	82%
MT	76	22%	7%	6%	2%	**0%**	1%	3%	2%	**0%**	6%	61%
NL	214	8%	2%	1%	**0%**	0%	1%	2%	0%	1%	1%	**87%**
AT	261	7%	2%	3%	0%	2%	2%	2%	1%	2%	1%	85%
PL	207	11%	5%	4%	3%	3%	7%	2%	5%	3%	1%	71%
PT	254	17%	6%	7%	4%	2%	2%	4%	4%	3%	2%	66%
RO	211	14%	5%	6%	5%	3%	3%	3%	5%	3%	2%	69%
SI	154	12%	2%	1%	1%	**0%**	**0%**	2%	1%	1%	5%	80%
SK	185	9%	6%	4%	5%	2%	1%	3%	3%	2%	1%	78%
FI	314	10%	6%	6%	5%	5%	**7%**	4%	3%	5%	**8%**	67%
SE	240	16%	4%	3%	**7%**	3%	5%	5%	2%	2%	6%	65%
UK	138	9%	4%	3%	3%	3%	2%	3%	2%	1%	4%	77%
IS	110	14%	**0%**	1%	1%	**0%**	1%	**0%**	**0%**	2%	2%	82%
NO	227	12%	2%	1%	1%	0%	**0%**	2%	1%	0%	3%	82%

Q22_sum. We present several statements about online "cookies". Please select whether each statement is true or false. - Summary

	Cookies are small bits of code stored on your computer	Cookies can read data saved on your computer	Without cookies websites cannot know where I am located	Cookies can contain computer viruses
Base (EU28)	***21,734***	***21734***	***21734***	***21734***
True	71%	51%	**32%**	42%
False	9%	**23%**	36%	**25%**
Don't know	21%	26%	32%	33%

Q22_1. We present several statements about online "cookies". Please select whether each statement is true or false. - Cookies are small bits of code stored on your computer

	Base	True	False	Don't know
EU28	***21,734***	***71%***	***9%***	***21%***
BE	801	73%	7%	20%
BG	814	64%	11%	25%
CZ	811	50%	10%	39%
DK	801	76%	9%	16%
DE	828	75%	9%	17%
EE	804	53%	13%	34%
IE	801	79%	5%	16%
EL	800	**80%**	7%	**13%**
ES	813	69%	8%	23%
FR	829	73%	8%	19%
HR	802	58%	11%	32%
IT	810	65%	13%	23%
CY	501	68%	12%	21%
LV	801	60%	11%	29%
LT	801	49%	13%	38%
LU	503	74%	5%	21%
HU	801	51%	**16%**	32%
MT	503	72%	9%	19%
NL	802	80%	**5%**	16%
AT	800	73%	7%	20%
PL	821	61%	11%	29%
PT	802	70%	9%	22%
RO	837	60%	13%	27%
SI	804	60%	13%	27%
SK	802	58%	11%	31%
FI	801	70%	8%	22%
SE	827	72%	9%	19%
UK	814	80%	6%	15%
IS	513	57%	6%	38%
NO	803	**49%**	9%	**43%**

Q22_2. We present several statements about online "cookies". Please select whether each statement is true or false. - Cookies can read data saved on your computer

	Base	True	False	Don't know
EU28	***21,734***	***51%***	***23%***	***26%***
BE	801	44%	24%	31%
BG	814	45%	27%	28%
CZ	811	42%	22%	36%
DK	801	46%	29%	25%
DE	828	53%	22%	25%
EE	804	40%	28%	32%
IE	801	55%	22%	23%
EL	800	49%	29%	22%
ES	813	**63%**	**17%**	20%
FR	829	49%	22%	29%
HR	802	37%	32%	31%
IT	810	48%	26%	26%
CY	501	53%	28%	**19%**
LV	801	41%	19%	40%
LT	801	35%	33%	32%
LU	503	42%	27%	31%
HU	801	**28%**	**35%**	36%
MT	503	45%	29%	26%
NL	802	49%	32%	20%
AT	800	49%	24%	27%
PL	821	50%	21%	29%
PT	802	58%	17%	25%
RO	837	45%	23%	33%
SI	804	43%	29%	28%
SK	802	48%	20%	32%
FI	801	50%	24%	26%
SE	827	56%	19%	25%
UK	814	54%	22%	25%
IS	513	39%	21%	**40%**
NO	803	40%	24%	37%

Q22_3. We present several statements about online "cookies". Please select whether each statement is true or false. - Without cookies websites cannot know where I am located

	Base	True	False	Don't know
EU28	***21,734***	***32%***	***36%***	***32%***
BE	801	30%	37%	33%
BG	814	38%	34%	28%
CZ	811	25%	29%	**47%**
DK	801	41%	33%	27%
DE	828	35%	36%	28%
EE	804	23%	40%	37%
IE	801	23%	**47%**	30%
EL	800	**41%**	35%	**24%**
ES	813	34%	31%	35%
FR	829	30%	39%	31%
HR	802	**22%**	42%	36%
IT	810	30%	36%	34%
CY	501	40%	36%	24%
LV	801	32%	**26%**	42%
LT	801	31%	34%	34%
LU	503	26%	39%	35%
HU	801	26%	37%	36%
MT	503	29%	40%	31%
NL	802	36%	37%	27%
AT	800	30%	39%	31%
PL	821	33%	32%	35%
PT	802	27%	41%	32%
RO	837	35%	32%	32%
SI	804	25%	42%	34%
SK	802	33%	28%	40%
FI	801	33%	34%	33%
SE	827	30%	38%	32%
UK	814	28%	40%	32%
IS	513	26%	30%	44%
NO	803	27%	30%	43%

Q22_4. We present several statements about online "cookies". Please select whether each statement is true or false. - Cookies can contain computer viruses

	Base	True	False	Don't know
EU28	***21,734***	***42%***	***25%***	***33%***
BE	801	44%	20%	35%
BG	814	40%	30%	30%
CZ	811	38%	23%	39%
DK	801	40%	27%	33%
DE	828	41%	26%	33%
EE	804	47%	21%	32%
IE	801	38%	27%	36%
EL	800	48%	28%	24%
ES	813	43%	24%	33%
FR	829	52%	18%	30%
HR	802	37%	29%	34%
IT	810	33%	32%	35%
CY	501	**63%**	21%	**16%**
LV	801	60%	14%	26%
LT	801	**33%**	**34%**	32%
LU	503	46%	21%	33%
HU	801	39%	30%	31%
MT	503	48%	29%	24%
NL	802	40%	26%	34%
AT	800	46%	22%	33%
PL	821	38%	31%	32%
PT	802	53%	19%	28%
RO	837	48%	24%	28%
SI	804	37%	29%	34%
SK	802	45%	22%	34%
FI	801	50%	20%	30%
SE	827	38%	27%	35%
UK	814	41%	23%	36%
IS	513	51%	**14%**	34%
NO	803	38%	20%	**42%**

Q22_recode_1. We present several statements about online "cookies". Please select whether each statement is true or false. ANSWERED CORRECT/INCORRECT - Cookies are small bits of code stored on your computer

	Base	CORRECT	INCORRECT
EU28	***21,734***	***71%***	***29%***
BE	801	73%	27%
BG	814	64%	36%
CZ	811	50%	50%
DK	801	76%	24%
DE	828	75%	25%
EE	804	53%	47%
IE	801	79%	21%
EL	800	**80%**	**20%**
ES	813	69%	31%
FR	829	73%	27%
HR	802	58%	42%
IT	810	65%	35%
CY	501	68%	32%
LV	801	60%	40%
LT	801	49%	51%
LU	503	74%	26%
HU	801	51%	49%
MT	503	72%	28%
NL	802	80%	20%
AT	800	73%	27%
PL	821	61%	39%
PT	802	70%	30%
RO	837	60%	40%
SI	804	60%	40%
SK	802	58%	42%
FI	801	70%	30%
SE	827	72%	28%
UK	814	80%	20%
IS	513	57%	43%
NO	803	**49%**	**51%**

Q22_recode_2. We present several statements about online "cookies". Please select whether each statement is true or false. ANSWERED CORRECT/INCORRECT - Cookies can read data saved on your computer

	Base	CORRECT	INCORRECT
EU28	***21,734***	***23%***	***77%***
BE	801	24%	76%
BG	814	27%	73%
CZ	811	22%	78%
DK	801	29%	71%
DE	828	22%	78%
EE	804	28%	72%
IE	801	22%	78%
EL	800	29%	71%
ES	813	**17%**	**83%**
FR	829	22%	78%
HR	802	32%	68%
IT	810	26%	74%
CY	501	28%	72%
LV	801	19%	81%
LT	801	33%	67%
LU	503	27%	73%
HU	801	**35%**	**65%**
MT	503	29%	71%
NL	802	32%	68%
AT	800	24%	76%
PL	821	21%	79%
PT	802	17%	83%
RO	837	23%	77%
SI	804	29%	71%
SK	802	20%	80%
FI	801	24%	76%
SE	827	19%	81%
UK	814	22%	78%
IS	513	21%	79%
NO	803	24%	76%

Q22_recode_3. We present several statements about online "cookies". Please select whether each statement is true or false. ANSWERED CORRECT/INCORRECT - Without cookies websites cannot know where I am located

	Base	CORRECT	INCORRECT
EU28	***21,734***	***36%***	***64%***
BE	801	37%	63%
BG	814	34%	66%
CZ	811	29%	71%
DK	801	33%	67%
DE	828	36%	64%
EE	804	40%	60%
IE	801	**47%**	**53%**
EL	800	35%	65%
ES	813	31%	69%
FR	829	39%	61%
HR	802	42%	58%
IT	810	36%	64%
CY	501	36%	64%
LV	801	**26%**	**74%**
LT	801	34%	66%
LU	503	39%	61%
HU	801	37%	63%
MT	503	40%	60%
NL	802	37%	63%
AT	800	39%	61%
PL	821	32%	68%
PT	802	41%	59%
RO	837	32%	68%
SI	804	42%	58%
SK	802	28%	72%
FI	801	34%	66%
SE	827	38%	62%
UK	814	40%	60%
IS	513	30%	70%
NO	803	30%	70%

Q22_recode_4. We present several statements about online "cookies". Please select whether each statement is true or false. ANSWERED CORRECT/INCORRECT - Cookies can contain computer viruses

	Base	CORRECT	INCORRECT
EU28	***21,734***	***25%***	***75%***
BE	801	20%	80%
BG	814	30%	70%
CZ	811	23%	77%
DK	801	27%	73%
DE	828	26%	74%
EE	804	21%	79%
IE	801	27%	73%
EL	800	28%	72%
ES	813	24%	76%
FR	829	18%	82%
HR	802	29%	71%
IT	810	32%	68%
CY	501	21%	79%
LV	801	14%	86%
LT	801	**34%**	**66%**
LU	503	21%	79%
HU	801	30%	70%
MT	503	29%	71%
NL	802	26%	74%
AT	800	22%	78%
PL	821	31%	69%
PT	802	19%	81%
RO	837	24%	76%
SI	804	29%	71%
SK	802	22%	78%
FI	801	20%	80%
SE	827	27%	73%
UK	814	23%	77%
IS	513	**14%**	**86%**
NO	803	20%	80%

Q22_recode. Response to cookie questions CORRECT/INCORRECT

	Base	0 items correct	1 items correct	2 items correct	3 items correct	4 items correct
EU28	***21,734***	***17%***	***35%***	***29%***	***15%***	***4%***
BE	801	18%	35%	28%	14%	5%
BG	814	19%	34%	26%	17%	4%
CZ	811	33%	29%	21%	13%	3%
DK	801	12%	37%	30%	16%	5%
DE	828	15%	35%	**31%**	15%	4%
EE	804	27%	31%	21%	17%	4%
IE	801	13%	32%	30%	17%	**8%**
EL	800	**10%**	38%	29%	18%	6%
ES	813	19%	37%	29%	13%	**2%**
FR	829	15%	37%	31%	14%	3%
HR	802	22%	27%	27%	18%	6%
IT	810	18%	33%	26%	16%	6%
CY	501	17%	36%	29%	15%	3%
LV	801	28%	**39%**	**20%**	**11%**	2%
LT	801	26%	27%	22%	19%	6%
LU	503	18%	33%	27%	14%	7%
HU	801	26%	**26%**	23%	18%	6%
MT	503	15%	33%	26%	**21%**	6%
NL	802	13%	31%	31%	19%	6%
AT	800	16%	35%	29%	16%	4%
PL	821	21%	35%	26%	15%	3%
PT	802	18%	36%	31%	13%	3%
RO	837	21%	37%	25%	14%	3%
SI	804	20%	29%	28%	18%	5%
SK	802	26%	36%	24%	11%	3%
FI	801	19%	37%	25%	15%	4%
SE	827	17%	34%	30%	16%	4%
UK	814	13%	36%	29%	17%	5%
IS	513	32%	31%	21%	12%	3%
NO	803	**36%**	26%	23%	11%	5%

Q23. Approximately how many websites that you visit allow to "opt-out of"/refuse cookies?

	Base	All websites	Most websites	Some websites	Only few websites	None of the websites	Don't know
EU28	***21,734***	***9%***	***33%***	***21%***	***14%***	***9%***	***15%***
BE	801	6%	32%	26%	12%	5%	19%
BG	814	12%	42%	21%	8%	9%	8%
CZ	811	8%	36%	24%	11%	7%	14%
DK	801	6%	32%	20%	18%	10%	13%
DE	828	6%	30%	23%	18%	8%	16%
EE	804	6%	35%	27%	13%	**4%**	14%
IE	801	8%	28%	23%	15%	12%	13%
EL	800	16%	47%	19%	10%	6%	**3%**
ES	813	9%	34%	19%	11%	11%	16%
FR	829	8%	36%	22%	12%	7%	16%
HR	802	11%	**48%**	22%	7%	6%	5%
IT	810	**16%**	30%	19%	13%	**13%**	10%
CY	501	13%	37%	25%	10%	7%	8%
LV	801	4%	33%	28%	12%	7%	15%
LT	801	9%	41%	26%	**6%**	5%	13%
LU	503	5%	35%	25%	11%	7%	17%
HU	801	12%	43%	18%	12%	6%	9%
MT	503	5%	38%	28%	14%	8%	7%
NL	802	8%	31%	19%	18%	4%	19%
AT	800	5%	33%	26%	17%	7%	13%
PL	821	10%	27%	21%	16%	11%	15%
PT	802	7%	37%	26%	14%	5%	12%
RO	837	12%	37%	25%	10%	5%	12%
SI	804	10%	38%	22%	15%	6%	9%
SK	802	7%	37%	25%	15%	6%	10%
FI	801	8%	36%	24%	14%	6%	12%
SE	827	7%	36%	**14%**	14%	7%	21%
UK	814	6%	30%	20%	13%	12%	19%
IS	513	5%	**20%**	**36%**	15%	5%	20%
NO	803	**3%**	23%	22%	**21%**	7%	**25%**

Q24. How often do you make use of the option to "opt-out of"/refuse cookies?

	Base	Always	Very Often	Sometimes	Rarely	Never	Don't know
EU28	***17,276***	***8%***	***22%***	***32%***	***23%***	***12%***	***3%***
BE	612	8%	24%	31%	24%	11%	3%
BG	672	11%	28%	30%	19%	11%	1%
CZ	635	8%	26%	31%	23%	8%	4%
DK	612	11%	22%	29%	23%	11%	3%
DE	629	9%	21%	35%	22%	10%	3%
EE	652	13%	25%	32%	20%	8%	2%
IE	596	12%	18%	29%	26%	13%	2%
EL	725	9%	**30%**	31%	25%	**5%**	**1%**
ES	597	7%	22%	28%	27%	14%	3%
FR	644	8%	26%	29%	21%	14%	3%
HR	712	9%	29%	31%	20%	10%	1%
IT	627	13%	25%	30%	21%	10%	1%
CY	424	**25%**	22%	25%	15%	12%	1%
LV	620	14%	27%	32%	18%	7%	2%
LT	655	17%	29%	32%	**13%**	8%	1%
LU	383	12%	25%	33%	18%	9%	4%
HU	683	11%	26%	29%	18%	15%	1%
MT	421	9%	22%	33%	21%	12%	3%
NL	613	6%	16%	38%	24%	14%	3%
AT	641	8%	26%	35%	20%	10%	2%
PL	609	7%	17%	33%	26%	14%	5%
PT	671	8%	28%	32%	22%	7%	3%
RO	698	12%	24%	**41%**	15%	7%	1%
SI	677	11%	25%	30%	26%	7%	1%
SK	671	9%	24%	34%	23%	8%	3%
FI	653	10%	25%	33%	21%	7%	5%
SE	583	5%	16%	**22%**	**38%**	15%	4%
UK	561	6%	**15%**	37%	24%	**15%**	3%
IS	382	11%	23%	29%	23%	11%	3%
NO	551	**4%**	17%	34%	28%	11%	**7%**

Q25_sum. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - Summary

	If I was informed when targeted adverts or personalised pricing/offers are shown to me	If I was informed why a particular advert or a particular search result/price was shown to me	If I was able to see/change my personal data used for such practices	If it was explained what personal data is collected on me	If it was explained for what purpose my personal data is collected	If it was explained which 3rd parties access my personal data	If I would have an easy option to "opt-out" of personalised practices
Base (EU28)	***21,734***	***21734***	***21734***	***21734***	***21734***	***21734***	***21734***
I would be more positive	**47%**	**47%**	**55%**	**55%**	**53%**	**52%**	**62%**
It would make no difference for me	33%	34%	25%	25%	28%	24%	21%
I would be more negative	**8%**	**8%**	**8%**	**10%**	**8%**	14%	**5%**
Don't know	12%	12%	12%	10%	10%	**10%**	11%

Q25_1. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If I was informed when targeted adverts or personalised pricing/offers are shown to me

	Base	I would be more positive	It would make no difference for me	I would be more negative	Don't know
EU28	***21,734***	***47%***	***33%***	***8%***	***12%***
BE	801	41%	34%	9%	16%
BG	814	58%	26%	6%	10%
CZ	811	38%	39%	10%	14%
DK	801	46%	33%	8%	14%
DE	828	40%	39%	9%	11%
EE	804	59%	25%	6%	10%
IE	801	67%	21%	5%	6%
EL	800	62%	29%	5%	4%
ES	813	46%	33%	8%	13%
FR	829	42%	30%	11%	17%
HR	802	65%	26%	**2%**	7%
IT	810	53%	33%	4%	10%
CY	501	53%	39%	6%	**2%**
LV	801	50%	28%	7%	14%
LT	801	54%	29%	5%	12%
LU	503	53%	28%	8%	11%
HU	801	49%	36%	4%	11%
MT	503	**67%**	18%	3%	12%
NL	802	**31%**	**43%**	9%	17%
AT	800	47%	37%	8%	9%
PL	821	50%	27%	9%	15%
PT	802	60%	25%	5%	10%
RO	837	61%	22%	6%	12%
SI	804	40%	30%	**11%**	**18%**
SK	802	57%	27%	5%	11%
FI	801	48%	27%	9%	15%
SE	827	45%	33%	8%	14%
UK	814	50%	33%	8%	8%
IS	513	62%	**17%**	5%	16%
NO	803	57%	23%	5%	15%

Q25_2. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If I was informed why a particular advert or a particular search result/price was shown to me

	Base	I would be more positive	It would make no difference for me	I would be more negative	Don't know
EU28	***21,734***	***47%***	***34%***	***8%***	***12%***
BE	801	42%	34%	8%	16%
BG	814	59%	29%	4%	8%
CZ	811	41%	39%	8%	13%
DK	801	42%	36%	7%	15%
DE	828	40%	40%	9%	11%
EE	804	60%	25%	5%	10%
IE	801	65%	24%	4%	7%
EL	800	58%	33%	5%	4%
ES	813	48%	32%	7%	13%
FR	829	41%	33%	9%	**18%**
HR	802	**67%**	23%	**3%**	7%
IT	810	53%	32%	5%	10%
CY	501	53%	40%	5%	**2%**
LV	801	52%	29%	7%	12%
LT	801	55%	28%	5%	11%
LU	503	53%	30%	6%	11%
HU	801	47%	39%	5%	9%
MT	503	65%	**19%**	5%	11%
NL	802	**33%**	**41%**	9%	17%
AT	800	50%	34%	6%	10%
PL	821	51%	26%	9%	14%
PT	802	60%	26%	5%	9%
RO	837	60%	22%	6%	11%
SI	804	42%	33%	**12%**	14%
SK	802	58%	28%	4%	10%
FI	801	50%	29%	8%	13%
SE	827	41%	37%	8%	14%
UK	814	48%	36%	7%	9%
IS	513	59%	19%	6%	16%
NO	803	52%	28%	5%	14%

Q25_3. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If I was able to see/change my personal data used for such practices

	Base	I would be more positive	It would make no difference for me	I would be more negative	Don't know
EU28	***21,734***	***55%***	***25%***	***8%***	***12%***
BE	801	53%	23%	10%	14%
BG	814	61%	22%	6%	11%
CZ	811	50%	29%	6%	16%
DK	801	52%	28%	6%	14%
DE	828	51%	29%	11%	10%
EE	804	65%	17%	6%	12%
IE	801	**74%**	13%	6%	7%
EL	800	65%	24%	6%	5%
ES	813	53%	27%	7%	13%
FR	829	55%	22%	9%	15%
HR	802	71%	18%	**3%**	8%
IT	810	59%	24%	7%	10%
CY	501	58%	**33%**	7%	**3%**
LV	801	55%	24%	7%	14%
LT	801	61%	20%	6%	12%
LU	503	62%	19%	8%	11%
HU	801	52%	33%	4%	11%
MT	503	69%	**11%**	5%	16%
NL	802	42%	33%	10%	15%
AT	800	60%	22%	12%	6%
PL	821	55%	20%	11%	14%
PT	802	67%	18%	5%	9%
RO	837	59%	19%	10%	12%
SI	804	**36%**	28%	**16%**	**20%**
SK	802	64%	20%	5%	12%
FI	801	54%	22%	8%	15%
SE	827	48%	29%	7%	17%
UK	814	56%	28%	7%	9%
IS	513	64%	13%	6%	17%
NO	803	66%	16%	4%	13%

Q25_4. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If it was explained what personal data is collected on me

	Base	I would be more positive	It would make no difference for me	I would be more negative	Don't know
EU28	***21,734***	***55%***	***25%***	***10%***	***10%***
BE	801	51%	25%	12%	12%
BG	814	65%	17%	10%	8%
CZ	811	51%	28%	11%	10%
DK	801	53%	27%	9%	11%
DE	828	46%	**32%**	12%	9%
EE	804	71%	16%	7%	7%
IE	801	71%	14%	9%	6%
EL	800	72%	18%	7%	3%
ES	813	56%	23%	9%	12%
FR	829	53%	22%	11%	13%
HR	802	**76%**	14%	5%	5%
IT	810	64%	22%	5%	9%
CY	501	66%	21%	10%	**2%**
LV	801	59%	20%	10%	11%
LT	801	65%	19%	9%	7%
LU	503	62%	18%	11%	10%
HU	801	51%	32%	8%	9%
MT	503	72%	**9%**	7%	12%
NL	802	**44%**	30%	12%	14%
AT	800	54%	25%	13%	7%
PL	821	61%	16%	9%	14%
PT	802	71%	15%	6%	8%
RO	837	66%	15%	10%	8%
SI	804	46%	21%	**18%**	15%
SK	802	71%	16%	**4%**	9%
FI	801	55%	18%	15%	12%
SE	827	47%	32%	8%	13%
UK	814	55%	30%	8%	7%
IS	513	63%	12%	8%	**16%**
NO	803	61%	18%	8%	12%

Q25_5. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If it was explained for what purpose my personal data is collected

	Base	I would be more positive	It would make no difference for me	I would be more negative	Don't know
EU28	***21,734***	***53%***	***28%***	***8%***	***10%***
BE	801	51%	27%	11%	12%
BG	814	65%	18%	10%	6%
CZ	811	50%	29%	11%	11%
DK	801	48%	34%	7%	12%
DE	828	45%	**37%**	8%	10%
EE	804	64%	20%	7%	9%
IE	801	70%	18%	6%	6%
EL	800	65%	25%	6%	4%
ES	813	55%	26%	8%	12%
FR	829	51%	25%	11%	13%
HR	802	70%	20%	5%	5%
IT	810	62%	24%	6%	9%
CY	501	63%	28%	7%	**1%**
LV	801	58%	20%	11%	11%
LT	801	61%	23%	7%	8%
LU	503	59%	23%	10%	8%
HU	801	53%	32%	6%	9%
MT	503	**71%**	13%	5%	10%
NL	802	**41%**	36%	9%	14%
AT	800	53%	31%	10%	7%
PL	821	59%	18%	9%	14%
PT	802	67%	19%	6%	7%
RO	837	59%	24%	6%	11%
SI	804	45%	26%	**15%**	14%
SK	802	69%	19%	**4%**	8%
FI	801	57%	19%	12%	12%
SE	827	46%	33%	9%	13%
UK	814	53%	32%	7%	7%
IS	513	66%	**13%**	7%	**14%**
NO	803	55%	27%	5%	13%

Q25_6. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If it was explained which 3rd parties access my personal data

	Base	I would be more positive	It would make no difference for me	I would be more negative	Don't know
EU28	***21,734***	***52%***	***24%***	***14%***	***10%***
BE	801	51%	24%	14%	11%
BG	814	65%	14%	13%	7%
CZ	811	49%	24%	15%	12%
DK	801	50%	26%	12%	12%
DE	828	43%	29%	17%	10%
EE	804	68%	14%	9%	9%
IE	801	68%	14%	12%	7%
EL	800	67%	20%	10%	3%
ES	813	51%	22%	15%	12%
FR	829	50%	23%	14%	13%
HR	802	**77%**	13%	**6%**	4%
IT	810	64%	21%	6%	9%
CY	501	57%	25%	16%	**1%**
LV	801	56%	17%	16%	11%
LT	801	59%	21%	11%	9%
LU	503	59%	18%	15%	8%
HU	801	50%	**32%**	10%	9%
MT	503	69%	**10%**	9%	11%
NL	802	**39%**	31%	16%	14%
AT	800	50%	25%	18%	7%
PL	821	60%	15%	13%	13%
PT	802	71%	15%	8%	7%
RO	837	64%	14%	14%	9%
SI	804	45%	21%	**20%**	14%
SK	802	67%	19%	6%	8%
FI	801	53%	15%	19%	13%
SE	827	49%	29%	9%	14%
UK	814	49%	27%	15%	9%
IS	513	58%	12%	15%	**15%**
NO	803	59%	20%	9%	12%

Q25_7. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If I would have an easy option to "opt-out" of personalised practices

	Base	I would be more positive	It would make no difference for me	I would be more negative	Don't know
EU28	***21,734***	***62%***	***21%***	***5%***	***11%***
BE	801	60%	20%	7%	13%
BG	814	69%	17%	5%	9%
CZ	811	53%	28%	5%	14%
DK	801	60%	22%	5%	13%
DE	828	61%	23%	6%	10%
EE	804	71%	17%	3%	9%
IE	801	**82%**	**10%**	**2%**	5%
EL	800	71%	21%	4%	5%
ES	813	61%	20%	6%	12%
FR	829	62%	18%	6%	14%
HR	802	74%	15%	2%	9%
IT	810	61%	24%	4%	11%
CY	501	64%	29%	5%	**2%**
LV	801	61%	21%	4%	14%
LT	801	63%	23%	4%	11%
LU	503	65%	13%	6%	15%
HU	801	53%	**33%**	3%	11%
MT	503	73%	14%	2%	11%
NL	802	55%	22%	8%	15%
AT	800	70%	17%	5%	8%
PL	821	60%	18%	7%	15%
PT	802	66%	17%	4%	13%
RO	837	61%	20%	7%	12%
SI	804	**42%**	28%	**9%**	**21%**
SK	802	71%	17%	2%	10%
FI	801	59%	19%	6%	16%
SE	827	51%	29%	5%	15%
UK	814	67%	22%	3%	7%
IS	513	66%	13%	3%	18%
NO	803	74%	12%	2%	12%

Q26. Which browser(s) do you regularly use when browsing or shopping online? Select all that apply.

	Base	Chrome	Firefox	Internet Explorer	Safari	Opera	Other
Average	***6,580***	***59%***	***37%***	***22%***	***10%***	***5%***	***4%***
CZ	811	68%	41%	26%	3%	8%	**5%**
DE	828	**42%**	**56%**	19%	7%	5%	4%
ES	813	71%	29%	21%	7%	3%	4%
FR	829	61%	33%	21%	7%	2%	4%
PL	821	65%	49%	17%	**3%**	**15%**	3%
RO	837	**80%**	31%	**17%**	3%	8%	**2%**
SE	827	62%	25%	29%	18%	3%	4%
UK	814	63%	**21%**	**29%**	**23%**	**2%**	4%

Q27. What kind of device(s) do you use to access the internet? Please include all devices you used over the past year. Select all that apply.

	Base	Windows desktop/ laptop	Android smartphone (e.g. Samsung)	Android tablet (e.g. Samsung)	iPhone (Apple)	Ipad (Apple)	Apple desktop/laptop	All other devices (e.g. Windows smartphone, TV set, etc.)
Average	***6,580***	***85%***	***45%***	***21%***	***15%***	***11%***	***11%***	***6%***
CZ	811	**92%**	54%	22%	9%	3%	**5%**	**10%**
DE	828	86%	49%	22%	12%	10%	8%	7%
ES	813	82%	53%	21%	11%	8%	14%	3%
FR	829	87%	38%	22%	12%	7%	12%	**3%**
PL	821	91%	58%	21%	**7%**	**2%**	9%	7%
RO	837	91%	**68%**	**27%**	9%	3%	6%	8%
SE	827	**78%**	41%	**14%**	26%	19%	**17%**	7%
UK	814	81%	**33%**	18%	**29%**	**25%**	15%	7%

A4.2 Socio-demo tables

D1_recode. Age

	Base (EU28)	16 - 24	25 - 34	35 - 44	45 - 54	55 – 64	65+
Average (EU28)	***21,734***	***17%***	***21%***	***21%***	***20%***	***14%***	***7%***
EU Region							
EU15	11,832	16%	20%	21%	21%	14%	8%
EU13	9,902	19%	25%	24%	16%	12%	4%
Age							
16-34	8,196	45%	55%	0%	0%	0%	0%
35-54	9,170	0%	0%	52%	48%	0%	0%
55-64	2,992	0%	0%	0%	0%	100%	0%
65+	1,376	0%	0%	0%	0%	0%	100%
Gender							
Male	10,959	14%	22%	22%	20%	15%	7%
Female	10,775	20%	20%	21%	20%	13%	7%
Working status							
Employed	12,413	10%	26%	27%	23%	12%	2%
Self-Employed	1,713	7%	21%	23%	25%	15%	10%
Unemployed but looking for a job	1,416	22%	23%	24%	19%	12%	1%
Unemployed & not looking for a job + other non-active*	3,961	2%	11%	14%	20%	26%	27%
Pupil / Student / In education	2,231	82%	15%	2%	1%	0%	0%
Living area							
Large town or city	8,145	17%	23%	22%	19%	13%	6%
Small or medium sized town	8,474	17%	20%	21%	20%	14%	8%
Rural area or village	5,115	17%	20%	20%	21%	15%	8%
Education							
Low	2,250	17%	12%	19%	22%	19%	10%
Medium	9,506	19%	19%	21%	21%	14%	7%
High	9,978	14%	26%	23%	18%	12%	6%
Household financial situation							
Very easy	1,727	16%	21%	19%	18%	16%	11%
Fairly easy	9,277	18%	22%	21%	19%	14%	8%
Fairly difficult	7,953	16%	20%	22%	20%	14%	7%
Very difficult	1,988	13%	16%	24%	27%	14%	5%
Frequency of purchasing products online							
Once a week or more often	4,944	17%	24%	25%	19%	11%	5%
Once a month or more often	8,500	18%	22%	21%	20%	13%	6%
Once every three months or more often	4,943	15%	20%	20%	20%	16%	9%
Once in the last 12 months or more often	2,317	14%	14%	20%	23%	18%	11%
Never	1,030	15%	11%	15%	22%	21%	15%

* Sick/disabled, Housewife/homemaker, Retired

D2. Gender

	Base (EU28)	Male	Female
Average (EU28)	***21,734***	***51%***	***49%***
EU Region			
EU15	11,832	51%	49%
EU13	9,902	50%	50%
Age			
16-34	8,196	48%	52%
35-54	9,170	52%	48%
55-64	2,992	54%	46%
65+	1,376	53%	47%
Gender			
Male	10,959	100%	0%
Female	10,775	0%	100%
Working status			
Employed	12,413	53%	47%
Self-Employed	1,713	56%	44%
Unemployed but looking for a job	1,416	48%	52%
Unemployed & not looking for a job + other non-active*	3,961	46%	54%
Pupil / Student / In education	2,231	47%	53%
Living area			
Large town or city	8,145	52%	48%
Small or medium sized town	8,474	51%	49%
Rural area or village	5,115	49%	51%
Education			
Low	2,250	52%	49%
Medium	9,506	51%	49%
High	9,978	50%	50%
Household financial situation			
Very easy	1,727	56%	44%
Fairly easy	9,277	52%	48%
Fairly difficult	7,953	49%	51%
Very difficult	1,988	49%	51%
Frequency of purchasing products online			
Once a week or more often	4,944	52%	48%
Once a month or more often	8,500	51%	49%
Once every three months or more often	4,943	51%	49%
Once in the last 12 months or more often	2,317	49%	51%
Never	1,030	40%	60%

* Sick/disabled, Housewife/homemaker, Retired

D4. Urbanisation

	Base (EU28)	Large town or city	Small or medium sized town	Rural area or village
Average (EU28)	***21,734***	***34%***	***42%***	***24%***
EU Region				
EU15	11,832	33%	43%	24%
EU13	9,902	37%	40%	23%
Age				
16-34	8,196	36%	41%	23%
35-54	9,170	34%	43%	23%
55-64	2,992	32%	43%	25%
65+	1,376	28%	45%	27%
Gender				
Male	10,959	35%	43%	23%
Female	10,775	33%	42%	24%
Working status				
Employed	12,413	36%	42%	22%
Self-Employed	1,713	37%	40%	24%
Unemployed but looking for a job	1,416	31%	43%	26%
Unemployed & not looking for a job + other non-active*	3,961	28%	45%	27%
Pupil / Student / In education	2,231	35%	42%	23%
Living area				
Large town or city	8,145	100%	0%	0%
Small or medium sized town	8,474	0%	100%	0%
Rural area or village	5,115	0%	0%	100%
Education				
Low	2,250	29%	43%	28%
Medium	9,506	31%	44%	26%
High	9,978	40%	41%	20%
Household financial situation				
Very easy	1,727	37%	39%	24%
Fairly easy	9,277	34%	43%	23%
Fairly difficult	7,953	34%	43%	24%
Very difficult	1,988	33%	41%	26%
Frequency of purchasing products online				
Once a week or more often	4,944	37%	41%	22%
Once a month or more often	8,500	35%	42%	23%
Once every three months or more often	4,943	31%	44%	25%
Once in the last 12 months or more often	2,317	27%	46%	27%
Never	1,030	28%	45%	26%

* Sick/disabled, Housewife/homemaker, Retired

D5_Recode. Education level (Low/ Medium/ High)

	Base (EU28)	Low	Medium	High
Average (EU28)	***21,734***	***13%***	***47%***	***40%***
EU Region				
EU15	11,832	14%	47%	39%
EU13	9,902	9%	50%	42%
Age				
16-34	8,196	10%	48%	42%
35-54	9,170	13%	47%	40%
55-64	2,992	18%	47%	35%
65+	1,376	18%	46%	35%
Gender				
Male	10,959	13%	47%	40%
Female	10,775	13%	47%	40%
Working status				
Employed	12,413	10%	46%	45%
Self-Employed	1,713	7%	39%	54%
Unemployed but looking for a job	1,416	21%	49%	30%
Unemployed & not looking for a job + other non-active*	3,961	20%	51%	28%
Pupil / Student / In education	2,231	14%	54%	32%
Living area				
Large town or city	8,145	11%	43%	46%
Small or medium sized town	8,474	13%	49%	38%
Rural area or village	5,115	15%	52%	33%
Education				
Low	2,250	100%	0%	0%
Medium	9,506	0%	100%	0%
High	9,978	0%	0%	100%
Household financial situation				
Very easy	1,727	11%	38%	51%
Fairly easy	9,277	10%	46%	45%
Fairly difficult	7,953	15%	50%	35%
Very difficult	1,988	19%	54%	27%
Frequency of purchasing products online				
Once a week or more often	4,944	9%	45%	46%
Once a month or more often	8,500	11%	48%	41%
Once every three months or more often	4,943	14%	48%	37%
Once in the last 12 months or more often	2,317	21%	49%	30%
Never	1,030	28%	49%	23%

* Sick/disabled, Housewife/homemaker, Retired

D6. Work status

	Base (EU28)	Employed	Self-employed	Unemployed but looking for a job	Unemployed and not looking for a job	Long-term sick or disabled	Housewife / Homemaker	Retired	Pupil / Student / In education	Studying in combination with a part-time job
Average (EU28)	***21,734***	***55%***	***8%***	***6%***	***2%***	***3%***	***6%***	***10%***	***9%***	***2%***
EU Region										
EU15	11,832	54%	8%	7%	2%	3%	6%	11%	9%	2%
EU13	9,902	60%	7%	5%	1%	2%	6%	9%	8%	2%
Age										
16-34	8,196	53%	5%	7%	1%	1%	5%	0%	23%	4%
35-54	9,170	67%	9%	6%	1%	4%	8%	4%	1%	0%
55-64	2,992	48%	8%	6%	3%	4%	6%	27%	0%	0%
65+	1,376	12%	10%	1%	4%	0%	3%	70%	0%	0%
Gender										
Male	10,959	57%	8%	6%	2%	3%	2%	12%	9%	1%
Female	10,775	53%	7%	7%	1%	2%	10%	9%	10%	2%
Working status										
Employed	12,413	100%	0%	0%	0%	0%	0%	0%	0%	0%
Self-Employed	1,713	0%	100%	0%	0%	0%	0%	0%	0%	0%
Unemployed but looking for a	1,416	0%	0%	100%	0%	0%	0%	0%	0%	0%
Unemployed & not looking for	3,961	0%	0%	0%	7%	13%	29%	51%	0%	0%
Pupil / Student / In education	2,231	0%	0%	0%	0%	0%	0%	0%	84%	16%
Living area										
Large town or city	8,145	58%	8%	6%	1%	2%	4%	9%	9%	2%
Small or medium sized town	8,474	54%	7%	6%	2%	3%	7%	11%	9%	2%
Rural area or village	5,115	52%	8%	7%	2%	3%	7%	12%	9%	1%
Education										
Low	2,250	41%	4%	10%	3%	3%	11%	15%	11%	1%
Medium	9,506	53%	6%	6%	2%	3%	7%	11%	11%	2%
High	9,978	62%	10%	5%	1%	2%	3%	9%	7%	2%
Household financial situation										
Very easy	1,727	62%	7%	3%	1%	1%	3%	16%	6%	1%
Fairly easy	9,277	61%	7%	3%	1%	1%	5%	10%	9%	2%
Fairly difficult	7,953	53%	8%	7%	2%	3%	6%	10%	10%	1%
Very difficult	1,988	37%	7%	17%	2%	7%	9%	10%	7%	3%

	Base (EU28)	Employed	Self-employed	Unemployed but looking for a job	Unemployed and not looking for a job	Long-term sick or disabled	Housewife / Homemaker	Retired	Pupil / Student / In education	Studying in combination with a part-time job
Frequency of purchasing products online										
Once a week or more often	4,944	60%	10%	4%	1%	2%	7%	8%	8%	2%
Once a month or more often	8,500	56%	7%	5%	1%	3%	5%	10%	10%	2%
Once every three months or	4,943	53%	6%	8%	2%	3%	5%	12%	8%	2%
Once in the last 12 months or	2,317	47%	6%	11%	3%	3%	6%	14%	8%	1%
Never	1,030	41%	7%	11%	2%	2%	9%	17%	9%	2%

* Sick/disabled, Housewife/homemaker, Retired

D6_Recode. Work status (Active/ Inactive)

	Base (EU28)	ACTIVE	INACTIVE
Average (EU28)	***21,734***	***71%***	***29%***
EU Region			
EU15	11,832	70%	30%
EU13	9,902	74%	26%
Age			
16-34	8,196	70%	30%
35-54	9,170	83%	17%
55-64	2,992	61%	39%
65+	1,376	23%	77%
Gender			
Male	10,959	73%	27%
Female	10,775	68%	32%
Working status			
Employed	12,413	100%	0%
Self-Employed	1,713	100%	0%
Unemployed but looking for a job	1,416	100%	0%
Unemployed & not looking for a job + other non-active*	3,961	0%	100%
Pupil / Student / In education	2,231	16%	84%
Living area			
Large town or city	8,145	74%	26%
Small or medium sized town	8,474	69%	31%
Rural area or village	5,115	68%	32%
Education			
Low	2,250	56%	44%
Medium	9,506	67%	33%
High	9,978	79%	21%
Household financial situation			
Very easy	1,727	73%	27%
Fairly easy	9,277	73%	27%
Fairly difficult	7,953	69%	31%
Very difficult	1,988	64%	36%
Frequency of purchasing products online			
Once a week or more often	4,944	75%	25%
Once a month or more often	8,500	71%	29%
Once every three months or more often	4,943	69%	31%
Once in the last 12 months or more often	2,317	65%	35%
Never	1,030	61%	39%

* Sick/disabled, Housewife/homemaker, Retired

D7. Household's financial situation

	Base (EU28)	Very easy	Fairly easy	Fairly difficult	Very difficult	Prefer not to say
Average (EU28)	***21,734***	***8%***	***44%***	***36%***	***9%***	***3%***
EU Region						
EU15	11,832	9%	43%	36%	10%	3%
EU13	9,902	5%	49%	36%	7%	4%
Age						
16-34	8,196	8%	46%	35%	7%	4%
35-54	9,170	7%	42%	37%	12%	3%
55-64	2,992	9%	43%	36%	10%	3%
65+	1,376	12%	46%	33%	6%	2%
Gender						
Male	10,959	9%	45%	35%	9%	3%
Female	10,775	7%	43%	37%	10%	4%
Working status						
Employed	12,413	9%	48%	34%	6%	2%
Self-Employed	1,713	7%	44%	37%	9%	3%
Unemployed but looking for a job	1,416	4%	22%	42%	26%	6%
Unemployed & not looking for a job + other non-active*	3,961	8%	38%	37%	13%	3%
Pupil / Student / In education	2,231	5%	43%	37%	9%	6%
Living area						
Large town or city	8,145	9%	44%	35%	9%	3%
Small or medium sized town	8,474	7%	44%	36%	9%	3%
Rural area or village	5,115	8%	42%	36%	10%	4%
Education						
Low	2,250	7%	33%	42%	14%	4%
Medium	9,506	6%	42%	38%	11%	3%
High	9,978	10%	49%	31%	6%	3%
Household financial situation						
Very easy	1,727	100%	0%	0%	0%	0%
Fairly easy	9,277	0%	100%	0%	0%	0%
Fairly difficult	7,953	0%	0%	100%	0%	0%
Very difficult	1,988	0%	0%	0%	100%	0%
Frequency of purchasing products online						
Once a week or more often	4,944	10%	47%	34%	7%	2%
Once a month or more often	8,500	7%	46%	35%	8%	3%
Once every three months or more often	4,943	7%	41%	37%	11%	4%
Once in the last 12 months or more often	2,317	6%	35%	38%	14%	6%
Never	1,030	5%	27%	42%	18%	7%

* Sick/disabled, Housewife/homemaker, Retired

Q1_1. How frequently do you use the internet for the following activities? - To look for information on goods/services

	Base (EU28)	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
Average (EU28)	***21,734***	***25%***	***42%***	***21%***	***7%***	***2%***	***2%***
EU Region							
EU15	11,832	24%	42%	22%	7%	3%	2%
EU13	9,902	32%	43%	17%	6%	2%	1%
Age							
16-34	8,196	26%	42%	21%	8%	2%	2%
35-54	9,170	28%	42%	21%	6%	2%	2%
55-64	2,992	22%	43%	22%	7%	3%	3%
65+	1,376	17%	41%	24%	10%	4%	4%
Gender							
Male	10,959	25%	43%	20%	7%	3%	2%
Female	10,775	26%	41%	22%	7%	2%	2%
Working status							
Employed	12,413	27%	43%	21%	6%	2%	1%
Self-Employed	1,713	31%	42%	18%	5%	2%	2%
Unemployed but looking for a job	1,416	21%	40%	26%	7%	3%	3%
Unemployed & not looking for a job + other non-active*	3,961	20%	41%	24%	9%	4%	3%
Pupil / Student / In education	2,231	27%	42%	19%	9%	2%	2%
Living area							
Large town or city	8,145	29%	42%	20%	6%	2%	2%
Small or medium sized town	8,474	24%	41%	22%	8%	3%	2%
Rural area or village	5,115	22%	43%	22%	7%	3%	2%
Education							
Low	2,250	19%	37%	25%	10%	5%	4%
Medium	9,506	25%	41%	22%	8%	3%	2%
High	9,978	28%	45%	19%	6%	1%	1%
Household financial situation							
Very easy	1,727	24%	47%	17%	7%	2%	2%
Fairly easy	9,277	26%	43%	22%	6%	2%	1%
Fairly difficult	7,953	25%	42%	21%	8%	3%	2%
Very difficult	1,988	24%	38%	24%	7%	3%	3%
Frequency of purchasing products online							
Once a week or more often	4,944	**43%**	45%	**9%**	**2%**	**1%**	**0%**
Once a month or more often	8,500	24%	**47%**	23%	4%	1%	1%
Once every three months or more often	4,943	15%	36%	**30%**	14%	4%	1%
Once in the last 12 months or more often	2,317	**12%**	29%	28%	**18%**	**10%**	4%
Never	1,030	13%	**23%**	20%	12%	6%	**26%**

* Sick/disabled, Housewife/homemaker, Retired

Q1_2. How frequently do you use the internet for the following activities? - To buy goods/ services online

	Base (EU28)	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
Average (EU28)	***21,734***	***4%***	***21%***	***41%***	***21%***	***9%***	***4%***
EU Region							
EU15	11,832	4%	22%	41%	21%	8%	4%
EU13	9,902	6%	20%	41%	22%	9%	3%
Age							
16-34	8,196	6%	22%	44%	19%	6%	3%
35-54	9,170	4%	23%	40%	20%	9%	3%
55-64	2,992	3%	17%	39%	24%	11%	6%
65+	1,376	1%	16%	36%	27%	13%	8%
Gender							
Male	10,959	4%	22%	41%	21%	8%	3%
Female	10,775	4%	21%	41%	21%	9%	5%
Working status							
Employed	12,413	5%	23%	42%	20%	7%	3%
Self-Employed	1,713	5%	28%	39%	18%	7%	3%
Unemployed but looking for a job	1,416	4%	12%	36%	27%	15%	7%
Unemployed & not looking for a job + other non-active*	3,961	3%	19%	38%	23%	11%	5%
Pupil / Student / In education	2,231	5%	18%	47%	19%	7%	4%
Living area							
Large town or city	8,145	5%	23%	43%	19%	7%	3%
Small or medium sized town	8,474	4%	21%	40%	22%	9%	4%
Rural area or village	5,115	4%	20%	41%	22%	10%	4%
Education							
Low	2,250	4%	14%	37%	23%	14%	8%
Medium	9,506	4%	20%	42%	21%	9%	4%
High	9,978	5%	25%	42%	20%	7%	2%
Household financial situation							
Very easy	1,727	6%	27%	38%	19%	7%	3%
Fairly easy	9,277	4%	23%	43%	20%	7%	2%
Fairly difficult	7,953	4%	20%	41%	22%	9%	4%
Very difficult	1,988	4%	15%	37%	24%	13%	7%
Frequency of purchasing products online							
Once a week or more often	4,944	17%	83%	0%	0%	0%	0%
Once a month or more often	8,500	0%	0%	100%	0%	0%	0%
Once every three months or more often	4,943	0%	0%	0%	100%	0%	0%
Once in the last 12 months or more often	2,317	0%	0%	0%	0%	100%	0%
Never	1,030	0%	0%	0%	0%	0%	100%

* Sick/disabled, Housewife/homemaker, Retired

Q1_3. How frequently do you use the internet for the following activities? - For online banking and for other financial services

	Base (EU28)	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
Average (EU28)	***21,734***	***19%***	***43%***	***21%***	***4%***	***2%***	***11%***
EU Region							
EU15	11,832	18%	43%	21%	4%	2%	11%
EU13	9,902	19%	44%	23%	4%	3%	7%
Age							
16-34	8,196	16%	42%	23%	6%	3%	10%
35-54	9,170	20%	44%	20%	4%	2%	10%
55-64	2,992	20%	43%	20%	**3%**	2%	13%
65+	1,376	19%	43%	21%	3%	1%	14%
Gender							
Male	10,959	19%	44%	21%	5%	2%	10%
Female	10,775	18%	42%	22%	4%	3%	11%
Working status							
Employed	12,413	20%	46%	21%	4%	2%	8%
Self-Employed	1,713	23%	44%	20%	3%	2%	7%
Unemployed but looking for a job	1,416	15%	37%	21%	5%	4%	18%
Unemployed & not looking for a job + other non-active*	3,961	19%	40%	20%	4%	3%	15%
Pupil / Student / In education	2,231	10%	37%	**28%**	6%	3%	15%
Living area							
Large town or city	8,145	18%	45%	21%	4%	3%	9%
Small or medium sized town	8,474	19%	41%	22%	4%	2%	11%
Rural area or village	5,115	19%	44%	21%	4%	2%	11%
Education							
Low	2,250	15%	36%	22%	4%	4%	19%
Medium	9,506	18%	42%	21%	4%	3%	11%
High	9,978	20%	46%	22%	4%	2%	7%
Household financial situation							
Very easy	1,727	20%	47%	18%	4%	1%	9%
Fairly easy	9,277	19%	46%	21%	4%	2%	8%
Fairly difficult	7,953	19%	40%	22%	4%	3%	12%
Very difficult	1,988	16%	36%	23%	4%	3%	16%
Frequency of purchasing products online							
Once a week or more often	4,944	**31%**	**48%**	**13%**	3%	**1%**	**5%**
Once a month or more often	8,500	17%	47%	23%	4%	2%	7%
Once every three months or more often	4,943	13%	38%	26%	**6%**	3%	13%
Once in the last 12 months or more often	2,317	9%	30%	27%	6%	**7%**	21%
Never	1,030	**7%**	**20%**	17%	4%	3%	**49%**

* Sick/disabled, Housewife/homemaker, Retired

Q1_4. How frequently do you use the internet for the following activities? - To read news or blogs

	Base (EU28)	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
Average (EU28)	***21,734***	***46%***	***26%***	***11%***	***5%***	***4%***	***8%***
EU Region							
EU15	11,832	44%	27%	11%	5%	4%	9%
EU13	9,902	**55%**	26%	9%	4%	2%	**3%**
Age							
16-34	8,196	43%	29%	**14%**	6%	3%	6%
35-54	9,170	49%	25%	10%	5%	4%	8%
55-64	2,992	51%	23%	**8%**	5%	3%	10%
65+	1,376	45%	24%	10%	**3%**	2%	15%
Gender							
Male	10,959	51%	25%	10%	4%	3%	7%
Female	10,775	42%	28%	12%	5%	4%	9%
Working status							
Employed	12,413	47%	26%	11%	5%	4%	7%
Self-Employed	1,713	52%	26%	9%	4%	3%	6%
Unemployed but looking for a job	1,416	43%	29%	10%	7%	4%	8%
Unemployed & not looking for a job + other non-active*	3,961	46%	24%	10%	4%	4%	11%
Pupil / Student / In education	2,231	42%	**31%**	12%	7%	3%	5%
Living area							
Large town or city	8,145	52%	26%	9%	5%	3%	6%
Small or medium sized town	8,474	46%	26%	12%	5%	3%	8%
Rural area or village	5,115	39%	29%	11%	5%	4%	11%
Education							
Low	2,250	34%	29%	13%	5%	4%	15%
Medium	9,506	43%	27%	12%	5%	4%	10%
High	9,978	55%	25%	9%	4%	3%	4%
Household financial situation							
Very easy	1,727	49%	25%	10%	5%	3%	8%
Fairly easy	9,277	47%	27%	11%	5%	3%	7%
Fairly difficult	7,953	47%	26%	11%	4%	3%	8%
Very difficult	1,988	42%	25%	11%	6%	5%	11%
Frequency of purchasing products online							
Once a week or more often	4,944	55%	27%	9%	3%	**1%**	4%
Once a month or more often	8,500	48%	27%	11%	5%	3%	6%
Once every three months or more often	4,943	41%	26%	12%	6%	5%	10%
Once in the last 12 months or more often	2,317	36%	24%	13%	**8%**	**8%**	12%
Never	1,030	**29%**	**20%**	9%	4%	4%	**34%**

* Sick/disabled, Housewife/homemaker, Retired

Q1_5. How frequently do you use the internet for the following activities? - To play games online

	Base (EU28)	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
Average (EU28)	***21,734***	***18%***	***15%***	***11%***	***7%***	***9%***	***41%***
EU Region							
EU15	11,832	18%	14%	11%	6%	8%	43%
EU13	9,902	20%	17%	12%	**10%**	**13%**	28%
Age							
16-34	8,196	20%	17%	15%	9%	11%	27%
35-54	9,170	19%	14%	9%	6%	8%	44%
55-64	2,992	15%	12%	7%	4%	5%	56%
65+	1,376	15%	**8%**	6%	3%	5%	62%
Gender							
Male	10,959	18%	17%	11%	7%	8%	38%
Female	10,775	18%	13%	10%	7%	9%	43%
Working status							
Employed	12,413	18%	16%	11%	7%	9%	39%
Self-Employed	1,713	16%	16%	8%	7%	9%	44%
Unemployed but looking for a job	1,416	**23%**	14%	11%	8%	8%	36%
Unemployed & not looking for a job + other non-active*	3,961	18%	11%	7%	5%	6%	52%
Pupil / Student / In education	2,231	20%	18%	**17%**	8%	11%	**26%**
Living area							
Large town or city	8,145	19%	16%	12%	7%	9%	36%
Small or medium sized town	8,474	19%	14%	11%	7%	8%	41%
Rural area or village	5,115	16%	14%	8%	7%	9%	45%
Education							
Low	2,250	21%	14%	9%	6%	7%	43%
Medium	9,506	19%	16%	11%	7%	8%	39%
High	9,978	16%	14%	12%	7%	9%	41%
Household financial situation							
Very easy	1,727	19%	15%	10%	4%	6%	46%
Fairly easy	9,277	17%	15%	11%	7%	9%	41%
Fairly difficult	7,953	20%	15%	11%	7%	9%	38%
Very difficult	1,988	21%	13%	10%	7%	7%	42%
Frequency of purchasing products online							
Once a week or more often	4,944	22%	**19%**	12%	8%	7%	32%
Once a month or more often	8,500	18%	16%	12%	7%	9%	38%
Once every three months or more often	4,943	16%	11%	10%	7%	10%	47%
Once in the last 12 months or more often	2,317	**15%**	11%	8%	6%	10%	50%
Never	1,030	18%	9%	**2%**	**3%**	**3%**	**65%**

* Sick/disabled, housewife/homemaker, retired

Q1_6. How frequently do you use the internet for the following activities? - To watch videos or listen to music online

	Base (EU28)	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
Average (EU28)	***21,734***	***29%***	***31%***	***15%***	***8%***	***6%***	***11%***
EU Region							
EU15	11,832	27%	30%	15%	8%	6%	13%
EU13	9,902	37%	32%	14%	8%	4%	4%
Age							
16-34	8,196	44%	32%	13%	6%	3%	3%
35-54	9,170	24%	33%	16%	9%	7%	11%
55-64	2,992	14%	26%	17%	11%	9%	23%
65+	1,376	**8%**	22%	15%	**12%**	9%	34%
Gender							
Male	10,959	31%	32%	15%	8%	5%	9%
Female	10,775	28%	29%	15%	8%	7%	13%
Working status							
Employed	12,413	27%	33%	17%	9%	6%	9%
Self-Employed	1,713	30%	31%	16%	8%	5%	10%
Unemployed but looking for a job	1,416	35%	31%	12%	8%	4%	9%
Unemployed & not looking for a job + other non-active*	3,961	17%	26%	15%	10%	9%	23%
Pupil / Student / In education	2,231	**58%**	29%	**8%**	**3%**	**1%**	**2%**
Living area							
Large town or city	8,145	35%	32%	14%	7%	4%	8%
Small or medium sized town	8,474	29%	30%	15%	9%	6%	12%
Rural area or village	5,115	22%	31%	16%	10%	7%	14%
Education							
Low	2,250	24%	29%	16%	7%	8%	16%
Medium	9,506	29%	30%	14%	9%	6%	12%
High	9,978	31%	32%	15%	8%	5%	8%
Household financial situation							
Very easy	1,727	27%	29%	16%	7%	6%	15%
Fairly easy	9,277	29%	32%	15%	8%	6%	11%
Fairly difficult	7,953	30%	31%	15%	8%	5%	10%
Very difficult	1,988	31%	29%	12%	9%	6%	13%
Frequency of purchasing products online							
Once a week or more often	4,944	39%	**33%**	13%	6%	3%	6%
Once a month or more often	8,500	30%	33%	15%	9%	5%	9%
Once every three months or more often	4,943	22%	29%	**18%**	11%	7%	13%
Once in the last 12 months or more often	2,317	20%	23%	16%	10%	**12%**	19%
Never	1,030	17%	**20%**	11%	5%	5%	**41%**

* Sick/disabled, housewife/homemaker, retired

Q1_7. How frequently do you use the internet for the following activities? - To stream live content, such as a live football match

	Base (EU28)	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
Average (EU28)	***21,734***	***5%***	***13%***	***14%***	***10%***	***11%***	***46%***
EU Region							
EU15	11,832	5%	13%	14%	10%	11%	49%
EU13	9,902	6%	15%	18%	**13%**	**14%**	34%
Age							
16-34	8,196	7%	17%	18%	13%	11%	34%
35-54	9,170	4%	13%	14%	10%	12%	48%
55-64	2,992	3%	7%	11%	9%	9%	61%
65+	1,376	**2%**	6%	9%	6%	8%	70%
Gender							
Male	10,959	6%	17%	17%	11%	11%	38%
Female	10,775	4%	9%	12%	10%	11%	54%
Working status							
Employed	12,413	5%	14%	16%	11%	12%	42%
Self-Employed	1,713	6%	15%	15%	10%	13%	41%
Unemployed but looking for a job	1,416	5%	13%	12%	10%	9%	52%
Unemployed & not looking for a job + other non-active*	3,961	3%	7%	10%	8%	9%	64%
Pupil / Student / In education	2,231	9%	18%	18%	13%	12%	**31%**
Living area							
Large town or city	8,145	7%	16%	15%	11%	11%	40%
Small or medium sized town	8,474	5%	12%	15%	11%	11%	46%
Rural area or village	5,115	3%	9%	13%	9%	11%	55%
Education							
Low	2,250	5%	10%	13%	9%	9%	55%
Medium	9,506	5%	12%	14%	10%	11%	49%
High	9,978	6%	15%	16%	12%	12%	39%
Household financial situation							
Very easy	1,727	6%	11%	14%	10%	10%	49%
Fairly easy	9,277	5%	14%	15%	11%	11%	44%
Fairly difficult	7,953	5%	13%	14%	11%	12%	45%
Very difficult	1,988	5%	10%	12%	9%	9%	55%
Frequency of purchasing products online							
Once a week or more often	4,944	**9%**	**20%**	**19%**	10%	9%	33%
Once a month or more often	8,500	4%	13%	15%	11%	12%	44%
Once every three months or more often	4,943	3%	9%	13%	10%	12%	53%
Once in the last 12 months or more often	2,317	3%	6%	8%	10%	12%	61%
Never	1,030	4%	**3%**	**6%**	**4%**	**5%**	**78%**

* Sick/disabled, housewife/homemaker, retired

Q1_8. How frequently do you use the internet for the following activities? - To visit social networking sites (Facebook, Twitter, etc.)

	Base (EU28)	At least once a day	At least once a week	At least once a month	At least once every 3 months	At least once in the last 12 months	Never
Average (EU28)	***21,734***	***60%***	***15%***	***6%***	***3%***	***2%***	***13%***
EU Region							
EU15	11,832	57%	15%	7%	3%	2%	15%
EU13	9,902	73%	**12%**	**4%**	**2%**	2%	7%
Age							
16-34	8,196	71%	13%	6%	3%	2%	5%
35-54	9,170	58%	16%	6%	3%	3%	14%
55-64	2,992	46%	15%	7%	4%	2%	26%
65+	1,376	**40%**	15%	7%	2%	**5%**	**30%**
Gender							
Male	10,959	55%	16%	7%	4%	3%	15%
Female	10,775	65%	13%	6%	3%	2%	11%
Working status							
Employed	12,413	60%	15%	7%	3%	2%	13%
Self-Employed	1,713	58%	16%	8%	3%	3%	13%
Unemployed but looking for a job	1,416	66%	14%	6%	4%	2%	9%
Unemployed & not looking for a job + other non-active*	3,961	52%	14%	6%	3%	3%	22%
Pupil / Student / In education	2,231	**75%**	13%	5%	3%	**1%**	**3%**
Living area							
Large town or city	8,145	63%	15%	6%	3%	3%	10%
Small or medium sized town	8,474	59%	15%	7%	3%	2%	14%
Rural area or village	5,115	57%	14%	7%	3%	3%	17%
Education							
Low	2,250	58%	16%	5%	**4%**	2%	15%
Medium	9,506	60%	14%	6%	3%	2%	15%
High	9,978	61%	16%	7%	3%	3%	11%
Household financial situation							
Very easy	1,727	54%	**17%**	**9%**	3%	3%	14%
Fairly easy	9,277	58%	15%	7%	3%	2%	15%
Fairly difficult	7,953	62%	14%	6%	3%	2%	12%
Very difficult	1,988	64%	13%	5%	3%	2%	13%
Frequency of purchasing products online							
Once a week or more often	4,944	64%	16%	6%	2%	2%	10%
Once a month or more often	8,500	62%	14%	7%	3%	2%	12%
Once every three months or more often	4,943	56%	15%	8%	3%	3%	16%
Once in the last 12 months or more often	2,317	53%	16%	5%	3%	4%	18%
Never	1,030	47%	14%	6%	3%	3%	28%

* Sick/disabled, housewife/homemaker, retired

Q2_1. How often do you use the following methods to protect your online privacy when browsing the internet? - Ad-blocker

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***21,734***	***21%***	***16%***	***17%***	***14%***	***23%***	***9%***
EU Region							
EU15	11,832	22%	15%	17%	13%	24%	9%
EU13	9,902	21%	18%	19%	**16%**	21%	6%
Age							
16-34	8,196	26%	17%	18%	14%	19%	7%
35-54	9,170	20%	16%	18%	14%	25%	9%
55-64	2,992	19%	13%	16%	13%	26%	11%
65+	1,376	**16%**	12%	16%	15%	30%	13%
Gender							
Male	10,959	26%	16%	17%	14%	21%	6%
Female	10,775	17%	15%	18%	14%	25%	11%
Working status							
Employed	12,413	20%	15%	18%	15%	23%	8%
Self-Employed	1,713	21%	19%	18%	13%	23%	6%
Unemployed but looking for a job	1,416	23%	15%	17%	12%	22%	11%
Unemployed & not looking for a job + other non-active*	3,961	19%	14%	15%	13%	27%	12%
Pupil / Student / In education	2,231	**30%**	17%	18%	11%	18%	5%
Living area							
Large town or city	8,145	23%	17%	17%	13%	21%	8%
Small or medium sized town	8,474	21%	14%	18%	14%	24%	8%
Rural area or village	5,115	19%	16%	16%	14%	24%	10%
Education							
Low	2,250	17%	13%	15%	15%	29%	12%
Medium	9,506	21%	15%	18%	14%	23%	9%
High	9,978	24%	17%	17%	13%	21%	7%
Household financial situation							
Very easy	1,727	25%	16%	12%	13%	25%	9%
Fairly easy	9,277	21%	16%	18%	14%	24%	8%
Fairly difficult	7,953	21%	16%	18%	15%	22%	8%
Very difficult	1,988	23%	14%	16%	12%	24%	11%
Frequency of purchasing products online							
Once a week or more often	4,944	23%	**20%**	**20%**	15%	**18%**	**5%**
Once a month or more often	8,500	22%	15%	17%	14%	24%	7%
Once every three months or more often	4,943	22%	14%	17%	13%	24%	10%
Once in the last 12 months or more often	2,317	17%	14%	14%	13%	28%	15%
Never	1,030	16%	**7%**	**11%**	**9%**	**34%**	**24%**

* Sick/disabled, housewife/homemaker, retired

Q2_2. How often do you use the following methods to protect your online privacy when browsing the internet? - The incognito/private mode of my browser

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***21,734***	***5%***	***13%***	***24%***	***21%***	***25%***	***11%***
EU Region							
EU15	11,832	5%	13%	24%	21%	26%	12%
EU13	9,902	5%	15%	28%	22%	22%	9%
Age							
16-34	8,196	5%	15%	29%	23%	20%	**8%**
35-54	9,170	5%	13%	23%	22%	26%	11%
55-64	2,992	6%	10%	19%	18%	29%	17%
65+	1,376	6%	10%	18%	15%	32%	19%
Gender							
Male	10,959	6%	15%	27%	22%	23%	8%
Female	10,775	5%	11%	21%	21%	27%	15%
Working status							
Employed	12,413	5%	13%	26%	22%	24%	10%
Self-Employed	1,713	5%	12%	25%	21%	29%	8%
Unemployed but looking for a job	1,416	5%	12%	21%	**24%**	25%	12%
Unemployed & not looking for a job + other non-active*	3,961	5%	11%	18%	18%	30%	18%
Pupil / Student / In education	2,231	6%	16%	**30%**	22%	**18%**	8%
Living area							
Large town or city	8,145	6%	15%	27%	20%	23%	9%
Small or medium sized town	8,474	5%	13%	24%	22%	25%	11%
Rural area or village	5,115	**4%**	11%	22%	22%	27%	14%
Education							
Low	2,250	5%	11%	20%	20%	30%	14%
Medium	9,506	5%	13%	24%	21%	25%	12%
High	9,978	6%	14%	27%	22%	23%	9%
Household financial situation							
Very easy	1,727	6%	15%	20%	16%	30%	13%
Fairly easy	9,277	4%	13%	26%	22%	24%	11%
Fairly difficult	7,953	6%	13%	24%	23%	25%	10%
Very difficult	1,988	4%	14%	21%	19%	27%	15%
Frequency of purchasing products online							
Once a week or more often	4,944	7%	**16%**	25%	23%	22%	8%
Once a month or more often	8,500	5%	13%	27%	22%	25%	9%
Once every three months or more often	4,943	5%	11%	24%	21%	26%	13%
Once in the last 12 months or more often	2,317	5%	11%	18%	20%	27%	19%
Never	1,030	**7%**	**9%**	**14%**	**10%**	**33%**	**27%**

* Sick/disabled, housewife/homemaker, retired

Q2_3. How often do you use the following methods to protect your online privacy when browsing the internet? - Delete cookies

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***21,734***	***9%***	***21%***	***33%***	***21%***	***11%***	***5%***
EU Region							
EU15	11,832	10%	21%	33%	20%	11%	5%
EU13	9,902	8%	19%	33%	**23%**	12%	5%
Age							
16-34	8,196	**7%**	18%	36%	23%	12%	4%
35-54	9,170	10%	22%	33%	20%	10%	4%
55-64	2,992	**13%**	**24%**	25%	18%	13%	7%
65+	1,376	11%	20%	29%	19%	14%	7%
Gender							
Male	10,959	11%	22%	33%	21%	10%	3%
Female	10,775	8%	19%	32%	21%	13%	7%
Working status							
Employed	12,413	9%	21%	34%	21%	10%	4%
Self-Employed	1,713	11%	23%	34%	18%	11%	3%
Unemployed but looking for a job	1,416	9%	20%	30%	22%	11%	7%
Unemployed & not looking for a job + other non-active*	3,961	11%	22%	28%	19%	13%	7%
Pupil / Student / In education	2,231	7%	14%	**38%**	23%	13%	4%
Living area							
Large town or city	8,145	10%	21%	33%	21%	11%	4%
Small or medium sized town	8,474	10%	21%	33%	20%	11%	5%
Rural area or village	5,115	9%	20%	32%	22%	12%	6%
Education							
Low	2,250	9%	20%	28%	20%	15%	7%
Medium	9,506	10%	21%	31%	21%	11%	5%
High	9,978	9%	21%	36%	21%	11%	4%
Household financial situation							
Very easy	1,727	8%	20%	30%	22%	14%	6%
Fairly easy	9,277	9%	19%	35%	22%	11%	4%
Fairly difficult	7,953	10%	22%	31%	21%	11%	5%
Very difficult	1,988	12%	22%	30%	18%	10%	7%
Frequency of purchasing products online							
Once a week or more often	4,944	10%	24%	34%	20%	**9%**	**3%**
Once a month or more often	8,500	9%	20%	35%	21%	11%	4%
Once every three months or more often	4,943	10%	20%	32%	22%	12%	6%
Once in the last 12 months or more often	2,317	10%	19%	27%	21%	15%	8%
Never	1,030	13%	**14%**	**19%**	**14%**	**22%**	**18%**

* Sick/disabled, housewife/homemaker, retired

Q2_4. How often do you use the following methods to protect your online privacy when browsing the internet? - Instruments to hide my IP address such as TOR, VPNs etc.

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***21,734***	***3%***	***6%***	***14%***	***17%***	***45%***	***15%***
EU Region							
EU15	11,832	3%	6%	14%	17%	46%	15%
EU13	9,902	4%	7%	15%	**20%**	41%	13%
Age							
16-34	8,196	2%	7%	15%	19%	44%	12%
35-54	9,170	3%	6%	14%	17%	46%	14%
55-64	2,992	4%	5%	12%	15%	44%	20%
65+	1,376	4%	6%	10%	13%	47%	21%
Gender							
Male	10,959	3%	7%	16%	20%	44%	10%
Female	10,775	2%	5%	12%	15%	46%	19%
Working status							
Employed	12,413	3%	6%	15%	18%	45%	13%
Self-Employed	1,713	3%	6%	16%	18%	45%	12%
Unemployed but looking for a job	1,416	**2%**	6%	12%	18%	45%	18%
Unemployed & not looking for a job + other non-active*	3,961	4%	6%	10%	13%	46%	21%
Pupil / Student / In education	2,231	2%	7%	17%	19%	44%	11%
Living area							
Large town or city	8,145	3%	7%	15%	18%	44%	13%
Small or medium sized town	8,474	3%	6%	14%	17%	45%	14%
Rural area or village	5,115	3%	5%	13%	15%	46%	18%
Education							
Low	2,250	3%	6%	13%	15%	47%	17%
Medium	9,506	3%	6%	14%	17%	45%	16%
High	9,978	2%	6%	15%	18%	45%	12%
Household financial situation							
Very easy	1,727	3%	7%	12%	16%	47%	14%
Fairly easy	9,277	2%	6%	15%	18%	46%	13%
Fairly difficult	7,953	3%	6%	14%	18%	45%	14%
Very difficult	1,988	3%	6%	14%	15%	45%	17%
Frequency of purchasing products online							
Once a week or more often	4,944	**4%**	**9%**	**18%**	20%	**40%**	**9%**
Once a month or more often	8,500	2%	6%	14%	17%	**48%**	12%
Once every three months or more often	4,943	2%	**4%**	13%	17%	47%	18%
Once in the last 12 months or more often	2,317	3%	5%	9%	14%	45%	24%
Never	1,030	3%	5%	**7%**	**6%**	46%	**33%**

* Sick/disabled, housewife/homemaker, retired

Q2_5. How often do you use the following methods to protect your online privacy when browsing the internet? - Other apps/plugins designed to protect privacy online

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***21,734***	***5%***	***11%***	***20%***	***20%***	***30%***	***15%***
EU Region							
EU15	11,832	5%	10%	19%	19%	32%	15%
EU13	9,902	6%	12%	**25%**	**25%**	**21%**	13%
Age							
16-34	8,196	5%	10%	22%	22%	29%	12%
35-54	9,170	6%	11%	20%	19%	30%	15%
55-64	2,992	7%	11%	16%	18%	29%	19%
65+	1,376	5%	12%	14%	15%	33%	22%
Gender							
Male	10,959	**7%**	11%	21%	21%	28%	11%
Female	10,775	**4%**	10%	18%	18%	31%	19%
Working status							
Employed	12,413	5%	11%	20%	21%	29%	13%
Self-Employed	1,713	7%	11%	20%	20%	30%	13%
Unemployed but looking for a job	1,416	5%	9%	19%	20%	30%	17%
Unemployed & not looking for a job + other non-active*	3,961	7%	10%	16%	15%	31%	21%
Pupil / Student / In education	2,231	5%	10%	23%	21%	29%	12%
Living area							
Large town or city	8,145	6%	11%	20%	21%	29%	13%
Small or medium sized town	8,474	6%	10%	20%	19%	30%	15%
Rural area or village	5,115	5%	10%	18%	19%	31%	17%
Education							
Low	2,250	5%	10%	17%	20%	31%	18%
Medium	9,506	5%	10%	20%	19%	29%	16%
High	9,978	6%	11%	21%	21%	29%	12%
Household financial situation							
Very easy	1,727	6%	9%	17%	16%	**37%**	15%
Fairly easy	9,277	5%	10%	20%	21%	30%	13%
Fairly difficult	7,953	6%	11%	20%	20%	29%	14%
Very difficult	1,988	6%	12%	18%	16%	27%	21%
Frequency of purchasing products online							
Once a week or more often	4,944	7%	**14%**	24%	22%	24%	**9%**
Once a month or more often	8,500	5%	10%	20%	21%	31%	13%
Once every three months or more often	4,943	5%	8%	18%	19%	30%	20%
Once in the last 12 months or more often	2,317	5%	10%	15%	16%	33%	22%
Never	1,030	6%	**6%**	**10%**	**7%**	36%	**34%**

* Sick/disabled, housewife/homemaker, retired

Q3_1. When searching and shopping online for goods or services, how often do you do the following? - Switch browsers (for example between Chrome and Firefox)

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***20,704***	***2%***	***10%***	***25%***	***28%***	***33%***	***2%***
EU Region							
EU15	11,273	2%	10%	25%	27%	34%	2%
EU13	9,431	3%	9%	27%	**31%**	29%	2%
Age							
16-34	7,917	3%	10%	26%	28%	31%	2%
35-54	8,796	2%	11%	26%	28%	32%	2%
55-64	2,784	1%	8%	24%	26%	37%	2%
65+	1,207	1%	6%	22%	28%	41%	2%
Gender							
Male	10,502	2%	10%	27%	28%	31%	1%
Female	10,202	2%	9%	24%	28%	35%	2%
Working status							
Employed	11,988	2%	10%	27%	28%	30%	2%
Self-Employed	1,649	2%	12%	26%	30%	29%	0%
Unemployed but looking for a job	1,312	2%	10%	23%	29%	33%	3%
Unemployed & not looking for a job + other non-active*	3,633	1%	7%	20%	26%	**41%**	3%
Pupil / Student / In education	2,122	3%	8%	25%	28%	34%	2%
Living area							
Large town or city	7,795	3%	11%	27%	28%	30%	2%
Small or medium sized town	8,074	2%	9%	25%	28%	33%	2%
Rural area or village	4,835	2%	8%	24%	28%	37%	2%
Education							
Low	2,051	2%	7%	22%	27%	39%	3%
Medium	8,993	2%	9%	24%	28%	35%	2%
High	9,660	2%	11%	29%	28%	29%	1%
Household financial situation							
Very easy	1,659	3%	10%	23%	24%	38%	2%
Fairly easy	8,994	2%	9%	27%	28%	33%	1%
Fairly difficult	7,532	2%	10%	26%	28%	32%	2%
Very difficult	1,797	3%	11%	22%	29%	33%	2%
Frequency of purchasing products online							
Once a week or more often	4,944	**4%**	**14%**	28%	26%	27%	1%
Once a month or more often	8,500	2%	9%	26%	28%	33%	1%
Once every three months or more often	4,943	2%	6%	23%	29%	37%	2%
Once in the last 12 months or more often	2,317	2%	7%	19%	28%	41%	**4%**
Never	0	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

* Sick/disabled, housewife/homemaker, retired

Q3_2. When searching and shopping online for goods or services, how often do you do the following? - Switch devices (for example between a smartphone and laptop)

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***20,704***	***4%***	***20%***	***34%***	***20%***	***21%***	***2%***
EU Region							
EU15	11,273	4%	19%	34%	19%	22%	2%
EU13	9,431	5%	22%	34%	21%	17%	2%
Age							
16-34	7,917	6%	24%	**37%**	18%	12%	2%
35-54	8,796	4%	19%	34%	20%	21%	2%
55-64	2,784	2%	14%	26%	21%	35%	2%
65+	1,207	1%	11%	25%	20%	**42%**	2%
Gender							
Male	10,502	3%	18%	34%	21%	22%	1%
Female	10,202	5%	22%	33%	19%	20%	2%
Working status							
Employed	11,988	4%	20%	36%	20%	18%	2%
Self-Employed	1,649	4%	21%	34%	21%	20%	1%
Unemployed but looking for a job	1,312	5%	20%	33%	18%	21%	2%
Unemployed & not looking for a job + other non-active*	3,633	3%	15%	26%	20%	34%	2%
Pupil / Student / In education	2,122	6%	26%	36%	19%	12%	2%
Living area							
Large town or city	7,795	6%	21%	35%	20%	18%	2%
Small or medium sized town	8,074	3%	20%	34%	20%	21%	2%
Rural area or village	4,835	3%	17%	32%	19%	26%	2%
Education							
Low	2,051	4%	16%	31%	20%	27%	3%
Medium	8,993	4%	19%	34%	19%	22%	2%
High	9,660	4%	22%	34%	20%	18%	1%
Household financial situation							
Very easy	1,659	4%	20%	32%	17%	25%	2%
Fairly easy	8,994	4%	20%	34%	21%	20%	1%
Fairly difficult	7,532	4%	20%	34%	19%	21%	2%
Very difficult	1,797	4%	19%	32%	18%	23%	3%
Frequency of purchasing products online							
Once a week or more often	4,944	**7%**	**26%**	36%	17%	14%	1%
Once a month or more often	8,500	4%	20%	35%	20%	20%	2%
Once every three months or more often	4,943	2%	15%	31%	**22%**	27%	2%
Once in the last 12 months or more often	2,317	3%	12%	26%	21%	35%	**3%**
Never	0	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

* Sick/disabled, housewife/homemaker, retired

Q3_3. When searching and shopping online for goods or services, how often do you do the following? - Search goods or services using a search engine (like Google)

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***20,704***	***25%***	***45%***	***22%***	***5%***	***2%***	***1%***
EU Region							
EU15	11,273	24%	45%	23%	5%	2%	1%
EU13	9,431	28%	46%	19%	5%	1%	1%
Age							
16-34	7,917	27%	43%	22%	6%	2%	1%
35-54	8,796	26%	45%	23%	4%	1%	1%
55-64	2,784	22%	51%	20%	5%	1%	1%
65+	1,207	16%	**51%**	23%	6%	**3%**	0%
Gender							
Male	10,502	24%	44%	24%	6%	2%	1%
Female	10,202	26%	46%	21%	4%	1%	1%
Working status							
Employed	11,988	26%	45%	22%	5%	1%	1%
Self-Employed	1,649	26%	50%	19%	4%	2%	0%
Unemployed but looking for a job	1,312	25%	43%	24%	5%	2%	1%
Unemployed & not looking for a job + other non-active*	3,633	22%	44%	24%	6%	2%	1%
Pupil / Student / In education	2,122	28%	44%	20%	6%	2%	1%
Living area							
Large town or city	7,795	27%	45%	22%	5%	1%	1%
Small or medium sized town	8,074	24%	46%	22%	6%	2%	1%
Rural area or village	4,835	25%	45%	23%	5%	1%	1%
Education							
Low	2,051	23%	40%	25%	7%	3%	2%
Medium	8,993	25%	45%	23%	5%	2%	1%
High	9,660	26%	47%	20%	5%	1%	1%
Household financial situation							
Very easy	1,659	27%	44%	21%	5%	3%	1%
Fairly easy	8,994	24%	47%	22%	5%	1%	0%
Fairly difficult	7,532	25%	45%	22%	6%	2%	1%
Very difficult	1,797	29%	40%	24%	4%	2%	1%
Frequency of purchasing products online							
Once a week or more often	4,944	32%	45%	18%	4%	1%	0%
Once a month or more often	8,500	25%	47%	21%	5%	1%	1%
Once every three months or more often	4,943	20%	45%	25%	6%	2%	1%
Once in the last 12 months or more often	2,317	19%	37%	**31%**	**9%**	3%	**2%**
Never	0	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

* Sick/disabled, housewife/homemaker, retire

Q3_4. When searching and shopping online for goods or services, how often do you do the following? - Navigate to an e-commerce website (found) via social media

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***20,704***	***3%***	***12%***	***28%***	***24%***	***28%***	***5%***
EU Region							
EU15	11,273	2%	11%	26%	24%	32%	5%
EU13	9,431	4%	**19%**	**38%**	24%	13%	2%
Age							
16-34	7,917	3%	16%	33%	25%	19%	4%
35-54	8,796	2%	11%	28%	23%	30%	5%
55-64	2,784	2%	8%	22%	26%	37%	5%
65+	1,207	1%	6%	18%	22%	**48%**	5%
Gender							
Male	10,502	2%	12%	28%	24%	30%	3%
Female	10,202	3%	12%	29%	24%	26%	6%
Working status							
Employed	11,988	3%	13%	29%	24%	27%	4%
Self-Employed	1,649	3%	14%	27%	23%	31%	3%
Unemployed but looking for a job	1,312	4%	12%	34%	25%	22%	4%
Unemployed & not looking for a job + other non-active*	3,633	1%	9%	23%	23%	38%	5%
Pupil / Student / In education	2,122	2%	16%	30%	**26%**	19%	6%
Living area							
Large town or city	7,795	3%	14%	31%	24%	25%	4%
Small or medium sized town	8,074	3%	12%	29%	24%	28%	5%
Rural area or village	4,835	2%	10%	25%	24%	33%	5%
Education							
Low	2,051	2%	11%	27%	24%	29%	7%
Medium	8,993	3%	11%	28%	24%	29%	5%
High	9,660	3%	14%	29%	24%	27%	3%
Household financial situation							
Very easy	1,659	2%	11%	22%	24%	37%	4%
Fairly easy	8,994	3%	12%	28%	24%	29%	4%
Fairly difficult	7,532	3%	12%	31%	24%	26%	4%
Very difficult	1,797	2%	12%	28%	24%	27%	6%
Frequency of purchasing products online							
Once a week or more often	4,944	**5%**	18%	31%	21%	22%	3%
Once a month or more often	8,500	2%	12%	29%	25%	28%	4%
Once every three months or more often	4,943	1%	8%	26%	26%	33%	6%
Once in the last 12 months or more often	2,317	1%	8%	21%	24%	38%	**8%**
Never	0	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

* Sick/disabled, housewife/homemaker, retired

Q3_5. When searching and shopping online for goods or services, how often do you do the following? - Use a price comparison website

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***20,704***	***8%***	***30%***	***38%***	***16%***	***7%***	***1%***
EU Region							
EU15	11,273	7%	29%	39%	17%	7%	1%
EU13	9,431	11%	37%	35%	13%	4%	1%
Age							
16-34	7,917	8%	29%	37%	18%	6%	1%
35-54	8,796	8%	31%	39%	15%	6%	1%
55-64	2,784	8%	32%	37%	16%	7%	1%
65+	1,207	5%	26%	36%	21%	11%	1%
Gender							
Male	10,502	9%	32%	37%	15%	6%	1%
Female	10,202	7%	29%	39%	17%	7%	1%
Working status							
Employed	11,988	9%	32%	38%	15%	5%	1%
Self-Employed	1,649	8%	32%	38%	15%	7%	0%
Unemployed but looking for a job	1,312	8%	28%	35%	17%	11%	2%
Unemployed & not looking for a job + other non-active*	3,633	7%	26%	38%	18%	9%	1%
Pupil / Student / In education	2,122	7%	28%	38%	20%	6%	1%
Living area							
Large town or city	7,795	10%	30%	38%	16%	6%	1%
Small or medium sized town	8,074	8%	30%	39%	16%	7%	1%
Rural area or village	4,835	6%	29%	37%	19%	8%	1%
Education							
Low	2,051	8%	25%	36%	20%	9%	2%
Medium	8,993	8%	30%	37%	17%	8%	1%
High	9,660	8%	32%	39%	15%	5%	1%
Household financial situation							
Very easy	1,659	11%	30%	33%	17%	8%	1%
Fairly easy	8,994	7%	32%	39%	16%	6%	1%
Fairly difficult	7,532	8%	29%	38%	17%	7%	1%
Very difficult	1,797	9%	28%	35%	18%	9%	2%
Frequency of purchasing products online							
Once a week or more often	4,944	**13%**	**37%**	34%	11%	4%	1%
Once a month or more often	8,500	7%	31%	39%	17%	6%	1%
Once every three months or more often	4,943	5%	25%	**40%**	19%	9%	2%
Once in the last 12 months or more often	2,317	5%	20%	36%	**25%**	**12%**	**2%**
Never	0	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

* Sick/disabled, housewife/homemaker, retired

Q3_6. When searching and shopping online for goods or services, how often do you do the following? - Buy rather low-end (cheaper) products as opposed to high end (more expensive) ones

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***20,704***	***5%***	***22%***	***42%***	***19%***	***8%***	***4%***
EU Region							
EU15	11,273	5%	22%	41%	20%	8%	4%
EU13	9,431	5%	25%	44%	18%	5%	3%
Age							
16-34	7,917	6%	25%	42%	17%	5%	3%
35-54	8,796	5%	22%	42%	20%	7%	4%
55-64	2,784	3%	19%	40%	21%	11%	6%
65+	1,207	1%	15%	37%	**26%**	**18%**	3%
Gender							
Male	10,502	4%	21%	43%	21%	8%	3%
Female	10,202	6%	24%	41%	18%	8%	5%
Working status							
Employed	11,988	4%	22%	43%	20%	7%	4%
Self-Employed	1,649	4%	23%	43%	19%	9%	2%
Unemployed but looking for a job	1,312	**10%**	**27%**	39%	14%	6%	4%
Unemployed & not looking for a job + other non-active*	3,633	4%	19%	38%	22%	12%	5%
Pupil / Student / In education	2,122	7%	27%	42%	16%	5%	4%
Living area							
Large town or city	7,795	6%	24%	42%	19%	7%	4%
Small or medium sized town	8,074	4%	22%	43%	19%	8%	4%
Rural area or village	4,835	5%	21%	40%	21%	9%	5%
Education							
Low	2,051	6%	21%	38%	18%	11%	5%
Medium	8,993	5%	22%	41%	20%	8%	5%
High	9,660	4%	23%	44%	19%	6%	3%
Household financial situation							
Very easy	1,659	6%	19%	38%	23%	12%	3%
Fairly easy	8,994	3%	20%	44%	21%	8%	4%
Fairly difficult	7,532	5%	25%	42%	17%	7%	3%
Very difficult	1,797	9%	27%	34%	17%	8%	5%
Frequency of purchasing products online							
Once a week or more often	4,944	6%	24%	41%	20%	6%	2%
Once a month or more often	8,500	4%	22%	**45%**	19%	6%	3%
Once every three months or more often	4,943	4%	22%	39%	19%	9%	6%
Once in the last 12 months or more often	2,317	5%	19%	33%	20%	15%	**8%**
Never	0	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

* Sick/disabled, housewife/homemaker, retired

Q3_7. When searching and shopping online for goods or services, how often do you do the following? - Delete/prevent cookies

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***20,704***	***7%***	***17%***	***33%***	***26%***	***14%***	***4%***
EU Region							
EU15	11,273	8%	18%	33%	25%	13%	4%
EU13	9,431	5%	16%	33%	28%	14%	4%
Age							
16-34	7,917	5%	16%	34%	28%	14%	3%
35-54	8,796	8%	18%	33%	25%	13%	4%
55-64	2,784	**11%**	18%	30%	23%	14%	4%
65+	1,207	8%	17%	28%	24%	18%	6%
Gender							
Male	10,502	8%	18%	33%	26%	12%	3%
Female	10,202	6%	17%	32%	25%	15%	5%
Working status							
Employed	11,988	7%	18%	**35%**	25%	12%	3%
Self-Employed	1,649	8%	18%	34%	22%	15%	2%
Unemployed but looking for a job	1,312	7%	18%	31%	26%	14%	5%
Unemployed & not looking for a job + other non-active*	3,633	9%	17%	29%	25%	16%	5%
Pupil / Student / In education	2,122	6%	14%	31%	**31%**	15%	3%
Living area							
Large town or city	7,795	8%	17%	33%	26%	13%	3%
Small or medium sized town	8,074	7%	18%	33%	25%	13%	4%
Rural area or village	4,835	6%	16%	32%	26%	15%	4%
Education							
Low	2,051	6%	16%	31%	26%	16%	5%
Medium	8,993	8%	17%	32%	25%	14%	4%
High	9,660	7%	18%	34%	26%	13%	3%
Household financial situation							
Very easy	1,659	8%	15%	31%	24%	**18%**	4%
Fairly easy	8,994	6%	17%	33%	27%	14%	3%
Fairly difficult	7,532	8%	17%	33%	25%	13%	4%
Very difficult	1,797	8%	**20%**	30%	24%	11%	6%
Frequency of purchasing products online							
Once a week or more often	4,944	8%	19%	33%	25%	13%	2%
Once a month or more often	8,500	7%	16%	33%	26%	14%	3%
Once every three months or more often	4,943	7%	17%	32%	26%	13%	5%
Once in the last 12 months or more often	2,317	7%	16%	30%	24%	15%	**8%**
Never	0	0%	0%	0%	0%	0%	0%

* Sick/disabled, housewife/homemaker, retired

Q3_8. When searching and shopping online for goods or services, how often do you do the following? - Use the incognito/privacy mode of the browser

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***20,704***	***4%***	***11%***	***24%***	***23%***	***30%***	***8%***
EU Region							
EU15	11,273	4%	11%	23%	22%	31%	8%
EU13	9,431	3%	11%	27%	27%	26%	7%
Age							
16-34	7,917	3%	14%	**27%**	24%	26%	6%
35-54	8,796	4%	10%	24%	23%	31%	8%
55-64	2,784	4%	9%	19%	22%	33%	12%
65+	1,207	3%	8%	19%	16%	**40%**	14%
Gender							
Male	10,502	4%	12%	26%	24%	29%	6%
Female	10,202	3%	10%	22%	22%	31%	11%
Working status							
Employed	11,988	4%	12%	26%	23%	29%	7%
Self-Employed	1,649	3%	11%	26%	22%	32%	7%
Unemployed but looking for a job	1,312	4%	8%	23%	24%	31%	10%
Unemployed & not looking for a job + other non-active*	3,633	3%	10%	19%	20%	35%	13%
Pupil / Student / In education	2,122	4%	13%	26%	**27%**	25%	6%
Living area							
Large town or city	7,795	4%	13%	26%	22%	28%	7%
Small or medium sized town	8,074	4%	10%	24%	23%	31%	8%
Rural area or village	4,835	3%	10%	22%	23%	33%	10%
Education							
Low	2,051	3%	10%	19%	22%	34%	11%
Medium	8,993	4%	11%	24%	22%	31%	9%
High	9,660	4%	12%	26%	24%	28%	6%
Household financial situation							
Very easy	1,659	5%	13%	18%	19%	35%	9%
Fairly easy	8,994	3%	10%	25%	24%	31%	7%
Fairly difficult	7,532	4%	12%	25%	23%	28%	8%
Very difficult	1,797	3%	12%	23%	21%	30%	11%
Frequency of purchasing products online							
Once a week or more often	4,944	**6%**	**14%**	26%	23%	26%	5%
Once a month or more often	8,500	3%	11%	25%	24%	30%	7%
Once every three months or more often	4,943	2%	10%	22%	22%	33%	11%
Once in the last 12 months or more often	2,317	4%	9%	18%	19%	34%	**16%**
Never	0	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

* Sick/disabled, housewife/homemaker, retired

Q4. When buying goods or services online, have you signed-up to or used any of the following types of loyalty programmes/websites? Select all that apply.

	Base (EU28)	Frequent flyer programmes	Retail loyalty cards	Registered user of travel booking website	Registered user of an e-commerce website	Rewards for credit cards	No, I did not	Don't know
Average (EU28)	***20,704***	***12%***	***37%***	***18%***	***30%***	***14%***	***33%***	***6%***
EU Region								
EU15	11,273	12%	37%	18%	25%	14%	35%	6%
EU13	9,431	10%	37%	18%	**52%**	18%	22%	6%
Age								
16-34	7,917	11%	36%	18%	32%	13%	31%	7%
35-54	8,796	13%	40%	19%	31%	16%	31%	6%
55-64	2,784	11%	35%	17%	25%	15%	37%	5%
65+	1,207	14%	31%	16%	17%	14%	43%	5%
Gender								
Male	10,502	13%	36%	18%	31%	17%	33%	5%
Female	10,202	10%	39%	19%	28%	12%	32%	7%
Working status								
Employed	11,988	13%	40%	21%	31%	16%	30%	5%
Self-Employed	1,649	18%	43%	24%	37%	18%	25%	5%
Unemployed but looking for a job	1,312	7%	27%	14%	30%	8%	38%	10%
Unemployed & not looking for a job + other*	3,633	9%	33%	13%	23%	12%	39%	7%
Pupil / Student / In education	2,122	11%	32%	15%	29%	10%	36%	7%
Living area								
Large town or city	7,795	17%	42%	23%	34%	17%	27%	5%
Small or medium sized town	8,074	10%	35%	18%	29%	13%	35%	6%
Rural area or village	4,835	8%	35%	13%	26%	12%	37%	7%
Education								
Low	2,051	7%	30%	12%	22%	10%	41%	9%
Medium	8,993	9%	36%	15%	28%	12%	35%	6%
High	9,660	17%	41%	24%	34%	18%	28%	5%

	Base (EU28)	Frequent flyer programmes	Retail loyalty cards	Registered user of travel booking website	Registered user of an e-commerce website	Rewards for credit cards	No, I did not	Don't know
Household financial situation								
Very easy	1,659	21%	39%	24%	29%	21%	30%	5%
Fairly easy	8,994	13%	40%	20%	31%	16%	31%	5%
Fairly difficult	7,532	10%	36%	17%	30%	13%	33%	7%
Very difficult	1,797	7%	31%	12%	26%	8%	39%	9%
Frequency of purchasing products online								
Once a week or more often	4,944	18%	49%	25%	35%	23%	22%	5%
Once a month or more often	8,500	12%	39%	19%	32%	14%	31%	5%
Once every three months or more	4,943	8%	27%	14%	24%	9%	42%	7%
Once in the last 12 months or more often	2,317	5%	20%	10%	16%	5%	51%	11%
Never	0	0%	0%	0%	0%	0%	0%	0%

* + other non-active (sick/disabled, housewife/homemaker, retired)

QP1. Thinking about your recent purchases/shopping online, what would make you more likely to purchase a product in the future? Select all that apply.

	Base**	The products shown matching my requirements or interests	Seeing products at the best available price	Trusting the brand or online seller/ provider	Trusting the website to safeguard my personal data	Don't know
Average	***6,395***	***48%***	***66%***	***51%***	***44%***	***7%***
Age						
16-34	2,293	45%	65%	50%	42%	7%
35-54	2,731	46%	66%	49%	42%	8%
55-64	943	54%	**71%**	55%	51%	5%
65+	428	**60%**	63%	**57%**	**54%**	3%
Gender						
Male	3,384	48%	66%	50%	42%	8%
Female	3,011	48%	66%	52%	46%	6%
Working status						
Employed	3,660	46%	66%	49%	42%	7%
Self-Employed	437	50%	64%	57%	43%	6%
Unemployed but looking for	349	51%	70%	50%	45%	9%
Unemployed & not looking for a job + other non-active*	1,394	50%	66%	53%	49%	6%
Pupil / Student / In	555	51%	63%	52%	43%	7%
Living area						
Large town or city	2,128	47%	68%	52%	44%	6%
Small or medium sized town	2,740	49%	65%	51%	45%	7%
Rural area or village	1,527	48%	65%	48%	42%	7%
Education						
Low	924	45%	60%	43%	39%	9%
Medium	3,009	48%	67%	49%	43%	7%
High	2,462	49%	67%	55%	47%	6%
Household financial situation						
Very easy	560	49%	65%	54%	49%	8%
Fairly easy	2,996	50%	66%	53%	44%	6%
Fairly difficult	2,151	47%	66%	48%	44%	7%
Very difficult	507	46%	70%	48%	41%	10%
Frequency of purchasing products online						
Once a week or more often	1,676	49%	66%	52%	43%	6%
Once a month or more often	2,754	49%	68%	53%	46%	5%
Once every three months or more often	1,374	46%	64%	49%	42%	9%
Once in the last 12 months or more often	591	45%	57%	37%	41%	**15%**
Never	0	**0%**	**0%**	**0%**	**0%**	**0%**

* Sick/disabled, housewife/homemaker, retired
** Question asked only in experiment countries: CZ, DE, ES, FR, PL, RO, SE and UK

QP2. Thinking about your recent purchases/shopping online, what would make you less likely to purchase a product in the future? Select all that apply.

	Base**	The products shown not matching my requirements or interests	Not seeing products at the best available price	Not trusting the brand or online seller/ provider	Not trusting the website to safeguard my personal data	Don't know
Average **	***6,395***	***45%***	***45%***	***53%***	***52%***	***10%***
Age						
16-34	2,293	42%	45%	51%	49%	11%
35-54	2,731	44%	45%	52%	51%	11%
55-64	943	52%	**50%**	59%	58%	5%
65+	428	**56%**	46%	61%	62%	4%
Gender						
Male	3,384	46%	47%	52%	50%	11%
Female	3,011	45%	44%	55%	54%	9%
Working status						
Employed	3,660	44%	44%	50%	49%	10%
Self-Employed	437	46%	43%	**64%**	**65%**	6%
Unemployed but looking for a job	349	47%	49%	55%	52%	11%
Unemployed & not looking for a job + other non-active*	1,394	47%	47%	57%	57%	9%
Pupil / Student / In education	555	44%	49%	56%	50%	12%
Living area						
Large town or city	2,128	44%	48%	53%	53%	10%
Small or medium sized town	2,740	46%	45%	53%	53%	10%
Rural area or village	1,527	45%	43%	54%	49%	10%
Education						
Low	924	43%	41%	44%	44%	11%
Medium	3,009	43%	45%	52%	51%	11%
High	2,462	48%	47%	58%	56%	8%
Household financial situation						
Very easy	560	46%	44%	58%	54%	10%
Fairly easy	2,996	47%	46%	54%	52%	9%
Fairly difficult	2,151	43%	46%	53%	52%	10%
Very difficult	507	44%	47%	48%	54%	12%
Frequency of purchasing products online						
Once a week or more often	1,676	44%	43%	53%	50%	9%
Once a month or more often	2,754	46%	49%	54%	53%	9%
Once every three months or more often	1,374	43%	43%	52%	53%	12%
Once in the last 12 months or more often	591	45%	42%	51%	52%	**13%**
Never	0	**0%**	**0%**	**0%**	**0%**	**0%**

* Sick/disabled, housewife/homemaker, retired
** Question asked only in experiment countries: CZ, DE, ES, FR, PL, RO, SE and UK

Q5. How much would you say you know about targeted advertising used by online firms?

	Base (EU28)	I understand how it works	I have some understanding about how it works	I have heard about it but don't know how it works	I had not heard about it until now	Don't know
Average (EU28)	***21,734***	***25%***	***42%***	***20%***	***8%***	***5%***
EU Region						
EU15	11,832	25%	42%	19%	8%	5%
EU13	9,902	22%	40%	23%	10%	5%
Age						
16-34	8,196	27%	43%	18%	7%	5%
35-54	9,170	25%	41%	20%	8%	6%
55-64	2,992	23%	42%	23%	8%	4%
65+	1,376	18%	40%	23%	11%	8%
Gender						
Male	10,959	29%	42%	18%	7%	5%
Female	10,775	21%	42%	22%	10%	6%
Working status						
Employed	12,413	26%	42%	19%	7%	5%
Self-Employed	1,713	30%	44%	17%	**5%**	4%
Unemployed but looking for a job	1,416	21%	39%	24%	8%	9%
Unemployed & not looking for a job + other non-active*	3,961	19%	39%	23%	12%	7%
Pupil / Student / In education	2,231	27%	**45%**	17%	6%	5%
Living area						
Large town or city	8,145	28%	40%	20%	7%	5%
Small or medium sized town	8,474	23%	43%	20%	8%	5%
Rural area or village	5,115	23%	42%	20%	9%	7%
Education						
Low	2,250	16%	36%	24%	13%	11%
Medium	9,506	24%	41%	20%	9%	6%
High	9,978	28%	45%	19%	5%	4%
Household financial situation						
Very easy	1,727	**36%**	38%	**16%**	7%	**3%**
Fairly easy	9,277	26%	44%	19%	7%	4%
Fairly difficult	7,953	22%	42%	22%	8%	6%
Very difficult	1,988	22%	35%	22%	12%	9%
Frequency of purchasing products online						
Once a week or more often	4,944	31%	42%	17%	6%	3%
Once a month or more often	8,500	26%	44%	18%	7%	4%
Once every three months or more often	4,943	19%	43%	23%	9%	6%
Once in the last 12 months or more often	2,317	17%	33%	**27%**	14%	9%
Never	1,030	**11%**	**23%**	23%	**22%**	**21%**

* Sick/disabled, housewife/homemaker, retired

Q6. Based on your experience, how widespread do you think that online targeted advertising is?

	Base (EU28)	Nearly all websites use it	Most websites use it	Some websites use it	Very few websites use it	I don't think any websites use it	Don't know
Average (EU28)	***21,734***	***27%***	***43%***	***17%***	***2%***	***2%***	***9%***
EU Region							
EU15	11,832	29%	43%	16%	2%	2%	8%
EU13	9,902	21%	44%	**18%**	3%	2%	11%
Age							
16-34	8,196	27%	44%	17%	3%	1%	7%
35-54	9,170	27%	42%	17%	2%	2%	9%
55-64	2,992	27%	43%	16%	2%	2%	10%
65+	1,376	26%	42%	14%	2%	2%	14%
Gender							
Male	10,959	25%	45%	18%	2%	2%	8%
Female	10,775	30%	41%	15%	2%	2%	10%
Working status							
Employed	12,413	26%	44%	18%	2%	1%	8%
Self-Employed	1,713	27%	**47%**	15%	2%	2%	8%
Unemployed but looking for a job	1,416	27%	40%	14%	3%	3%	13%
Unemployed & not looking for a job + other non-active*	3,961	28%	39%	16%	2%	3%	12%
Pupil / Student / In education	2,231	29%	46%	15%	2%	**1%**	7%
Living area							
Large town or city	8,145	29%	43%	16%	2%	2%	8%
Small or medium sized town	8,474	26%	42%	17%	3%	2%	10%
Rural area or village	5,115	26%	44%	17%	2%	2%	10%
Education							
Low	2,250	24%	37%	16%	**3%**	4%	16%
Medium	9,506	28%	42%	17%	2%	2%	10%
High	9,978	28%	47%	17%	2%	1%	6%
Household financial situation							
Very easy	1,727	31%	42%	16%	2%	1%	7%
Fairly easy	9,277	26%	46%	18%	2%	1%	7%
Fairly difficult	7,953	27%	42%	16%	3%	2%	10%
Very difficult	1,988	**32%**	36%	14%	2%	4%	12%
Frequency of purchasing products online							
Once a week or more often	4,944	29%	45%	18%	2%	1%	**5%**
Once a month or more often	8,500	27%	45%	17%	2%	1%	7%
Once every three months or more often	4,943	27%	41%	17%	2%	2%	10%
Once in the last 12 months or more often	2,317	27%	38%	16%	3%	2%	14%
Never	1,030	**21%**	**28%**	**10%**	**2%**	**7%**	**32%**

* Sick/disabled, housewife/homemaker, retired

QTA1. Thinking about your recent browsing or shopping for products online, did you notice advertisements targeted to you because of your online behaviour?

	Base**	Yes	No	Don't know
Average*	***6,580***	***67%***	***20%***	***12%***
Age				
16-34	2,335	67%	21%	12%
35-54	2,803	67%	20%	12%
55-64	987	69%	20%	11%
65+	455	65%	21%	14%
Gender				
Male	3,460	66%	22%	12%
Female	3,120	69%	19%	13%
Working status				
Employed	3,741	68%	21%	11%
Self-Employed	446	70%	19%	11%
Unemployed but looking for a job	369	62%	23%	15%
Unemployed & not looking for a job + other non-active*	1,454	65%	20%	15%
Pupil / Student / In education	570	69%	19%	12%
Living area				
Large town or city	2,170	67%	21%	12%
Small or medium sized town	2,835	67%	20%	13%
Rural area or village	1,575	67%	20%	12%
Education				
Low	985	56%	24%	20%
Medium	3,096	67%	21%	13%
High	2,499	**72%**	19%	9%
Household financial situation				
Very easy	571	69%	22%	9%
Fairly easy	3,050	70%	20%	10%
Fairly difficult	2,229	65%	21%	14%
Very difficult	536	62%	22%	16%
Frequency of purchasing products online				
Once a week or more often	1,676	72%	20%	**8%**
Once a month or more often	2,754	70%	19%	10%
Once every three months or more often	1,374	63%	21%	16%
Once in the last 12 months or more often	591	57%	22%	20%
Never	185	**36%**	**30%**	**34%**

* Sick/disabled, housewife/homemaker, retired
** Question asked only in experiment countries: CZ, DE, ES, FR, PL, RO, SE and UK

QTA2. How did you respond to these advertisements? Select all that apply.

	Base**	I clicked on advertising because it was relevant to my interests or needs	I ignored advertising because it was not (no longer) relevant and continued browsing or shopping in the same window	I closed the window and cleared cookies	I switched browsers	I switched device	I used the incognito/ privacy mode on my browser	Other, please specify
Average	***4,418***	***16%***	***70%***	***19%***	***3%***	***3%***	***6%***	***2%***
Age								
16-34	1,572	18%	69%	17%	3%	3%	6%	3%
35-54	1,897	14%	70%	20%	4%	3%	5%	2%
55-64	668	15%	73%	20%	3%	1%	4%	1%
65+	281	9%	**75%**	22%	3%	1%	8%	**0%**
Gender								
Male	2,309	16%	69%	19%	4%	3%	7%	2%
Female	2,109	15%	72%	19%	3%	2%	4%	2%
Working status								
Employed	2,564	16%	69%	18%	4%	3%	7%	2%
Self-Employed	319	16%	71%	19%	3%	3%	5%	2%
Unemployed but looking for a job	221	16%	68%	19%	3%	4%	5%	**5%**
Unemployed & not looking for a job + other non-active*	919	12%	73%	22%	3%	2%	5%	2%
Pupil / Student / In education	395	18%	73%	18%	2%	2%	**4%**	3%
Living area								
Large town or city	1,476	16%	71%	17%	4%	2%	7%	3%
Small or medium sized town	1,885	16%	70%	20%	4%	3%	6%	2%
Rural area or village	1,057	13%	71%	20%	2%	3%	4%	3%

	Base (EU28)	I clicked on advertising because it was relevant to my interests or needs	I ignored advertising because it was not (no longer) relevant and continued browsing or shopping in the same window	I closed the window and cleared cookies	I switched browsers	I switched device	I used the incognito/ privacy mode on my browser	Other, please specify
Education								
Low	585	15%	66%	17%	4%	3%	7%	2%
Medium	2,024	15%	70%	19%	4%	2%	5%	2%
High	1,809	16%	72%	19%	3%	3%	6%	2%
Household financial situation								
Very easy	395	19%	72%	**12%**	2%	3%	**9%**	2%
Fairly easy	2,146	15%	71%	18%	4%	3%	5%	2%
Fairly difficult	1,430	16%	69%	21%	3%	3%	5%	2%
Very difficult	324	15%	71%	23%	4%	2%	4%	3%
Frequency of purchasing products online								
Once a week or more often	1,229	20%	68%	16%	**6%**	3%	6%	2%
Once a month or more often	1,935	15%	73%	17%	2%	2%	6%	2%
Once every three months or more often	867	13%	71%	23%	3%	2%	5%	2%
Once in the last 12 months or more often	324	11%	66%	**27%**	**2%**	**1%**	6%	3%
Never	63	**7%**	**62%**	25%	5%	**6%**	8%	1%

* Sick/disabled, housewife/homemaker, retired

** Question asked only in experiment countries: CZ, DE, ES, FR, PL, RO, SE and UK

Q7. What do you see as the main benefits of online targeted advertising for internet users such as yourself? Select max. 3 answers.

	Base (EU28)	I see the products that I might be interested in	It reduces the number of irrelevant adverts I see	It saves advertisers money, savings which could be passed on to me	It helps to fund the internet and allows "free" online content	I see products for the best available price	It allows e-commerce websites to offer me reductions/ promotions	I don't see any benefits	Don't know
Average (EU28)	***21,734***	***42%***	***23%***	***12%***	***20%***	***17%***	***19%***	***24%***	***7%***
EU Region									
EU15	11,832	39%	22%	13%	20%	16%	17%	26%	7%
EU13	9,902	**52%**	28%	12%	18%	**23%**	**28%**	**15%**	8%
Age									
16-34	8,196	46%	28%	13%	21%	18%	21%	18%	7%
35-54	9,170	40%	21%	12%	20%	16%	19%	26%	8%
55-64	2,992	39%	19%	12%	18%	19%	16%	31%	6%
65+	1,376	35%	18%	12%	19%	19%	19%	33%	7%
Gender									
Male	10,959	41%	25%	14%	22%	18%	20%	23%	6%
Female	10,775	42%	21%	11%	18%	17%	19%	25%	8%
Working status									
Employed	12,413	42%	23%	13%	19%	17%	20%	23%	7%
Self-Employed	1,713	39%	24%	13%	20%	15%	19%	28%	6%
Unemployed but looking for a job	1,416	42%	22%	14%	18%	22%	22%	22%	10%
Unemployed & not looking for a job + other non-active*	3,961	36%	19%	11%	19%	17%	17%	30%	9%
Pupil / Student / In education	2,231	49%	**32%**	12%	**25%**	16%	19%	17%	6%
Living area									
Large town or city	8,145	42%	26%	13%	21%	17%	21%	22%	7%
Small or medium sized town	8,474	42%	22%	13%	19%	18%	19%	24%	8%
Rural area or village	5,115	41%	21%	11%	19%	16%	17%	27%	8%

	Base (EU28)	I see the products that I might be interested in	It reduces the number of irrelevant adverts I see	It saves advertisers money, savings which could be passed on to me	It helps to fund the internet and allows "free" online content	I see products for the best available price	It allows e-commerce websites to offer me reductions/ promotions	I don't see any benefits	Don't know
Education									
Low	2,250	38%	17%	13%	15%	21%	18%	24%	13%
Medium	9,506	42%	23%	12%	18%	17%	19%	25%	8%
High	9,978	43%	26%	13%	24%	16%	20%	24%	5%
Household financial situation									
Very easy	1,727	40%	24%	13%	23%	17%	20%	27%	**5%**
Fairly easy	9,277	44%	25%	12%	21%	18%	20%	23%	6%
Fairly difficult	7,953	41%	23%	13%	19%	18%	20%	24%	8%
Very difficult	1,988	38%	20%	12%	16%	16%	18%	29%	11%
Frequency of purchasing products online									
Once a week or more often	4,944	46%	27%	**15%**	22%	21%	23%	17%	6%
Once a month or more often	8,500	44%	24%	12%	21%	17%	20%	24%	5%
Once every three months or more often	4,943	39%	21%	11%	18%	14%	16%	28%	9%
Once in the last 12 months or more often	2,317	32%	17%	11%	16%	15%	16%	32%	11%
Never	1,030	**26%**	**12%**	**8%**	**12%**	**11%**	**12%**	**33%**	**23%**

* Sick/disabled, housewife/homemaker, retired

Q8. What are your main concerns with respect to online targeted advertising? Select max. 3 answers.

	Base (EU28)	My online data is collected / a profile is made about me	Cookies are installed on my computer	My personal data could be used for other purposes and/or I don't know with whom it might be shared	It could cause exposure to inappropriate advertising	It limits my choice of products	I may end up paying more for products	It negatively affects my trust in e-commerce	I cannot "opt-out"/ refuse	I don't have any concerns	Don't know
Average (EU28)	***21,734***	***46%***	***27%***	***49%***	***19%***	***13%***	***13%***	***13%***	***25%***	***7%***	***7%***
EU Region											
EU15	11,832	47%	28%	50%	18%	12%	13%	13%	27%	7%	7%
EU13	9,902	42%	25%	44%	21%	15%	13%	13%	17%	9%	9%
Age											
16-34	8,196	46%	23%	47%	17%	13%	**16%**	13%	28%	6%	7%
35-54	9,170	45%	28%	47%	19%	13%	12%	11%	23%	8%	7%
55-64	2,992	48%	30%	53%	19%	10%	9%	14%	22%	10%	6%
65+	1,376	50%	**34%**	**56%**	**25%**	9%	**8%**	13%	23%	6%	6%
Gender											
Male	10,959	45%	29%	48%	20%	14%	15%	13%	24%	7%	6%
Female	10,775	48%	25%	49%	18%	11%	11%	13%	26%	7%	8%
Working status											
Employed	12,413	45%	27%	48%	19%	13%	14%	13%	25%	7%	7%
Self-Employed	1,713	47%	30%	53%	18%	13%	14%	13%	23%	6%	6%
Unemployed but looking for a job	1,416	46%	26%	45%	19%	10%	14%	13%	23%	7%	10%
Unemployed & not looking for a job + other non-active*	3,961	46%	29%	49%	20%	10%	10%	13%	22%	9%	8%
Pupil / Student / In education	2,231	50%	24%	50%	19%	14%	14%	11%	**33%**	**5%**	7%

	Base (EU28)	My online data is collected / a profile is made about me	Cookies are installed on my computer	My personal data could be used for other purposes and/or I don't know with whom it might be shared	It could cause exposure to inappropriate advertising	It limits my choice of products	I may end up paying more for products	It negatively affects my trust in e-commerce	I cannot "opt-out"/ refuse	I don't have any concerns	Don't know
Living area											
Large town or city	8,145	46%	27%	48%	19%	13%	14%	13%	26%	6%	6%
Small or medium sized town	8,474	46%	27%	49%	19%	13%	13%	13%	24%	8%	7%
Rural area or village	5,115	46%	27%	48%	18%	11%	13%	13%	25%	8%	7%
Education											
Low	2,250	40%	26%	41%	20%	10%	11%	11%	19%	9%	12%
Medium	9,506	45%	27%	47%	18%	13%	12%	13%	24%	8%	8%
High	9,978	**50%**	27%	53%	19%	13%	15%	13%	27%	6%	**4%**
Household financial situation											
Very easy	1,727	48%	22%	49%	17%	14%	16%	13%	25%	7%	5%
Fairly easy	9,277	47%	28%	48%	19%	13%	14%	13%	26%	8%	5%
Fairly difficult	7,953	45%	28%	49%	20%	12%	12%	13%	24%	7%	7%
Very difficult	1,988	44%	28%	47%	17%	13%	13%	13%	22%	7%	11%
Frequency of purchasing products online											
Once a week or more often	4,944	45%	27%	46%	19%	**15%**	16%	13%	26%	7%	5%
Once a month or more often	8,500	49%	27%	50%	19%	12%	13%	12%	26%	7%	5%
Once every three months or more often	4,943	46%	27%	51%	19%	11%	11%	12%	23%	7%	9%
Once in the last 12 months or more often	2,317	42%	28%	51%	19%	12%	11%	**15%**	21%	7%	10%
Never	1,030	**31%**	**22%**	**33%**	**14%**	**7%**	10%	**9%**	**14%**	**11%**	**26%**

* Sick/disabled, housewife/homemaker, retired

Q9. What is your overall opinion about online targeted advertising?

	Base (EU28)	I see primarily disadvantages	I see primarily benefits	I see both disadvantages and benefits	Don't know
Average (EU28)	***21,734***	***29%***	***9%***	***51%***	***11%***
EU Region					
EU15	11,832	32%	9%	49%	10%
EU13	9,902	**18%**	10%	**58%**	14%
Age					
16-34	8,196	27%	10%	52%	10%
35-54	9,170	30%	9%	51%	11%
55-64	2,992	32%	8%	49%	11%
65+	1,376	**35%**	4%	49%	12%
Gender					
Male	10,959	30%	10%	50%	10%
Female	10,775	29%	7%	51%	12%
Working status					
Employed	12,413	28%	9%	52%	11%
Self-Employed	1,713	32%	11%	48%	9%
Unemployed but looking for a job	1,416	28%	7%	51%	13%
Unemployed & not looking for a job + other non-active*	3,961	32%	7%	48%	12%
Pupil / Student / In education	2,231	28%	9%	53%	9%
Living area					
Large town or city	8,145	29%	9%	52%	10%
Small or medium sized town	8,474	29%	9%	50%	11%
Rural area or village	5,115	31%	7%	51%	12%
Education					
Low	2,250	25%	7%	50%	17%
Medium	9,506	29%	9%	50%	12%
High	9,978	31%	9%	52%	8%
Household financial situation					
Very easy	1,727	33%	11%	47%	9%
Fairly easy	9,277	29%	9%	53%	9%
Fairly difficult	7,953	29%	9%	51%	12%
Very difficult	1,988	32%	7%	47%	14%
Frequency of purchasing products online					
Once a week or more often	4,944	26%	**12%**	55%	**7%**
Once a month or more often	8,500	29%	9%	52%	9%
Once every three months or more often	4,943	32%	7%	48%	13%
Once in the last 12 months or more often	2,317	34%	5%	46%	16%
Never	1,030	31%	**2%**	**34%**	**33%**

* Sick/disabled, housewife/homemaker, retired

Q10. How much would you say you know about personalised offers used by online firms?

	Base (EU28)	I understand how it works	I have some understanding about how it works	I have heard about it but don't know how it works	I had not heard about it until now	Don't know
Average (EU28)	***21,734***	***20%***	***42%***	***21%***	***11%***	***7%***
EU Region						
EU15	11,832	21%	42%	20%	10%	7%
EU13	9,902	18%	40%	23%	12%	8%
Age						
16-34	8,196	21%	41%	21%	10%	8%
35-54	9,170	20%	42%	20%	10%	7%
55-64	2,992	18%	43%	22%	11%	6%
65+	1,376	16%	38%	23%	16%	7%
Gender						
Male	10,959	23%	43%	19%	9%	6%
Female	10,775	17%	40%	22%	13%	8%
Working status						
Employed	12,413	21%	43%	20%	10%	7%
Self-Employed	1,713	25%	43%	**16%**	10%	5%
Unemployed but looking for a job	1,416	17%	40%	24%	9%	10%
Unemployed & not looking for a job + other non-active*	3,961	16%	38%	23%	15%	9%
Pupil / Student / In education	2,231	21%	42%	20%	9%	8%
Living area						
Large town or city	8,145	21%	42%	20%	10%	6%
Small or medium sized town	8,474	19%	41%	21%	10%	8%
Rural area or village	5,115	19%	41%	20%	12%	7%
Education						
Low	2,250	14%	37%	20%	17%	12%
Medium	9,506	20%	41%	20%	11%	8%
High	9,978	22%	44%	21%	8%	5%
Household financial situation						
Very easy	1,727	**29%**	41%	17%	8%	5%
Fairly easy	9,277	21%	44%	20%	10%	5%
Fairly difficult	7,953	17%	42%	22%	11%	8%
Very difficult	1,988	20%	36%	20%	13%	12%
Frequency of purchasing products online						
Once a week or more often	4,944	27%	44%	18%	**7%**	**4%**
Once a month or more often	8,500	21%	**44%**	20%	9%	6%
Once every three months or more often	4,943	15%	40%	25%	12%	8%
Once in the last 12 months or more often	2,317	12%	33%	**25%**	19%	11%

Never	1,030	**9%**	**21%**	17%	**29%**	**24%**

* Sick/disabled, housewife/homemaker, retired

Q11. How widespread do you think that online personalised offers are?

	Base (EU28)	Nearly all websites use it	Most websites use it	Some websites use it	Very few websites use it	I don't think any websites use it	Don't know
Average (EU28)	***21,734***	***16%***	***38%***	***27%***	***4%***	***2%***	***14%***
EU Region							
EU15	11,832	16%	38%	27%	4%	2%	13%
EU13	9,902	**12%**	36%	28%	5%	3%	16%
Age							
16-34	8,196	14%	37%	29%	5%	2%	13%
35-54	9,170	17%	37%	27%	3%	2%	14%
55-64	2,992	16%	41%	25%	**2%**	2%	13%
65+	1,376	17%	39%	21%	3%	2%	18%
Gender							
Male	10,959	15%	38%	29%	4%	2%	12%
Female	10,775	17%	37%	24%	4%	3%	16%
Working status							
Employed	12,413	15%	38%	28%	4%	2%	12%
Self-Employed	1,713	15%	39%	28%	4%	2%	11%
Unemployed but looking for a job	1,416	16%	34%	25%	**5%**	2%	18%
Unemployed & not looking for a job + other non-active*	3,961	18%	36%	22%	3%	3%	18%
Pupil / Student / In education	2,231	14%	37%	**31%**	3%	2%	13%
Living area							
Large town or city	8,145	17%	38%	26%	4%	3%	13%
Small or medium sized town	8,474	15%	37%	27%	4%	2%	15%
Rural area or village	5,115	15%	37%	28%	4%	2%	14%
Education							
Low	2,250	14%	34%	23%	5%	4%	21%
Medium	9,506	17%	38%	25%	4%	2%	14%
High	9,978	15%	38%	30%	4%	1%	11%
Household financial situation							
Very easy	1,727	17%	38%	29%	3%	**1%**	12%
Fairly easy	9,277	15%	39%	29%	4%	2%	12%
Fairly difficult	7,953	16%	38%	26%	4%	3%	14%
Very difficult	1,988	**20%**	33%	22%	4%	3%	18%
Frequency of purchasing products online							
Once a week or more often	4,944	18%	**41%**	28%	3%	1%	**9%**
Once a month or more often	8,500	15%	39%	29%	4%	2%	12%
Once every three months or more often	4,943	15%	36%	26%	5%	2%	17%
Once in the last 12 months or more often	2,317	17%	34%	21%	4%	4%	21%
Never	1,030	15%	**20%**	**16%**	4%	**8%**	**37%**

* Sick/disabled, housewife/homemaker, retired

QPO1. Thinking about your recent browsing or shopping for products online, did you notice offers (e.g. the type of products shown in a search result) being personalised to you because of your online behaviour?

	Base**	Yes	No	Don't know
Average	***6,580***	***50%***	***28%***	***23%***
Age				
16-34	2,335	47%	28%	25%
35-54	2,803	50%	27%	23%
55-64	987	54%	27%	18%
65+	455	52%	29%	19%
Gender				
Male	3,460	49%	30%	20%
Female	3,120	50%	25%	25%
Working status				
Employed	3,741	51%	28%	21%
Self-Employed	446	54%	26%	19%
Unemployed but looking for a job	369	48%	24%	28%
Unemployed & not looking for a job + other non-active*	1,454	50%	27%	23%
Pupil / Student / In education	570	43%	29%	29%
Living area				
Large town or city	2,170	50%	29%	22%
Small or medium sized town	2,835	50%	27%	24%
Rural area or village	1,575	50%	28%	22%
Education				
Low	985	43%	28%	28%
Medium	3,096	50%	28%	23%
High	2,499	52%	27%	21%
Household financial situation				
Very easy	571	54%	31%	**15%**
Fairly easy	3,050	52%	28%	21%
Fairly difficult	2,229	47%	28%	24%
Very difficult	536	47%	26%	27%
Frequency of purchasing products online				
Once a week or more often	1,676	**57%**	26%	17%
Once a month or more often	2,754	51%	27%	22%
Once every three months or more often	1,374	45%	29%	26%
Once in the last 12 months or more often	591	41%	28%	31%
Never	185	**21%**	**34%**	**44%**

* Sick/disabled, housewife/homemaker, retired
** Question asked only in experiment countries: CZ, DE, ES, FR, PL, RO, SE and UK

QPO2. How did you respond to these offers? Select all that apply.

	Base**	I followed product recommendations if they were relevant to my interests or needs	I ignored product recommendations because they were no longer relevant to my interests or needs, and continued browsing or shopping in the same window	I closed the window and cleared cookies	I switched browsers	I switched device	I used the incognito/ privacy mode on my browser	Other, please specify
Average	***3,352***	***21%***	***63%***	***18%***	***4%***	***3%***	***8%***	***1%***
Age								
16-34	1,153	25%	58%	16%	5%	4%	10%	1%
35-54	1,437	20%	64%	18%	4%	3%	7%	2%
55-64	539	18%	70%	17%	3%	3%	4%	1%
65+	223	17%	**74%**	21%	4%	3%	7%	2%
Gender								
Male	1,761	23%	62%	17%	4%	4%	10%	1%
Female	1,591	20%	65%	18%	4%	3%	6%	2%
Working status								
Employed	1,967	21%	61%	18%	5%	4%	10%	1%
Self-Employed	245	22%	64%	19%	3%	4%	5%	1%
Unemployed but looking for a job	170	28%	59%	21%	2%	**1%**	6%	1%
Unemployed & not looking for a job + other non-active*	708	17%	69%	18%	3%	4%	6%	**3%**
Pupil / Student / In education	262	25%	69%	**11%**	3%	3%	**2%**	**0%**
Living area								
Large town or city	1,118	25%	62%	16%	4%	4%	8%	1%
Small or medium sized town	1,440	22%	63%	17%	4%	3%	8%	2%
Rural area or village	794	16%	66%	21%	4%	3%	6%	1%

	Base (EU28)	I followed product recommend ations if they were relevant to my interests or needs	I ignored product recommend ations because they were no longer relevant to my interests or needs, and continued browsing or shopping in the same window	I closed the window and cleared cookies	I switched browsers	I switched device	I used the incognito/ privacy mode on my browser	Other, please specify
Education								
Low	443	19%	60%	16%	4%	4%	10%	2%
Medium	1,549	21%	64%	17%	4%	3%	7%	1%
High	1,360	22%	63%	19%	4%	4%	8%	1%
Household financial situation								
Very easy	301	21%	67%	12%	5%	**6%**	12%	1%
Fairly easy	1,630	22%	62%	17%	4%	3%	7%	2%
Fairly difficult	1,084	21%	65%	21%	4%	2%	8%	1%
Very difficult	248	19%	62%	17%	3%	4%	7%	1%
Frequency of purchasing products online								
Once a week or more often	1,014	26%	58%	15%	**6%**	5%	8%	1%
Once a month or more often	1,431	21%	67%	17%	3%	3%	7%	1%
Once every three months or more often	629	18%	66%	19%	4%	3%	6%	2%
Once in the last 12 months or more often	240	**12%**	61%	24%	4%	4%	10%	3%
Never	38	13%	**53%**	**46%**	**2%**	2%	**15%**	**0%**

* Sick/disabled, housewife/homemaker, retired
** Question asked only in experiment countries: CZ, DE, ES, FR, PL, RO, SE and UK

Q12. What do you see as the main benefits of online personalised offers for internet users such as yourself? Select max. 3 answers.

	Base (EU28)	I see the type of products that I might be interested in	I get the best available price for products	It allows e-commerce websites to offer me reductions/ promotions	I can more easily choose products that suit my needs	It saves me time when searching online	I don't see any benefits	Don't know
Average (EU28)	***21,734***	***34%***	***17%***	***18%***	***23%***	***23%***	***25%***	***12%***
EU Region								
EU15	11,832	33%	17%	17%	21%	21%	27%	12%
EU13	9,902	**39%**	19%	**22%**	**31%**	**31%**	**16%**	13%
Age								
16-34	8,196	35%	19%	20%	24%	24%	18%	14%
35-54	9,170	33%	17%	17%	21%	22%	27%	12%
55-64	2,992	33%	16%	17%	24%	22%	33%	9%
65+	1,376	35%	15%	16%	23%	22%	**36%**	10%
Gender								
Male	10,959	34%	18%	20%	23%	24%	25%	10%
Female	10,775	34%	17%	16%	23%	22%	25%	14%
Working status								
Employed	12,413	34%	17%	18%	23%	24%	25%	11%
Self-Employed	1,713	33%	18%	19%	22%	21%	28%	10%
Unemployed but looking for a job	1,416	32%	20%	19%	25%	24%	19%	16%
Unemployed & not looking for a job + other non-active*	3,961	33%	15%	16%	21%	21%	31%	13%
Pupil / Student / In education	2,231	37%	20%	21%	23%	24%	18%	14%
Living area								
Large town or city	8,145	35%	19%	19%	24%	25%	23%	11%
Small or medium sized town	8,474	34%	18%	18%	23%	23%	25%	12%
Rural area or village	5,115	32%	15%	16%	21%	21%	29%	13%
Education								
Low	2,250	28%	20%	15%	22%	20%	24%	18%
Medium	9,506	34%	17%	17%	23%	23%	26%	12%
High	9,978	35%	17%	20%	23%	25%	25%	10%

	Base (EU28)	I see the type of products that I might be interested in	I get the best available price for products	It allows e-commerce websites to offer me reductions/ promotions	I can more easily choose products that suit my needs	It saves me time when searching online	I don't see any benefits	Don't know
Household financial situation								
Very easy	1,727	34%	18%	18%	24%	24%	27%	10%
Fairly easy	9,277	36%	17%	18%	24%	24%	24%	10%
Fairly difficult	7,953	34%	19%	19%	23%	23%	25%	12%
Very difficult	1,988	29%	16%	19%	20%	21%	28%	16%
Frequency of purchasing products online								
Once a week or more often	4,944	38%	**21%**	21%	26%	28%	20%	**8%**
Once a month or more often	8,500	36%	18%	19%	24%	23%	24%	11%
Once every three months or more often	4,943	31%	15%	16%	21%	21%	30%	13%
Once in the last 12 months or more often	2,317	29%	13%	14%	18%	17%	34%	15%
Never	1,030	**16%**	**11%**	**10%**	**15%**	**13%**	31%	**33%**

* Sick/disabled, housewife/homemaker, retired

Q13. What are your main concerns with respect to online personalised offers? Select max. 3 answers

	Base (EU28)	My online data is collected/ a profile is made about me	Cookies are installed on my computer	My personal data could be used for other purposes and/or I don't know with whom it might be shared	It limits my choice of products	I may end up paying more when I buy a product	It negatively affects my trust in e-commerce	I cannot "opt-out"/refuse	I don't have any concerns	Don't know
Average (EU28)	***21,734***	***42%***	***25%***	***46%***	***16%***	***16%***	***13%***	***22%***	***9%***	***11%***
EU Region										
EU15	11,832	43%	25%	47%	15%	16%	13%	23%	8%	10%
EU13	9,902	39%	23%	41%	18%	15%	12%	15%	10%	14%
Age										
16-34	8,196	38%	**20%**	42%	16%	19%	13%	23%	8%	13%
35-54	9,170	42%	26%	46%	17%	16%	12%	21%	9%	11%
55-64	2,992	49%	29%	51%	15%	12%	14%	19%	10%	**8%**
65+	1,376	**49%**	**32%**	**57%**	10%	10%	**16%**	23%	7%	9%
Gender										
Male	10,959	42%	26%	45%	17%	17%	13%	22%	9%	10%
Female	10,775	43%	23%	47%	15%	16%	12%	21%	8%	12%
Working status										
Employed	12,413	41%	24%	45%	17%	17%	12%	22%	9%	10%
Self-Employed	1,713	44%	26%	50%	17%	18%	14%	20%	7%	9%
Unemployed but looking for a job	1,416	40%	26%	47%	17%	13%	13%	18%	9%	13%
Unemployed & not looking for a job + other non-active*	3,961	44%	29%	48%	11%	13%	15%	20%	10%	12%
Pupil / Student / In education	2,231	42%	21%	46%	16%	19%	**11%**	**26%**	**6%**	13%
Living area										
Large town or city	8,145	43%	24%	45%	17%	17%	13%	23%	8%	10%
Small or medium sized town	8,474	42%	25%	46%	16%	16%	12%	20%	9%	11%
Rural area or village	5,115	41%	25%	46%	14%	15%	13%	22%	9%	12%

	Base (EU28)	My online data is collected/ a profile is made about me	Cookies are installed on my computer	My personal data could be used for other purposes and/or I don't know with whom it might be shared	It limits my choice of products	I may end up paying more when I buy a product	It negatively affects my trust in e-commerce	I cannot "opt-out"/refuse	I don't have any concerns	Don't know
Education										
Low	2,250	35%	24%	40%	12%	11%	11%	17%	**11%**	16%
Medium	9,506	41%	25%	45%	15%	15%	12%	21%	9%	12%
High	9,978	45%	25%	49%	18%	19%	14%	23%	8%	9%
Household financial situation										
Very easy	1,727	44%	22%	45%	18%	**20%**	14%	20%	9%	9%
Fairly easy	9,277	43%	25%	46%	17%	17%	12%	23%	9%	9%
Fairly difficult	7,953	42%	25%	46%	15%	16%	13%	21%	8%	12%
Very difficult	1,988	39%	27%	46%	12%	15%	14%	19%	10%	14%
Frequency of purchasing products online										
Once a week or more often	4,944	40%	25%	43%	**19%**	19%	13%	24%	9%	8%
Once a month or more often	8,500	45%	25%	48%	16%	17%	12%	22%	9%	10%
Once every three months or more often	4,943	43%	25%	48%	13%	14%	13%	21%	8%	13%
Once in the last 12 months or more often	2,317	39%	26%	47%	15%	13%	15%	15%	9%	16%
Never	1,030	**29%**	21%	**33%**	**7%**	**9%**	11%	**14%**	9%	**30%**

* Sick/disabled, housewife/homemaker, retired

Q14. What is your overall opinion about online personalised offers?

	Base (EU28)	I see primarily disadvantages	I see primarily benefits	I see both disadvantages and benefits	Don't know
Average (EU28)	***21,734***	***28%***	***9%***	***49%***	***14%***
EU Region					
EU15	11,832	30%	9%	48%	14%
EU13	9,902	**16%**	11%	**55%**	18%
Age					
16-34	8,196	24%	11%	49%	16%
35-54	9,170	28%	9%	49%	14%
55-64	2,992	31%	8%	49%	12%
65+	1,376	**33%**	6%	47%	14%
Gender					
Male	10,959	28%	10%	49%	12%
Female	10,775	27%	8%	48%	17%
Working status					
Employed	12,413	27%	10%	50%	14%
Self-Employed	1,713	32%	10%	46%	12%
Unemployed but looking for a job	1,416	23%	8%	50%	19%
Unemployed & not looking for a job + other non-active*	3,961	31%	7%	46%	16%
Pupil / Student / In education	2,231	25%	10%	50%	15%
Living area					
Large town or city	8,145	27%	11%	49%	13%
Small or medium sized town	8,474	27%	9%	49%	15%
Rural area or village	5,115	28%	7%	48%	16%
Education					
Low	2,250	23%	8%	48%	22%
Medium	9,506	27%	9%	49%	15%
High	9,978	30%	9%	49%	12%
Household financial situation					
Very easy	1,727	32%	11%	46%	11%
Fairly easy	9,277	27%	9%	51%	12%
Fairly difficult	7,953	27%	9%	49%	15%
Very difficult	1,988	28%	8%	45%	19%
Frequency of purchasing products online					
Once a week or more often	4,944	24%	**13%**	53%	**10%**
Once a month or more often	8,500	28%	9%	51%	12%
Once every three months or more often	4,943	30%	6%	46%	18%
Once in the last 12 months or more often	2,317	32%	6%	42%	20%
Never	1,030	27%	**3%**	**31%**	**38%**

* Sick/disabled, housewife/homemaker, retired

Q15. How much would you say you know about personalised pricing used by online firms?

	Base (EU28)	I understand how it works	I have some understanding about how it works	I have heard about it but don't know how it works	I had not heard about it until now	Don't know
Average (EU28)	***21,734***	***15%***	***28%***	***18%***	***29%***	***9%***
EU Region						
EU15	11,832	15%	27%	17%	31%	9%
EU13	9,902	15%	32%	21%	23%	10%
Age						
16-34	8,196	17%	28%	17%	28%	9%
35-54	9,170	15%	28%	18%	29%	10%
55-64	2,992	14%	28%	18%	31%	8%
65+	1,376	10%	28%	19%	34%	9%
Gender						
Male	10,959	18%	31%	17%	25%	9%
Female	10,775	12%	26%	19%	33%	10%
Working status						
Employed	12,413	16%	30%	18%	27%	9%
Self-Employed	1,713	20%	29%	18%	27%	7%
Unemployed but looking for a job	1,416	10%	23%	**22%**	32%	14%
Unemployed & not looking for a job + other non-active*	3,961	11%	26%	16%	36%	11%
Pupil / Student / In education	2,231	18%	28%	17%	29%	7%
Living area						
Large town or city	8,145	18%	29%	18%	27%	8%
Small or medium sized town	8,474	14%	28%	18%	29%	10%
Rural area or village	5,115	15%	27%	17%	31%	9%
Education						
Low	2,250	11%	24%	19%	33%	13%
Medium	9,506	15%	28%	17%	29%	10%
High	9,978	17%	30%	18%	27%	7%
Household financial situation						
Very easy	1,727	**24%**	28%	15%	27%	7%
Fairly easy	9,277	16%	31%	18%	27%	8%
Fairly difficult	7,953	13%	27%	19%	31%	10%
Very difficult	1,988	14%	22%	16%	34%	14%
Frequency of purchasing products online						
Once a week or more often	4,944	21%	**33%**	18%	**22%**	**6%**
Once a month or more often	8,500	16%	29%	18%	29%	8%
Once every three months or more often	4,943	11%	26%	19%	34%	10%
Once in the last 12 months or more often	2,317	11%	20%	19%	35%	16%
Never	1,030	**6%**	**13%**	**14%**	**42%**	**24%**

* Sick/disabled, housewife/homemaker, retired

Q16. How widespread do you think that online personalised pricing is?

	Base (EU28)	Nearly all websites use it	Most websites use it	Some websites use it	Very few websites use it	I don't think any websites use it	Don't know
Average (EU28)	***21,734***	***8%***	***20%***	***27%***	***10%***	***5%***	***30%***
EU Region							
EU15	11,832	8%	20%	27%	10%	5%	31%
EU13	9,902	9%	**23%**	27%	10%	5%	26%
Age							
16-34	8,196	7%	20%	28%	12%	5%	28%
35-54	9,170	9%	20%	27%	9%	6%	30%
55-64	2,992	9%	21%	27%	8%	4%	30%
65+	1,376	9%	21%	25%	**5%**	5%	35%
Gender							
Male	10,959	8%	21%	29%	11%	5%	26%
Female	10,775	8%	19%	25%	8%	5%	34%
Working status							
Employed	12,413	8%	21%	28%	10%	5%	28%
Self-Employed	1,713	8%	20%	31%	11%	**4%**	27%
Unemployed but looking for a job	1,416	8%	17%	25%	9%	6%	35%
Unemployed & not looking for a job + other non-active*	3,961	9%	19%	23%	7%	6%	36%
Pupil / Student / In education	2,231	7%	21%	29%	**14%**	4%	25%
Living area							
Large town or city	8,145	9%	21%	26%	10%	5%	27%
Small or medium sized town	8,474	8%	20%	27%	10%	5%	31%
Rural area or village	5,115	7%	19%	29%	9%	5%	31%
Education							
Low	2,250	9%	18%	23%	8%	6%	35%
Medium	9,506	8%	20%	25%	10%	5%	31%
High	9,978	7%	21%	30%	10%	5%	26%
Household financial situation							
Very easy	1,727	**10%**	18%	31%	10%	5%	27%
Fairly easy	9,277	8%	21%	29%	11%	4%	28%
Fairly difficult	7,953	8%	20%	26%	9%	6%	31%
Very difficult	1,988	9%	19%	24%	8%	7%	34%
Frequency of purchasing products online							
Once a week or more often	4,944	10%	22%	**33%**	10%	4%	**21%**
Once a month or more often	8,500	8%	20%	28%	11%	5%	29%
Once every three months or more often	4,943	**7%**	19%	24%	8%	6%	36%
Once in the last 12 months or more often	2,317	8%	20%	21%	7%	5%	38%
Never	1,030	8%	**13%**	**12%**	6%	**10%**	**50%**

* Sick/disabled, housewife/homemaker, retired

QPP1. Thinking about your recent browsing or shopping for products online, did you believe that prices were personalised to you because of your online behaviour?

	Base**	Yes	No	Don't know
Average	***6,580***	***21%***	***42%***	***36%***
Age				
16-34	2,335	23%	43%	34%
35-54	2,803	21%	41%	38%
55-64	987	20%	43%	37%
65+	455	19%	43%	38%
Gender				
Male	3,460	22%	45%	33%
Female	3,120	20%	40%	39%
Working status				
Employed	3,741	23%	43%	35%
Self-Employed	446	23%	39%	38%
Unemployed but looking for a job	369	18%	40%	42%
Unemployed & not looking for a job + other non-active*	1,454	20%	42%	39%
Pupil / Student / In education	570	19%	**46%**	35%
Living area				
Large town or city	2,170	24%	43%	33%
Small or medium sized town	2,835	20%	42%	38%
Rural area or village	1,575	21%	42%	37%
Education				
Low	985	21%	40%	39%
Medium	3,096	20%	43%	37%
High	2,499	23%	42%	35%
Household financial situation				
Very easy	571	26%	43%	31%
Fairly easy	3,050	22%	44%	34%
Fairly difficult	2,229	21%	41%	38%
Very difficult	536	18%	46%	37%
Frequency of purchasing products online				
Once a week or more often	1,676	27%	42%	**31%**
Once a month or more often	2,754	21%	44%	35%
Once every three months or more often	1,374	17%	42%	41%
Once in the last 12 months or more often	591	17%	38%	45%
Never	185	**6%**	44%	**50%**

* Sick/disabled, housewife/homemaker, retired
** Question asked only in experiment countries: CZ, DE, ES, FR, PL, RO, SE and UK

QPP2. How did you respond? Select all options that apply.

	Base**	I continued with the transaction	I stopped the transaction	I closed the window and cleared cookies	I switched browsers	I switched device	I used the incognito/ privacy mode on my browser	Other, please specify
Average*	***1,618***	***38%***	***26%***	***26%***	***10%***	***8%***	***13%***	***2%***
Age								
16-34	611	35%	25%	23%	12%	11%	15%	1%
35-54	675	36%	26%	29%	9%	8%	13%	3%
55-64	237	44%	27%	25%	**6%**	4%	10%	3%
65+	95	**52%**	22%	21%	7%	3%	**4%**	6%
Gender								
Male	901	40%	24%	26%	9%	9%	**16%**	1%
Female	717	36%	27%	25%	11%	7%	9%	3%
Working status								
Employed	974	35%	25%	27%	10%	9%	15%	2%
Self-Employed	119	39%	21%	32%	9%	13%	5%	1%
Unemployed but looking for a job	77	37%	20%	44%	11%	**0%**	15%	**0%**
Unemployed & not looking for a job +	314	46%	29%	20%	8%	6%	7%	5%
Pupil / Student / In education	134	39%	28%	**13%**	9%	8%	12%	**0%**
Living area								
Large town or city	589	37%	24%	25%	10%	10%	15%	2%
Small or medium sized town	666	41%	23%	26%	10%	7%	12%	2%
Rural area or village	363	34%	32%	27%	10%	7%	11%	2%

	Base**	I continued with the transaction	I stopped the transaction	I closed the window and cleared cookies	I switched browsers	I switched device	I used the incognito/ privacy mode on my browser	Other, please specify
Education								
Low	220	45%	21%	19%	7%	4%	14%	4%
Medium	716	37%	27%	27%	9%	7%	10%	1%
High	682	37%	26%	26%	12%	11%	15%	2%
Household financial situation								
Very easy	171	40%	22%	20%	15%	**14%**	14%	1%
Fairly easy	785	39%	24%	25%	8%	10%	13%	3%
Fairly difficult	513	37%	27%	28%	10%	5%	13%	1%
Very difficult	107	40%	**33%**	26%	11%	6%	8%	3%
Frequency of purchasing products online								
Once a week or	534	44%	21%	22%	10%	10%	15%	2%
Once a month or	676	35%	30%	28%	8%	8%	11%	2%
Once every three months or more often	286	35%	26%	26%	13%	6%	11%	2%
Once in the last 12 months or more often	109	35%	24%	28%	9%	9%	14%	3%
Never	13	**26%**	**9%**	**49%**	**30%**	7%	10%	**15%**

* Sick/disabled, housewife/homemaker, retired

** Question asked only in experiment countries: CZ, DE, ES, FR, PL, RO, SE and UK

Q17. What do you see as the main benefits of online personalised pricing for internet users such as yourself? Select max. 3 answers.

	Base (EU28)	It ensures I can get the product I want as the higher price means that less people will buy it	I get the best available price for products	It allows e-commerce websites to offer me reductions/ promotions	It allows e-commerce websites to increase product choice (incl. products they would otherwise make a loss on)	I don't see any benefits	Don't know
Average (EU28)	***21,734***	***12%***	***21%***	***22%***	***15%***	***32%***	***22%***
EU Region							
EU15	11,832	11%	20%	20%	13%	34%	22%
EU13	9,902	**16%**	26%	**31%**	**21%**	**20%**	22%
Age							
16-34	8,196	14%	22%	23%	17%	27%	23%
35-54	9,170	11%	21%	21%	14%	32%	23%
55-64	2,992	11%	21%	22%	14%	38%	19%
65+	1,376	9%	19%	25%	13%	**39%**	21%
Gender							
Male	10,959	13%	23%	24%	16%	31%	20%
Female	10,775	11%	20%	20%	13%	32%	25%
Working status							
Employed	12,413	13%	21%	22%	15%	31%	21%
Self-Employed	1,713	11%	20%	21%	16%	34%	19%
Unemployed but looking for a job	1,416	12%	25%	23%	17%	23%	29%
Unemployed & not looking for a job + other non-active*	3,961	9%	19%	22%	13%	36%	24%
Pupil / Student / In education	2,231	13%	23%	24%	15%	29%	21%

	Base (EU28)	It ensures I can get the product I want as the higher price means that less people will buy it	I get the best available price for products	It allows e-commerce websites to offer me reductions/ promotions	It allows e-commerce websites to increase product choice (incl. products they would otherwise make a loss on)	I don't see any benefits	Don't know
Living area							
Large town or city	8,145	13%	23%	24%	17%	29%	20%
Small or medium sized town	8,474	12%	21%	22%	15%	32%	23%
Rural area or village	5,115	10%	19%	19%	12%	35%	25%
Education							
Low	2,250	12%	24%	22%	13%	28%	27%
Medium	9,506	12%	22%	22%	14%	30%	24%
High	9,978	12%	20%	23%	16%	34%	19%
Household financial situation							
Very easy	1,727	11%	21%	23%	14%	38%	17%
Fairly easy	9,277	13%	22%	22%	15%	32%	20%
Fairly difficult	7,953	12%	21%	23%	15%	30%	24%
Very difficult	1,988	11%	22%	21%	13%	30%	28%
Frequency of purchasing products online							
Once a week or more often	4,944	16%	**27%**	26%	19%	27%	**17%**
Once a month or more often	8,500	13%	21%	22%	14%	33%	21%
Once every three months or more often	4,943	9%	18%	19%	13%	33%	26%
Once in the last 12 months or more often	2,317	8%	17%	20%	10%	35%	29%
Never	1,030	**7%**	**11%**	**13%**	**10%**	34%	**38%**

* Sick/disabled, housewife/homemaker, retired

Q18. What are your main concerns with respect to online personalised pricing? Select max. 3 answers

	Base (EU28)	My online data is collected/ a profile is made about me	Cookies are installed on my computer	My personal data could be used for other purposes and/or I don't know with whom it might be shared	It limits my choice of products	I may end up paying more when I buy a product	It negatively affects my trust in e-commerce	I cannot "opt-out"/ refuse	I don't have any concerns	Don't know
Average (EU28)	***21,734***	***33%***	***18%***	***36%***	***13%***	***28%***	***14%***	***16%***	***7%***	***19%***
EU Region										
EU15	11,832	34%	18%	36%	13%	29%	14%	17%	7%	18%
EU13	9,902	32%	17%	34%	15%	23%	13%	11%	10%	20%
Age										
16-34	8,196	29%	15%	32%	12%	31%	14%	17%	7%	20%
35-54	9,170	33%	19%	35%	14%	27%	14%	15%	8%	19%
55-64	2,992	**42%**	22%	43%	12%	25%	14%	15%	8%	15%
65+	1,376	39%	**25%**	**48%**	13%	24%	15%	18%	6%	15%
Gender										
Male	10,959	34%	19%	35%	14%	29%	15%	16%	8%	16%
Female	10,775	33%	17%	36%	12%	27%	13%	15%	7%	21%
Working status										
Employed	12,413	33%	18%	34%	13%	28%	14%	16%	8%	18%
Self-Employed	1,713	33%	21%	38%	**17%**	30%	15%	15%	7%	14%
Unemployed but looking for a job	1,416	33%	19%	36%	13%	20%	12%	13%	8%	25%
Unemployed & not looking for a job + other non-active*	3,961	36%	20%	39%	12%	25%	14%	15%	8%	19%
Pupil / Student / In education	2,231	32%	**14%**	34%	12%	**36%**	13%	**19%**	**5%**	20%

	Base (EU28)	My online data is collected/ a profile is made about me	Cookies are installed on my computer	My personal data could be used for other purposes and/or I don't know with whom it might be shared	It limits my choice of products	I may end up paying more when I buy a product	It negatively affects my trust in e-commerce	I cannot "opt-out"/refuse	I don't have any concerns	Don't know
Living area										
Large town or city	8,145	34%	19%	36%	14%	29%	14%	17%	8%	16%
Small or medium sized town	8,474	33%	18%	36%	13%	28%	14%	15%	7%	19%
Rural area or village	5,115	32%	17%	35%	12%	26%	14%	16%	7%	20%
Education										
Low	2,250	30%	17%	33%	11%	18%	**11%**	14%	11%	23%
Medium	9,506	33%	18%	35%	13%	26%	13%	15%	8%	20%
High	9,978	35%	18%	38%	14%	33%	16%	18%	6%	15%
Household financial situation										
Very easy	1,727	35%	16%	35%	13%	35%	**19%**	17%	7%	**13%**
Fairly easy	9,277	34%	18%	36%	14%	30%	15%	17%	8%	16%
Fairly difficult	7,953	32%	19%	35%	14%	26%	13%	15%	7%	20%
Very difficult	1,988	33%	19%	36%	10%	24%	13%	13%	8%	24%
Frequency of purchasing products online										
Once a week or more often	4,944	32%	20%	34%	15%	31%	14%	19%	7%	14%
Once a month or more often	8,500	35%	18%	37%	13%	30%	14%	16%	8%	17%
Once every three months or	4,943	34%	17%	37%	11%	26%	15%	14%	7%	21%
Once in the last 12 months or	2,317	32%	17%	38%	12%	21%	13%	12%	7%	25%
Never	1,030	**22%**	15%	**26%**	**10%**	**11%**	12%	**9%**	**11%**	**37%**

* Sick/disabled, housewife/homemaker, retired

Q19. What is your overall opinion about personalised pricing?

	Base (EU28)	I see primarily disadvantages	I see primarily benefits	I see both disadvantages and benefits	Don't know
Average (EU28)	***21,734***	***33%***	***8%***	***36%***	***24%***
EU Region					
EU15	11,832	37%	7%	33%	23%
EU13	9,902	**19%**	10%	**45%**	26%
Age					
16-34	8,196	32%	9%	35%	24%
35-54	9,170	33%	8%	35%	24%
55-64	2,992	36%	6%	37%	21%
65+	1,376	37%	4%	38%	21%
Gender					
Male	10,959	34%	9%	36%	21%
Female	10,775	33%	6%	35%	27%
Working status					
Employed	12,413	33%	8%	36%	23%
Self-Employed	1,713	40%	9%	32%	20%
Unemployed but looking for a job	1,416	27%	6%	37%	30%
Unemployed & not looking for a job + other non-active*	3,961	34%	6%	34%	26%
Pupil / Student / In education	2,231	35%	8%	36%	22%
Living area					
Large town or city	8,145	33%	9%	37%	21%
Small or medium sized town	8,474	32%	8%	35%	25%
Rural area or village	5,115	35%	6%	33%	26%
Education					
Low	2,250	24%	8%	38%	30%
Medium	9,506	32%	8%	35%	25%
High	9,978	39%	7%	35%	19%
Household financial situation					
Very easy	1,727	**42%**	9%	30%	19%
Fairly easy	9,277	36%	8%	36%	20%
Fairly difficult	7,953	30%	8%	37%	25%
Very difficult	1,988	30%	7%	35%	28%
Frequency of purchasing products online					
Once a week or more often	4,944	32%	**11%**	40%	**17%**
Once a month or more often	8,500	36%	7%	35%	21%
Once every three months or more often	4,943	33%	6%	33%	28%
Once in the last 12 months or more often	2,317	32%	5%	32%	32%
Never	1,030	25%	**3%**	**27%**	**45%**

* Sick/disabled, housewife/homemaker, retired

Q20a_1. Have you had any bad experiences related to…? - Targeted adverts

	Base (EU28)	Yes	No	Don't know
Average (EU28)	***21,734***	***18%***	***72%***	***10%***
EU Region				
EU15	11,832	17%	73%	9%
EU13	9,902	19%	67%	14%
Age				
16-34	8,196	20%	69%	11%
35-54	9,170	18%	72%	10%
55-64	2,992	14%	76%	10%
65+	1,376	**10%**	**82%**	8%
Gender				
Male	10,959	19%	72%	9%
Female	10,775	16%	72%	11%
Working status				
Employed	12,413	18%	72%	10%
Self-Employed	1,713	20%	72%	8%
Unemployed but looking for a job	1,416	18%	68%	14%
Unemployed & not looking for a job + other non-active*	3,961	15%	74%	11%
Pupil / Student / In education	2,231	18%	72%	10%
Living area				
Large town or city	8,145	19%	70%	10%
Small or medium sized town	8,474	17%	73%	10%
Rural area or village	5,115	16%	73%	11%
Education				
Low	2,250	13%	75%	12%
Medium	9,506	18%	72%	10%
High	9,978	20%	71%	9%
Household financial situation				
Very easy	1,727	19%	75%	**6%**
Fairly easy	9,277	17%	74%	9%
Fairly difficult	7,953	19%	71%	11%
Very difficult	1,988	17%	70%	13%
Frequency of purchasing products online				
Once a week or more often	4,944	**21%**	71%	8%
Once a month or more often	8,500	18%	73%	10%
Once every three months or more often	4,943	16%	73%	11%
Once in the last 12 months or more often	2,317	14%	73%	13%
Never	1,030	13%	**66%**	**20%**

* Sick/disabled, housewife/homemaker, retired

Q20a_2. Have you had any bad experiences related to...? - Personalised offers

	Base (EU28)	Yes	No	Don't know
Average (EU28)	***21,734***	***14%***	***72%***	***13%***
EU Region				
EU15	11,832	14%	73%	13%
EU13	9,902	15%	69%	16%
Age				
16-34	8,196	16%	70%	14%
35-54	9,170	15%	72%	13%
55-64	2,992	12%	76%	12%
65+	1,376	**8%**	**81%**	11%
Gender				
Male	10,959	17%	72%	12%
Female	10,775	12%	73%	15%
Working status				
Employed	12,413	16%	72%	13%
Self-Employed	1,713	15%	73%	12%
Unemployed but looking for a job	1,416	12%	71%	17%
Unemployed & not looking for a job + other non-active*	3,961	12%	74%	14%
Pupil / Student / In education	2,231	13%	72%	15%
Living area				
Large town or city	8,145	17%	71%	13%
Small or medium sized town	8,474	13%	73%	13%
Rural area or village	5,115	12%	73%	14%
Education				
Low	2,250	11%	73%	16%
Medium	9,506	14%	72%	13%
High	9,978	16%	72%	12%
Household financial situation				
Very easy	1,727	18%	72%	10%
Fairly easy	9,277	14%	74%	12%
Fairly difficult	7,953	14%	72%	14%
Very difficult	1,988	16%	69%	15%
Frequency of purchasing products online				
Once a week or more often	4,944	**19%**	72%	**10%**
Once a month or more often	8,500	14%	73%	13%
Once every three months or more often	4,943	11%	73%	15%
Once in the last 12 months or more often	2,317	11%	73%	16%
Never	1,030	10%	**65%**	**25%**

* Sick/disabled, housewife/homemaker, retired

Q20a_3. Have you had any bad experiences related to...? - Personalised pricing

	Base (EU28)	Yes	No	Don't know
Average (EU28)	***21,734***	***12%***	***66%***	***22%***
EU Region				
EU15	11,832	12%	65%	23%
EU13	9,902	12%	66%	22%
Age				
16-34	8,196	14%	**63%**	23%
35-54	9,170	13%	65%	22%
55-64	2,992	9%	69%	22%
65+	1,376	**6%**	**74%**	20%
Gender				
Male	10,959	14%	66%	20%
Female	10,775	10%	65%	25%
Working status				
Employed	12,413	13%	65%	22%
Self-Employed	1,713	14%	67%	19%
Unemployed but looking for a job	1,416	9%	64%	26%
Unemployed & not looking for a job + other non-active*	3,961	8%	68%	24%
Pupil / Student / In education	2,231	12%	63%	24%
Living area				
Large town or city	8,145	14%	65%	21%
Small or medium sized town	8,474	12%	66%	22%
Rural area or village	5,115	11%	65%	24%
Education				
Low	2,250	9%	69%	22%
Medium	9,506	12%	66%	23%
High	9,978	14%	64%	22%
Household financial situation				
Very easy	1,727	16%	66%	**18%**
Fairly easy	9,277	12%	66%	22%
Fairly difficult	7,953	12%	65%	23%
Very difficult	1,988	12%	65%	23%
Frequency of purchasing products online				
Once a week or more often	4,944	**17%**	65%	18%
Once a month or more often	8,500	12%	65%	23%
Once every three months or more often	4,943	9%	68%	24%
Once in the last 12 months or more often	2,317	8%	65%	27%
Never	1,030	8%	65%	**28%**

* Sick/disabled, housewife/homemaker, retired

Q20b. What kind of bad experience did you have?

	Base (EU28)	I could not obtain the product(s) I wanted	I ended up paying more for something I bought	I was offered products I was not (or no longer) interested in	I was shown embarrassing or inappropriate adverts	I had another bad experience, please specify	Don't know
Average (EU28)	***5,568***	***18%***	***27%***	***50%***	***24%***	***7%***	***6%***
EU Region							
EU15	3,205	17%	28%	49%	23%	7%	6%
EU13	2,363	21%	26%	53%	26%	6%	5%
Age							
16-34	2,513	18%	30%	46%	25%	6%	6%
35-54	2,224	18%	27%	51%	22%	9%	5%
55-64	619	15%	21%	57%	20%	8%	6%
65+	212	**25%**	21%	**58%**	27%	8%	5%
Gender							
Male	3,126	18%	29%	52%	23%	6%	6%
Female	2,442	17%	26%	47%	25%	9%	6%
Working status							
Employed	3,214	19%	27%	50%	21%	8%	6%
Self-Employed	508	**14%**	**32%**	53%	25%	7%	4%
Unemployed but looking for a job	346	21%	25%	53%	**29%**	5%	7%
Unemployed & not looking for a job + other non-active*	802	16%	23%	52%	26%	7%	7%
Pupil / Student / In education	698	17%	30%	**44%**	28%	6%	5%
Living area							
Large town or city	2,291	19%	28%	52%	23%	7%	5%
Small or medium sized town	2,085	17%	27%	49%	25%	6%	6%
Rural area or village	1,192	18%	26%	48%	22%	**9%**	7%

	Base (EU28)	I could not obtain the product(s) I wanted	I ended up paying more for something I bought	I was offered products I was not (or no longer) interested in	I was shown embarrassing or inappropriate adverts	I had another bad experience, please specify	Don't know
Education							
Low	495	18%	25%	44%	21%	5%	8%
Medium	2,366	18%	25%	50%	23%	7%	7%
High	2,707	17%	31%	51%	24%	8%	**4%**
Household financial situation							
Very easy	506	15%	30%	50%	**18%**	8%	5%
Fairly easy	2,329	17%	29%	50%	20%	6%	5%
Fairly difficult	2,023	18%	25%	51%	27%	8%	5%
Very difficult	516	22%	25%	49%	29%	4%	8%
Frequency of purchasing products online							
Once a week or more often	1,565	20%	30%	49%	22%	5%	5%
Once a month or more often	2,201	15%	30%	51%	24%	8%	6%
Once every three months or more often	1,132	20%	21%	50%	23%	9%	6%
Once in the last 12 months or more often	488	19%	21%	49%	26%	9%	7%
Never	182	20%	**17%**	44%	24%	**2%**	**12%**

* Sick/disabled, housewife/homemaker, retired

Q21. Have you complained and to whom about your bad experiences with targeted adverts or personalised offers and pricing? Select all that apply.

	Base (EU28)	Yes, to the website(s) involved	Yes, to a national consumer organisation	Yes, to the European Consumer Centre in your country	Yes, to an ombudsman	Yes, to a lawyer	Yes, to a data protection authority	Yes, to another public authority	Yes, to an out-of-court dispute resolution body	Yes, I went to court	Yes, to someone else	No, I did not complain
Average (EU28)	***5,568***	***10%***	***6%***	***3%***	***3%***	***2%***	***4%***	***3%***	***3%***	***3%***	***2%***	***73%***
EU Region												
EU15	3,205	9%	6%	3%	3%	2%	4%	3%	3%	3%	3%	73%
EU13	2,363	12%	5%	2%	4%	2%	4%	3%	3%	2%	2%	73%
Age												
16-34	2,513	11%	7%	4%	3%	3%	5%	4%	4%	5%	3%	69%
35-54	2,224	9%	4%	2%	3%	2%	3%	3%	2%	3%	2%	76%
55-64	619	10%	4%	**1%**	3%	1%	**2%**	**1%**	1%	**0%**	2%	**79%**
65+	212	**14%**	4%	3%	4%	2%	3%	**5%**	2%	1%	4%	71%
Gender												
Male	3,126	11%	6%	4%	4%	3%	4%	3%	3%	3%	3%	71%
Female	2,442	8%	5%	2%	2%	2%	4%	3%	2%	3%	2%	76%
Working status												
Employed	3,214	10%	6%	3%	3%	2%	5%	3%	3%	3%	2%	72%
Self-Employed	508	10%	7%	3%	4%	**5%**	4%	4%	**4%**	3%	**1%**	70%
Unemployed but looking for a job	346	11%	**3%**	**5%**	2%	2%	3%	3%	**1%**	5%	3%	76%
Unemployed & not looking for a job + other non-active*	802	10%	6%	2%	4%	2%	2%	3%	1%	1%	3%	73%
Pupil / Student / In education	698	8%	5%	2%	**2%**	3%	3%	2%	3%	3%	3%	76%
Living area												
Large town or city	2,291	11%	6%	3%	3%	2%	5%	4%	3%	4%	3%	70%
Small or medium sized town	2,085	9%	6%	3%	3%	3%	4%	3%	3%	3%	2%	73%
Rural area or village	1,192	9%	4%	2%	2%	2%	2%	2%	3%	2%	3%	78%

	Base (EU28)	Yes, to the website(s) involved	Yes, to a national consumer organisation	Yes, to the European Consumer Centre in your country	Yes, to an ombudsman	Yes, to a lawyer	Yes, to a data protection authority	Yes, to another public authority	Yes, to an out-of-court dispute resolution body	Yes, I went to court	Yes, to someone else	No, I did not complain
Education												
Low	495	9%	6%	3%	3%	4%	4%	4%	4%	3%	4%	68%
Medium	2,366	10%	5%	3%	4%	3%	4%	3%	3%	3%	3%	73%
High	2,707	11%	6%	3%	2%	2%	5%	3%	2%	3%	2%	74%
Household financial situation												
Very easy	506	12%	8%	5%	4%	5%	5%	5%	3%	**6%**	4%	69%
Fairly easy	2,329	10%	5%	3%	3%	2%	5%	3%	3%	3%	2%	72%
Fairly difficult	2,023	10%	5%	2%	2%	2%	3%	3%	3%	3%	3%	74%
Very difficult	516	**7%**	5%	3%	4%	5%	4%	3%	2%	3%	3%	74%
Frequency of purchasing products online												
Once a week or more often	1,565	13%	**9%**	5%	3%	3%	5%	4%	4%	4%	2%	**67%**
Once a month or more often	2,201	9%	3%	2%	2%	3%	4%	2%	2%	3%	3%	77%
Once every three months or more often	1,132	9%	6%	2%	3%	2%	3%	4%	4%	2%	2%	73%
Once in the last 12 months or more often	488	8%	3%	2%	**7%**	1%	**6%**	2%	3%	3%	**5%**	73%
Never	182	10%	7%	2%	2%	**1%**	5%	4%	1%	1%	4%	76%

* Sick/disabled, housewife/homemaker, retired

Q22_1. We present several statements about online "cookies". Please select whether each statement is true or false. - Cookies are small bits of code stored on your computer

	Base (EU28)	True	False	Don't know
Average (EU28)	***21,734***	***71%***	***9%***	***21%***
EU Region				
EU15	11,832	74%	8%	19%
EU13	9,902	58%	**12%**	30%
Age				
16-34	8,196	68%	11%	21%
35-54	9,170	72%	7%	20%
55-64	2,992	72%	**6%**	22%
65+	1,376	72%	6%	21%
Gender				
Male	10,959	75%	10%	**15%**
Female	10,775	66%	8%	26%
Working status				
Employed	12,413	72%	9%	19%
Self-Employed	1,713	74%	8%	19%
Unemployed but looking for a job	1,416	63%	11%	27%
Unemployed & not looking for a job + other non-active*	3,961	68%	7%	25%
Pupil / Student / In education	2,231	70%	11%	19%
Living area				
Large town or city	8,145	71%	10%	18%
Small or medium sized town	8,474	70%	8%	22%
Rural area or village	5,115	71%	7%	22%
Education				
Low	2,250	62%	9%	29%
Medium	9,506	69%	9%	23%
High	9,978	**76%**	8%	16%
Household financial situation				
Very easy	1,727	73%	11%	17%
Fairly easy	9,277	73%	8%	19%
Fairly difficult	7,953	70%	8%	22%
Very difficult	1,988	67%	10%	23%
Frequency of purchasing products online				
Once a week or more often	4,944	73%	10%	16%
Once a month or more often	8,500	74%	8%	18%
Once every three months or more often	4,943	68%	8%	23%
Once in the last 12 months or more often	2,317	62%	9%	29%
Never	1,030	**50%**	8%	**41%**

* Sick/disabled, housewife/homemaker, retired

Q22_2. We present several statements about online "cookies". Please select whether each statement is true or false. - Cookies can read data saved on your computer

	Base (EU28)	True	False	Don't know
Average (EU28)	***21,734***	***51%***	***23%***	***26%***
EU Region				
EU15	11,832	52%	23%	25%
EU13	9,902	44%	24%	32%
Age				
16-34	8,196	51%	24%	25%
35-54	9,170	52%	22%	26%
55-64	2,992	49%	24%	27%
65+	1,376	45%	23%	32%
Gender				
Male	10,959	51%	28%	**21%**
Female	10,775	51%	18%	31%
Working status				
Employed	12,413	51%	23%	25%
Self-Employed	1,713	48%	**29%**	23%
Unemployed but looking for a job	1,416	**53%**	20%	27%
Unemployed & not looking for a job + other non-active*	3,961	49%	20%	31%
Pupil / Student / In education	2,231	51%	25%	25%
Living area				
Large town or city	8,145	51%	24%	25%
Small or medium sized town	8,474	50%	23%	26%
Rural area or village	5,115	51%	21%	28%
Education				
Low	2,250	52%	16%	32%
Medium	9,506	51%	22%	27%
High	9,978	50%	27%	23%
Household financial situation				
Very easy	1,727	50%	28%	22%
Fairly easy	9,277	51%	25%	25%
Fairly difficult	7,953	51%	22%	27%
Very difficult	1,988	53%	19%	29%
Frequency of purchasing products online				
Once a week or more often	4,944	52%	26%	22%
Once a month or more often	8,500	51%	25%	24%
Once every three months or more often	4,943	51%	20%	29%
Once in the last 12 months or more often	2,317	49%	17%	34%
Never	1,030	**43%**	**14%**	**43%**

* Sick/disabled, housewife/homemaker, retired

Q22_3. We present several statements about online "cookies". Please select whether each statement is true or false. - Without cookies websites cannot know where I am located

	Base (EU28)	True	False	Don't know
Average (EU28)	***21,734***	***32%***	***36%***	***32%***
EU Region				
EU15	11,832	32%	37%	31%
EU13	9,902	31%	33%	36%
Age				
16-34	8,196	29%	39%	31%
35-54	9,170	32%	36%	32%
55-64	2,992	34%	33%	33%
65+	1,376	**36%**	**28%**	36%
Gender				
Male	10,959	33%	42%	26%
Female	10,775	30%	31%	39%
Working status				
Employed	12,413	32%	37%	31%
Self-Employed	1,713	33%	37%	30%
Unemployed but looking for a job	1,416	30%	34%	36%
Unemployed & not looking for a job + other non-active*	3,961	33%	31%	37%
Pupil / Student / In education	2,231	26%	**44%**	30%
Living area				
Large town or city	8,145	31%	38%	31%
Small or medium sized town	8,474	32%	35%	33%
Rural area or village	5,115	31%	36%	33%
Education				
Low	2,250	33%	29%	38%
Medium	9,506	32%	35%	34%
High	9,978	31%	41%	28%
Household financial situation				
Very easy	1,727	35%	40%	**25%**
Fairly easy	9,277	32%	38%	30%
Fairly difficult	7,953	31%	35%	34%
Very difficult	1,988	34%	32%	34%
Frequency of purchasing products online				
Once a week or more often	4,944	35%	39%	26%
Once a month or more often	8,500	32%	37%	30%
Once every three months or more often	4,943	29%	34%	36%
Once in the last 12 months or more often	2,317	29%	31%	40%
Never	1,030	**22%**	29%	**49%**

* Sick/disabled, housewife/homemaker, retired

Q22_4. We present several statements about online "cookies". Please select whether each statement is true or false. - Cookies can contain computer viruses

	Base (EU28)	True	False	Don't know
Average (EU28)	***21,734***	***42%***	***25%***	***33%***
EU Region				
EU15	11,832	43%	24%	33%
EU13	9,902	41%	27%	32%
Age				
16-34	8,196	40%	28%	32%
35-54	9,170	43%	24%	33%
55-64	2,992	45%	21%	33%
65+	1,376	44%	19%	37%
Gender				
Male	10,959	44%	29%	**27%**
Female	10,775	40%	21%	39%
Working status				
Employed	12,413	43%	25%	32%
Self-Employed	1,713	**36%**	30%	33%
Unemployed but looking for a job	1,416	42%	23%	35%
Unemployed & not looking for a job + other non-active*	3,961	45%	19%	36%
Pupil / Student / In education	2,231	38%	31%	31%
Living area				
Large town or city	8,145	42%	27%	31%
Small or medium sized town	8,474	42%	25%	33%
Rural area or village	5,115	43%	22%	35%
Education				
Low	2,250	44%	19%	37%
Medium	9,506	42%	24%	33%
High	9,978	41%	27%	31%
Household financial situation				
Very easy	1,727	38%	**32%**	30%
Fairly easy	9,277	41%	28%	32%
Fairly difficult	7,953	44%	21%	34%
Very difficult	1,988	**48%**	20%	32%
Frequency of purchasing products online				
Once a week or more often	4,944	43%	30%	27%
Once a month or more often	8,500	42%	26%	32%
Once every three months or more often	4,943	43%	20%	37%
Once in the last 12 months or more often	2,317	43%	19%	38%
Never	1,030	39%	**16%**	**45%**

* Sick/disabled, housewife/homemaker, retired

Q22_recode_1. We present several statements about online "cookies". Please select whether each statement is true or false. ANSWERED CORRECT/INCORRECT - Cookies are small bits of code stored on your computer

	Base (EU28)	CORRECT	INCORRECT
Average (EU28)	***21,734***	***71%***	***29%***
EU Region			
EU15	11,832	74%	26%
EU13	9,902	58%	42%
Age			
16-34	8,196	68%	32%
35-54	9,170	72%	28%
55-64	2,992	72%	28%
65+	1,376	72%	28%
Gender			
Male	10,959	75%	25%
Female	10,775	66%	34%
Working status			
Employed	12,413	72%	28%
Self-Employed	1,713	74%	26%
Unemployed but looking for a job	1,416	63%	37%
Unemployed & not looking for a job + other non-active*	3,961	68%	32%
Pupil / Student / In education	2,231	70%	30%
Living area			
Large town or city	8,145	71%	29%
Small or medium sized town	8,474	70%	30%
Rural area or village	5,115	71%	29%
Education			
Low	2,250	62%	38%
Medium	9,506	69%	31%
High	9,978	**76%**	**24%**
Household financial situation			
Very easy	1,727	73%	27%
Fairly easy	9,277	73%	27%
Fairly difficult	7,953	70%	30%
Very difficult	1,988	67%	33%
Frequency of purchasing products online			
Once a week or more often	4,944	73%	27%
Once a month or more often	8,500	74%	26%
Once every three months or more often	4,943	68%	32%
Once in the last 12 months or more often	2,317	62%	38%
Never	1,030	**50%**	**50%**

* Sick/disabled, housewife/homemaker, retired

Q22_recode_2. We present several statements about online "cookies". Please select whether each statement is true or false. ANSWERED CORRECT/INCORRECT - Cookies can read data saved on your computer

	Base (EU28)	CORRECT	INCORRECT
Average (EU28)	***21,734***	***23%***	***77%***
EU Region			
EU15	11,832	23%	77%
EU13	9,902	24%	76%
Age			
16-34	8,196	24%	76%
35-54	9,170	22%	78%
55-64	2,992	24%	76%
65+	1,376	23%	77%
Gender			
Male	10,959	28%	72%
Female	10,775	18%	82%
Working status			
Employed	12,413	23%	77%
Self-Employed	1,713	**29%**	**71%**
Unemployed but looking for a job	1,416	20%	80%
Unemployed & not looking for a job + other non-active*	3,961	20%	81%
Pupil / Student / In education	2,231	25%	75%
Living area			
Large town or city	8,145	24%	76%
Small or medium sized town	8,474	23%	77%
Rural area or village	5,115	21%	79%
Education			
Low	2,250	16%	84%
Medium	9,506	22%	78%
High	9,978	27%	73%
Household financial situation			
Very easy	1,727	28%	72%
Fairly easy	9,277	25%	75%
Fairly difficult	7,953	22%	78%
Very difficult	1,988	19%	81%
Frequency of purchasing products online			
Once a week or more often	4,944	26%	74%
Once a month or more often	8,500	25%	75%
Once every three months or more often	4,943	20%	80%
Once in the last 12 months or more often	2,317	17%	83%
Never	1,030	**14%**	**86%**

* Sick/disabled, housewife/homemaker, retired

Q22_recode_3. We present several statements about online "cookies". Please select whether each statement is true or false. ANSWERED CORRECT/INCORRECT - Without cookies websites cannot know where I am located

	Base (EU28)	CORRECT	INCORRECT
Average (EU28)	***21,734***	***36%***	***64%***
EU Region			
EU15	11,832	37%	63%
EU13	9,902	33%	67%
Age			
16-34	8,196	39%	61%
35-54	9,170	36%	64%
55-64	2,992	33%	67%
65+	1,376	**28%**	**72%**
Gender			
Male	10,959	42%	58%
Female	10,775	31%	69%
Working status			
Employed	12,413	37%	63%
Self-Employed	1,713	37%	63%
Unemployed but looking for a job	1,416	34%	66%
Unemployed & not looking for a job + other non-active*	3,961	31%	69%
Pupil / Student / In education	2,231	**44%**	**56%**
Living area			
Large town or city	8,145	38%	62%
Small or medium sized town	8,474	35%	65%
Rural area or village	5,115	36%	64%
Education			
Low	2,250	29%	71%
Medium	9,506	35%	65%
High	9,978	41%	59%
Household financial situation			
Very easy	1,727	40%	60%
Fairly easy	9,277	38%	62%
Fairly difficult	7,953	35%	65%
Very difficult	1,988	32%	68%
Frequency of purchasing products online			
Once a week or more often	4,944	39%	61%
Once a month or more often	8,500	37%	63%
Once every three months or more often	4,943	34%	66%
Once in the last 12 months or more often	2,317	31%	69%
Never	1,030	29%	71%

* Sick/disabled, housewife/homemaker, retired

Q22_recode_4. We present several statements about online “cookies”. Please select whether each statement is true or false. ANSWERED CORRECT/INCORRECT - Cookies can contain computer viruses

	Base (EU28)	CORRECT	INCORRECT
Average (EU28)	***21,734***	***25%***	***75%***
EU Region			
EU15	11,832	24%	76%
EU13	9,902	27%	73%
Age			
16-34	8,196	28%	72%
35-54	9,170	24%	76%
55-64	2,992	21%	79%
65+	1,376	19%	81%
Gender			
Male	10,959	29%	71%
Female	10,775	21%	79%
Working status			
Employed	12,413	25%	75%
Self-Employed	1,713	30%	70%
Unemployed but looking for a job	1,416	23%	77%
Unemployed & not looking for a job + other non-active*	3,961	19%	81%
Pupil / Student / In education	2,231	31%	69%
Living area			
Large town or city	8,145	27%	73%
Small or medium sized town	8,474	25%	75%
Rural area or village	5,115	22%	78%
Education			
Low	2,250	19%	81%
Medium	9,506	24%	76%
High	9,978	27%	73%
Household financial situation			
Very easy	1,727	**32%**	**68%**
Fairly easy	9,277	28%	72%
Fairly difficult	7,953	21%	79%
Very difficult	1,988	20%	80%
Frequency of purchasing products online			
Once a week or more often	4,944	30%	70%
Once a month or more often	8,500	26%	74%
Once every three months or more often	4,943	20%	80%
Once in the last 12 months or more often	2,317	19%	81%
Never	1,030	**16%**	**84%**

* Sick/disabled, housewife/homemaker, retired

Q22_recode. Response to cookie questions CORRECT/INCORRECT

	Base (EU28)	0 items correct	1 items correct	2 items correct	3 items correct	4 items correct
Average (EU28)	***21,734***	***17%***	***35%***	***29%***	***15%***	***4%***
EU Region						
EU15	11,832	15%	35%	29%	15%	4%
EU13	9,902	23%	33%	25%	15%	4%
Age						
16-34	8,196	17%	33%	30%	17%	4%
35-54	9,170	17%	35%	28%	15%	4%
55-64	2,992	17%	38%	27%	15%	3%
65+	1,376	18%	40%	27%	12%	3%
Gender						
Male	10,959	**12%**	32%	31%	19%	6%
Female	10,775	22%	38%	27%	12%	3%
Working status						
Employed	12,413	16%	35%	29%	16%	4%
Self-Employed	1,713	14%	33%	29%	17%	**7%**
Unemployed but looking for a job	1,416	21%	37%	26%	13%	3%
Unemployed & not looking for a job + other non-active*	3,961	20%	38%	27%	12%	3%
Pupil / Student / In education	2,231	15%	**29%**	**32%**	**19%**	5%
Living area						
Large town or city	8,145	15%	34%	30%	16%	5%
Small or medium sized town	8,474	17%	35%	28%	15%	4%
Rural area or village	5,115	18%	35%	28%	16%	3%
Education						
Low	2,250	23%	41%	24%	10%	2%
Medium	9,506	19%	35%	28%	14%	4%
High	9,978	13%	33%	31%	18%	5%
Household financial situation						
Very easy	1,727	14%	31%	31%	19%	6%
Fairly easy	9,277	15%	33%	30%	17%	5%
Fairly difficult	7,953	18%	37%	28%	14%	3%
Very difficult	1,988	20%	**41%**	25%	11%	4%
Frequency of purchasing products online						
Once a week or more often	4,944	14%	33%	30%	19%	5%
Once a month or more often	8,500	15%	35%	30%	16%	5%
Once every three months or more often	4,943	19%	37%	28%	12%	3%
Once in the last 12 months or more often	2,317	25%	37%	24%	13%	2%
Never	1,030	**36%**	31%	**22%**	**10%**	**1%**

* Sick/disabled, housewife/homemaker, retired

Q23. Approximately how many websites that you visit allow to "opt-out of"/refuse cookies?

	Base (EU28)	All websites	Most websites	Some websites	Only few websites	None of the websites	Don't know
Average (EU28)	***21,734***	***9%***	***33%***	***21%***	***14%***	***9%***	***15%***
EU Region							
EU15	11,832	8%	32%	21%	14%	9%	15%
EU13	9,902	10%	34%	22%	13%	8%	13%
Age							
16-34	8,196	10%	31%	21%	16%	10%	12%
35-54	9,170	9%	34%	21%	13%	8%	16%
55-64	2,992	7%	34%	21%	12%	9%	17%
65+	1,376	**4%**	32%	23%	11%	8%	22%
Gender							
Male	10,959	10%	34%	21%	14%	8%	13%
Female	10,775	8%	31%	21%	14%	9%	17%
Working status							
Employed	12,413	9%	33%	22%	13%	8%	14%
Self-Employed	1,713	**11%**	33%	22%	14%	10%	**10%**
Unemployed but looking for a job	1,416	9%	31%	20%	12%	**12%**	16%
Unemployed & not looking for a job + other non-active*	3,961	6%	33%	19%	12%	9%	20%
Pupil / Student / In education	2,231	9%	28%	22%	**19%**	10%	11%
Living area							
Large town or city	8,145	10%	34%	20%	14%	9%	13%
Small or medium sized town	8,474	9%	32%	22%	13%	8%	16%
Rural area or village	5,115	7%	32%	21%	14%	9%	17%
Education							
Low	2,250	8%	30%	22%	**9%**	8%	22%
Medium	9,506	8%	32%	20%	15%	9%	16%
High	9,978	9%	35%	22%	14%	9%	11%
Household financial situation							
Very easy	1,727	9%	32%	20%	16%	10%	13%
Fairly easy	9,277	9%	34%	21%	14%	9%	14%
Fairly difficult	7,953	8%	32%	**23%**	13%	9%	15%
Very difficult	1,988	9%	34%	20%	13%	8%	16%
Frequency of purchasing products online							
Once a week or more often	4,944	11%	**36%**	21%	13%	9%	10%
Once a month or more often	8,500	9%	33%	21%	15%	9%	13%
Once every three months or more often	4,943	6%	30%	22%	14%	8%	19%
Once in the last 12 months or more often	2,317	7%	30%	23%	12%	9%	20%
Never	1,030	8%	**22%**	**16%**	12%	**8%**	**35%**

* Sick/disabled, housewife/homemaker, retired

Q24. How often do you make use of the option to "opt-out of"/refuse cookies?

	Base (EU28)	Always	Very Often	Sometimes	Rarely	Never	Don't know
Average (EU28)	***17,276***	***8%***	***22%***	***32%***	***23%***	***12%***	***3%***
EU Region							
EU15	9,147	8%	21%	32%	23%	12%	3%
EU13	8,129	10%	23%	33%	21%	11%	3%
Age							
16-34	6,709	8%	21%	31%	24%	13%	3%
35-54	7,314	9%	22%	33%	22%	11%	3%
55-64	2,285	8%	23%	33%	22%	11%	2%
65+	968	7%	22%	**36%**	23%	**9%**	3%
Gender							
Male	8,932	8%	21%	32%	24%	12%	2%
Female	8,344	9%	22%	32%	22%	11%	3%
Working status							
Employed	10,058	8%	22%	34%	22%	11%	3%
Self-Employed	1,435	11%	21%	30%	23%	14%	**1%**
Unemployed but looking for a job	1,096	9%	20%	30%	25%	11%	5%
Unemployed & not looking for a job + other non-active*	2,863	8%	22%	31%	24%	11%	3%
Pupil / Student / In education	1,824	7%	22%	29%	**25%**	13%	3%
Living area							
Large town or city	6,582	9%	22%	32%	22%	12%	2%
Small or medium sized town	6,746	9%	21%	33%	23%	11%	3%
Rural area or village	3,948	**7%**	22%	32%	23%	12%	3%
Education							
Low	1,612	7%	21%	32%	22%	13%	5%
Medium	7,433	9%	22%	34%	21%	11%	3%
High	8,231	8%	22%	31%	25%	12%	2%
Household financial situation							
Very easy	1,360	12%	**18%**	29%	23%	**16%**	2%
Fairly easy	7,502	7%	20%	34%	23%	13%	2%
Fairly difficult	6,368	8%	23%	33%	23%	10%	3%
Very difficult	1,523	11%	**26%**	26%	22%	11%	4%
Frequency of purchasing products online							
Once a week or more often	4,164	8%	22%	33%	23%	12%	2%
Once a month or more often	6,931	7%	21%	33%	24%	13%	3%
Once every three months or more often	3,857	9%	22%	32%	23%	11%	3%
Once in the last 12 months or more often	1,675	12%	22%	32%	18%	11%	5%
Never	649	**15%**	24%	**26%**	**18%**	9%	**9%**

* Sick/disabled, housewife/homemaker, retired

Q25_1. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If I was informed when targeted adverts or personalised pricing/offers are shown to me

	Base (EU28)	I would be more positive	It would make no difference for me	I would be more negative	Don't know
Average (EU28)	***21,734***	***47%***	***33%***	***8%***	***12%***
EU Region					
EU15	11,832	46%	34%	8%	12%
EU13	9,902	**51%**	29%	7%	13%
Age					
16-34	8,196	47%	32%	8%	13%
35-54	9,170	47%	34%	7%	12%
55-64	2,992	48%	33%	8%	11%
65+	1,376	43%	35%	**11%**	11%
Gender					
Male	10,959	46%	34%	9%	11%
Female	10,775	48%	32%	7%	14%
Working status					
Employed	12,413	47%	33%	8%	12%
Self-Employed	1,713	50%	34%	8%	9%
Unemployed but looking for a job	1,416	44%	34%	**6%**	17%
Unemployed & not looking for a job + other non-active*	3,961	45%	32%	9%	14%
Pupil / Student / In education	2,231	50%	32%	6%	12%
Living area					
Large town or city	8,145	49%	32%	8%	11%
Small or medium sized town	8,474	46%	34%	8%	12%
Rural area or village	5,115	44%	34%	8%	14%
Education					
Low	2,250	37%	35%	9%	19%
Medium	9,506	46%	33%	8%	13%
High	9,978	51%	33%	7%	9%
Household financial situation					
Very easy	1,727	43%	**39%**	8%	9%
Fairly easy	9,277	47%	35%	8%	10%
Fairly difficult	7,953	48%	31%	8%	14%
Very difficult	1,988	45%	29%	9%	17%
Frequency of purchasing products online					
Once a week or more often	4,944	50%	34%	7%	**9%**
Once a month or more often	8,500	50%	33%	7%	10%
Once every three months or more often	4,943	42%	34%	10%	14%
Once in the last 12 months or more often	2,317	42%	32%	8%	18%
Never	1,030	**29%**	**27%**	10%	**35%**

* Sick/disabled, housewife/homemaker, retired

Q25_2. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/pricing)? - If I was informed why a particular advert or a particular search result/price was shown to me

	Base (EU28)	I would be more positive	It would make no difference for me	I would be more negative	Don't know
Average (EU28)	***21,734***	***47%***	***34%***	***8%***	***12%***
EU Region					
EU15	11,832	45%	35%	8%	12%
EU13	9,902	**52%**	29%	7%	12%
Age					
16-34	8,196	46%	33%	8%	13%
35-54	9,170	47%	35%	7%	12%
55-64	2,992	48%	33%	8%	11%
65+	1,376	46%	33%	**10%**	11%
Gender					
Male	10,959	46%	35%	9%	10%
Female	10,775	48%	32%	**6%**	14%
Working status					
Employed	12,413	46%	35%	7%	11%
Self-Employed	1,713	51%	33%	7%	8%
Unemployed but looking for a job	1,416	46%	32%	7%	15%
Unemployed & not looking for a job + other non-active*	3,961	45%	33%	9%	13%
Pupil / Student / In education	2,231	48%	31%	7%	14%
Living area					
Large town or city	8,145	48%	34%	8%	10%
Small or medium sized town	8,474	46%	34%	7%	13%
Rural area or village	5,115	45%	34%	8%	14%
Education					
Low	2,250	41%	33%	10%	17%
Medium	9,506	45%	34%	8%	13%
High	9,978	50%	34%	7%	10%
Household financial situation					
Very easy	1,727	44%	**39%**	8%	9%
Fairly easy	9,277	48%	35%	7%	10%
Fairly difficult	7,953	47%	33%	7%	13%
Very difficult	1,988	43%	32%	8%	17%
Frequency of purchasing products online					
Once a week or more often	4,944	50%	34%	7%	**8%**
Once a month or more often	8,500	49%	34%	7%	10%
Once every three months or more often	4,943	41%	34%	10%	15%
Once in the last 12 months or more often	2,317	43%	32%	7%	17%
Never	1,030	**31%**	**27%**	8%	**33%**

* Sick/disabled, housewife/homemaker, retired

Q25_3. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If I was able to see/change my personal data used for such practices

	Base (EU28)	I would be more positive	It would make no difference for me	I would be more negative	Don't know
Average (EU28)	***21,734***	***55%***	***25%***	***8%***	***12%***
EU Region					
EU15	11,832	54%	26%	8%	11%
EU13	9,902	56%	22%	8%	13%
Age					
16-34	8,196	56%	24%	8%	12%
35-54	9,170	54%	27%	7%	12%
55-64	2,992	54%	24%	10%	12%
65+	1,376	54%	22%	**12%**	12%
Gender					
Male	10,959	54%	27%	9%	10%
Female	10,775	56%	23%	8%	13%
Working status					
Employed	12,413	54%	27%	8%	11%
Self-Employed	1,713	54%	28%	8%	10%
Unemployed but looking for a job	1,416	57%	23%	7%	14%
Unemployed & not looking for a job + other non-active*	3,961	53%	23%	10%	14%
Pupil / Student / In education	2,231	**60%**	22%	**7%**	11%
Living area					
Large town or city	8,145	55%	26%	8%	11%
Small or medium sized town	8,474	54%	26%	8%	12%
Rural area or village	5,115	55%	24%	8%	13%
Education					
Low	2,250	47%	25%	10%	18%
Medium	9,506	54%	25%	9%	13%
High	9,978	59%	26%	7%	9%
Household financial situation					
Very easy	1,727	55%	**29%**	7%	10%
Fairly easy	9,277	55%	26%	8%	10%
Fairly difficult	7,953	56%	24%	8%	12%
Very difficult	1,988	52%	25%	9%	15%
Frequency of purchasing products online					
Once a week or more often	4,944	56%	28%	7%	**8%**
Once a month or more often	8,500	58%	24%	8%	10%
Once every three months or more often	4,943	53%	25%	9%	13%
Once in the last 12 months or more often	2,317	51%	24%	9%	17%
Never	1,030	**36%**	**21%**	10%	**33%**

* Sick/disabled, housewife/homemaker, retired

Q25_4. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If it was explained what personal data is collected on me

	Base (EU28)	I would be more positive	It would make no difference for me	I would be more negative	Don't know
Average (EU28)	***21,734***	***55%***	***25%***	***10%***	***10%***
EU Region					
EU15	11,832	54%	26%	10%	10%
EU13	9,902	**61%**	**19%**	9%	11%
Age					
16-34	8,196	55%	25%	9%	11%
35-54	9,170	55%	26%	9%	10%
55-64	2,992	56%	24%	11%	9%
65+	1,376	54%	22%	15%	10%
Gender					
Male	10,959	54%	27%	10%	9%
Female	10,775	56%	23%	9%	11%
Working status					
Employed	12,413	55%	26%	10%	10%
Self-Employed	1,713	57%	28%	8%	**7%**
Unemployed but looking for a job	1,416	57%	21%	9%	12%
Unemployed & not looking for a job + other non-active*	3,961	54%	23%	11%	12%
Pupil / Student / In education	2,231	57%	25%	**7%**	10%
Living area					
Large town or city	8,145	56%	26%	9%	9%
Small or medium sized town	8,474	55%	25%	10%	10%
Rural area or village	5,115	54%	24%	10%	11%
Education					
Low	2,250	48%	25%	12%	15%
Medium	9,506	54%	26%	10%	11%
High	9,978	60%	25%	8%	8%
Household financial situation					
Very easy	1,727	54%	**30%**	8%	8%
Fairly easy	9,277	56%	26%	9%	8%
Fairly difficult	7,953	55%	24%	10%	11%
Very difficult	1,988	53%	23%	11%	14%
Frequency of purchasing products online					
Once a week or more often	4,944	57%	27%	9%	7%
Once a month or more often	8,500	58%	25%	9%	8%
Once every three months or more often	4,943	52%	25%	11%	12%
Once in the last 12 months or more often	2,317	51%	24%	11%	14%
Never	1,030	**36%**	19%	**15%**	**30%**

* Sick/disabled, housewife/homemaker, retired

Q25_5. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If it was explained for what purpose my personal data is collected

	Base (EU28)	I would be more positive	It would make no difference for me	I would be more negative	Don't know
Average (EU28)	***21,734***	***53%***	***28%***	***8%***	***10%***
EU Region					
EU15	11,832	52%	30%	8%	10%
EU13	9,902	**58%**	**22%**	8%	11%
Age					
16-34	8,196	53%	28%	8%	11%
35-54	9,170	53%	30%	7%	10%
55-64	2,992	55%	28%	9%	9%
65+	1,376	53%	24%	**13%**	9%
Gender					
Male	10,959	52%	30%	9%	9%
Female	10,775	55%	26%	7%	12%
Working status					
Employed	12,413	53%	30%	8%	10%
Self-Employed	1,713	55%	29%	8%	8%
Unemployed but looking for a job	1,416	54%	25%	8%	13%
Unemployed & not looking for a job + other non-active*	3,961	53%	26%	10%	11%
Pupil / Student / In education	2,231	55%	26%	**7%**	11%
Living area					
Large town or city	8,145	52%	30%	9%	10%
Small or medium sized town	8,474	54%	28%	8%	10%
Rural area or village	5,115	54%	27%	8%	11%
Education					
Low	2,250	47%	27%	9%	17%
Medium	9,506	53%	28%	9%	10%
High	9,978	56%	29%	7%	8%
Household financial situation					
Very easy	1,727	50%	**34%**	8%	8%
Fairly easy	9,277	54%	30%	8%	8%
Fairly difficult	7,953	54%	27%	8%	11%
Very difficult	1,988	53%	24%	10%	13%
Frequency of purchasing products online					
Once a week or more often	4,944	56%	29%	8%	**8%**
Once a month or more often	8,500	56%	28%	7%	9%
Once every three months or more often	4,943	50%	29%	10%	11%
Once in the last 12 months or more often	2,317	50%	27%	9%	13%
Never	1,030	**35%**	23%	11%	**31%**

* Sick/disabled, housewife/homemaker, retired

Q25_6. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If it was explained which 3rd parties access my personal data

	Base (EU28)	I would be more positive	It would make no difference for me	I would be more negative	Don’t know
Average (EU28)	***21,734***	***52%***	***24%***	***14%***	***10%***
EU Region					
EU15	11,832	51%	25%	14%	10%
EU13	9,902	**59%**	**18%**	12%	10%
Age					
16-34	8,196	52%	24%	13%	11%
35-54	9,170	53%	25%	12%	10%
55-64	2,992	52%	23%	16%	8%
65+	1,376	50%	18%	**23%**	10%
Gender					
Male	10,959	51%	26%	14%	9%
Female	10,775	53%	22%	13%	12%
Working status					
Employed	12,413	52%	25%	13%	9%
Self-Employed	1,713	56%	25%	**11%**	**8%**
Unemployed but looking for a job	1,416	51%	22%	13%	13%
Unemployed & not looking for a job + other non-active*	3,961	50%	21%	17%	12%
Pupil / Student / In education	2,231	55%	21%	12%	13%
Living area					
Large town or city	8,145	53%	24%	13%	9%
Small or medium sized town	8,474	51%	24%	14%	11%
Rural area or village	5,115	52%	23%	13%	11%
Education					
Low	2,250	44%	22%	17%	17%
Medium	9,506	52%	25%	13%	11%
High	9,978	56%	23%	13%	8%
Household financial situation					
Very easy	1,727	50%	**28%**	14%	8%
Fairly easy	9,277	53%	25%	13%	9%
Fairly difficult	7,953	52%	23%	14%	11%
Very difficult	1,988	50%	22%	14%	14%
Frequency of purchasing products online					
Once a week or more often	4,944	55%	25%	13%	8%
Once a month or more often	8,500	55%	24%	13%	9%
Once every three months or more often	4,943	50%	23%	15%	12%
Once in the last 12 months or more often	2,317	48%	23%	15%	15%
Never	1,030	**31%**	22%	14%	**33%**

* Sick/disabled, housewife/homemaker, retired

Q25_7. What difference, if any, would the options below make to your overall opinion of online personalisation (targeted advertising and personalised offers/ pricing)? - If I would have an easy option to "opt-out" of personalised practices

	Base (EU28)	I would be more positive	It would make no difference for me	I would be more negative	Don't know
Average (EU28)	***21,734***	***62%***	***21%***	***5%***	***11%***
EU Region					
EU15	11,832	63%	21%	5%	11%
EU13	9,902	61%	21%	6%	13%
Age					
16-34	8,196	60%	22%	6%	12%
35-54	9,170	62%	22%	5%	11%
55-64	2,992	67%	21%	**3%**	9%
65+	1,376	65%	**17%**	6%	11%
Gender					
Male	10,959	60%	25%	6%	10%
Female	10,775	65%	18%	5%	13%
Working status					
Employed	12,413	61%	23%	6%	10%
Self-Employed	1,713	66%	21%	4%	9%
Unemployed but looking for a job	1,416	64%	19%	4%	13%
Unemployed & not looking for a job + other non-active*	3,961	62%	20%	5%	12%
Pupil / Student / In education	2,231	63%	20%	5%	12%
Living area					
Large town or city	8,145	62%	23%	5%	10%
Small or medium sized town	8,474	63%	21%	6%	11%
Rural area or village	5,115	62%	20%	5%	12%
Education					
Low	2,250	55%	22%	**7%**	17%
Medium	9,506	60%	22%	6%	12%
High	9,978	**67%**	20%	4%	8%
Household financial situation					
Very easy	1,727	61%	25%	6%	**8%**
Fairly easy	9,277	63%	23%	5%	9%
Fairly difficult	7,953	63%	20%	5%	12%
Very difficult	1,988	60%	19%	5%	15%
Frequency of purchasing products online					
Once a week or more often	4,944	60%	**25%**	7%	8%
Once a month or more often	8,500	66%	21%	5%	9%
Once every three months or more often	4,943	62%	21%	5%	13%
Once in the last 12 months or more often	2,317	61%	18%	4%	16%
Never	1,030	**43%**	18%	7%	**33%**

* Sick/disabled, housewife/homemaker, retired

Q26. Which browser(s) do you regularly use when browsing or shopping online? Select all that apply.

	Base**	Chrome	Firefox	Internet Explorer	Safari	Opera	Other
Average	***6,580***	***59%***	***37%***	***22%***	***10%***	***5%***	***4%***
Age							
16-34	2,335	67%	35%	16%	13%	5%	**3%**
35-54	2,803	58%	38%	25%	9%	5%	5%
55-64	987	52%	42%	26%	7%	5%	5%
65+	455	**46%**	40%	**30%**	10%	3%	5%
Gender							
Male	3,460	60%	41%	21%	9%	6%	4%
Female	3,120	59%	34%	23%	12%	3%	4%
Working status							
Employed	3,741	60%	39%	22%	11%	4%	4%
Self-Employed	446	52%	**47%**	16%	12%	4%	6%
Unemployed but looking for a job	369	63%	32%	20%	5%	5%	3%
Unemployed & not looking for a job + other non-active*	1,454	54%	34%	27%	9%	5%	5%
Pupil / Student / In education	570	**70%**	33%	**14%**	14%	4%	3%
Living area							
Large town or city	2,170	64%	36%	22%	13%	4%	3%
Small or medium sized town	2,835	59%	38%	22%	10%	5%	4%
Rural area or village	1,575	55%	39%	22%	8%	5%	5%
Education							
Low	985	58%	33%	22%	6%	4%	6%
Medium	3,096	58%	38%	21%	9%	5%	4%
High	2,499	61%	39%	23%	13%	4%	3%
Household financial situation							
Very easy	571	52%	37%	26%	14%	3%	4%
Fairly easy	3,050	59%	39%	22%	11%	5%	4%
Fairly difficult	2,229	61%	36%	22%	9%	4%	4%
Very difficult	536	63%	36%	20%	7%	4%	3%
Frequency of purchasing products online							
Once a week or more often	1,676	63%	37%	24%	**16%**	5%	3%
Once a month or more often	2,754	60%	39%	22%	10%	5%	3%
Once every three months or more often	1,374	57%	36%	21%	6%	3%	6%
Once in the last 12 months or more often	591	53%	36%	23%	6%	5%	6%
Never	185	50%	**31%**	17%	5%	**3%**	**9%**

* Sick/disabled, housewife/homemaker, retired
** Question asked only in experiment countries: CZ, DE, ES, FR, PL, RO, SE and UK

Q27. What kind of device(s) do you use to access the internet? Please include all devices you used over the past year. Select all that apply.

	Base **	Windows desktop/ laptop	Apple desktop/ laptop	iPhone (Apple)	Android smartphone (e.g. Samsung)	Ipad (Apple)	Android tablet (e.g. Samsung)	All other devices (e.g. Windows smartphone, TV set, etc.)
Average	***6,580***	***85%***	***11%***	***15%***	***45%***	***11%***	***21%***	***6%***
Age								
16-34	2,335	82%	14%	21%	51%	12%	20%	5%
35-54	2,803	86%	10%	13%	46%	11%	22%	7%
55-64	987	89%	10%	9%	37%	10%	21%	7%
65+	455	91%	10%	9%	27%	14%	19%	**3%**
Gender								
Male	3,460	87%	11%	14%	46%	11%	21%	7%
Female	3,120	84%	11%	16%	45%	12%	21%	5%
Working status								
Employed	3,741	85%	11%	17%	46%	12%	22%	6%
Self-Employed	446	**80%**	**17%**	17%	40%	17%	18%	**9%**
Unemployed but looking for a job	369	87%	**6%**	7%	56%	8%	21%	3%
Unemployed & not looking for a job + other non-active*	1,454	88%	10%	10%	39%	10%	22%	7%
Pupil / Student / In education	570	82%	15%	21%	55%	11%	16%	5%
Living area								
Large town or city	2,170	82%	13%	18%	46%	13%	21%	6%
Small or medium sized town	2,835	86%	11%	14%	46%	12%	22%	7%
Rural area or village	1,575	87%	9%	12%	43%	9%	20%	4%

	Base **	Windows desktop/ laptop	Apple desktop/ laptop	iPhone (Apple)	Android smartphone (e.g. Samsung)	Ipad (Apple)	Android tablet (e.g. Samsung)	All other devices (e.g. Windows smartphone, TV set, etc.)
Education								
Low	985	85%	8%	8%	42%	8%	20%	6%
Medium	3,096	87%	10%	14%	46%	10%	21%	6%
High	2,499	84%	15%	19%	46%	14%	21%	6%
Household financial situation								
Very easy	571	84%	14%	22%	42%	**17%**	21%	6%
Fairly easy	3,050	86%	12%	16%	46%	13%	21%	5%
Fairly difficult	2,229	85%	11%	14%	45%	9%	22%	6%
Very difficult	536	86%	10%	12%	45%	8%	18%	5%
Frequency of purchasing products online								
Once a week or more often	1,676	82%	15%	**23%**	46%	16%	**24%**	6%
Once a month or more often	2,754	87%	10%	14%	49%	11%	21%	7%
Once every three months or more often	1,374	85%	10%	10%	44%	8%	20%	5%
Once in the last 12 months or more often	591	86%	9%	8%	35%	6%	15%	4%
Never	185	82%	7%	**6%**	**23%**	5%	**13%**	6%

* Sick/disabled, housewife/homemaker, retired
** Question asked only in experiment countries: CZ, DE, ES, FR, PL, RO, SE and UK

Annex 5 Behavioural experiment (additional results by country and socio-demographic characteristics)

A5.1.1 Self-reported awareness of personalisation, by country and socio-demographic group

Table 32 : Did participants think they had experienced personalisation in the experiment, by country and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
CZ	36	42	53	52	48
FR	47	30	45	42	40
DE	33	26	45	46	39
PL	51	53	61	55	56
RO	43	54	62	61	58
ES	39	42	49	46	45
SE	61	36	58	52	50
UK	41	36	53	57	48
Total	42	36	50	50	45
N	346	2,086	2,070	2,078	6,580

Note: Question PP9. "For some participants, the [product] that they were shown had been personalised based on their [personalisation node]. Were you one of these participants?"
Source: London Economics analysis of online experiment data

Table 33 : Did participants think they had experienced personalisation in the experiment, by socio-demographic group, region and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
Country group					
EU15	42	35	50	50	45
EU13	39	42	49	47	46
Age					
16-34	49	40	56	53	49
35-54	34	36	50	49	45
55-64	51	28	42	46	39

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
65+	24	28	35	44	36
Gender					
Male	42	34	48	46	43
Female	41	38	52	53	48
Working status					
Employed	43	35	50	52	45
Pupil / Student / In education	63	45	56	51	51
Self-Employed	49	39	58	46	48
Unemployed & not looking for a job + other non-active	28	35	44	45	41
Unemployed but looking for a job	32	27	60	46	43
Living area					
Large town or city	47	37	54	51	47
Small or medium sized town	41	35	50	49	45
Rural area or village	37	36	45	47	43
Educational attainment					
Low	38	34	36	44	38
Medium	38	36	49	46	43
High	47	36	56	56	49
Household financial situation					
Very easy	35	35	56	45	45
Fairly easy	43	38	51	53	47
Fairly difficult	46	33	48	49	44
Very difficult	35	34	48	42	41
Prefer not to say	7	36	54	41	42
Frequency of purchasing products online					
At least once a week	46	42	58	50	50
At least once a month	47	34	50	53	46
At least once every 3 months	35	33	44	45	40

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
At least once in the last 12 months	31	29	42	47	38
Never	31	36	35	26	32
Total	42	36	50	50	45
N	346	2,086	2,070	2,078	6,580

Note: Question PP9. "For some participants, the [product] that they were shown had been personalised based on their [personalisation node]. Were you one of these participants?"
Source: London Economics analysis of online experiment data

A5.1.2 Objective comprehension of personalisation practices, by country and socio-demographic group

Table 34 : Correct responses to questions identifying personalised ranking of offers, by country and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
CZ	21	36	37	37	36
FR	42	25	38	35	33
DE	35	32	43	42	39
PL	35	23	34	34	31
RO	32	35	37	36	36
ES	24	27	41	37	34
SE	41	24	40	42	36
UK	70	31	48	41	42
Total	42.1	28.9	41.4	38.6	36.6
N	346	2,086	2,070	2,078	6,580

Note: Question PP1. "Thinking about the [product] you just saw in the search results, in your opinion which of the following best describes **the order** in which they were shown to you?"
Source: London Economics analysis of online experiment data

Table 35 : Correct responses to questions identifying personalised ranking of offers, by socio-demographic group, region and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
Country group					
EU15	46	29	42	39	37
EU13	23	29	40	37	34
Age					
16-34	46	27	38	43	36
35-54	34	30	44	37	37
55-64	53	29	45	33	37
65+	56	30	37	36	35
Gender					
Male	41	28	43	39	37
Female	44	30	40	38	36
Working status					
Employed	40	28	41	40	37
Pupil / Student / In education	53	33	35	43	38
Self-Employed	27	26	43	40	36
Unemployed & not looking for a job + other non-active	51	29	42	35	36
Unemployed but looking for a job	37	31	49	28	36
Living area					
Large town or city	43	27	40	36	34
Small or medium sized town	41	31	42	41	38
Rural area or village	42	29	42	39	37
Educational attainment					
Low	28	27	39	36	34
Medium	45	29	41	39	37
High	44	29	43	40	38
Household financial situation					
Very easy	52	31	41	44	40

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
Fairly easy	42	30	42	38	37
Fairly difficult	37	27	41	40	36
Very difficult	35	26	42	31	33
Prefer not to say	84	26	28	36	34
Frequency of purchasing products online					
At least once a week	37	31	43	41	38
At least once a month	43	28	40	41	37
At least once every 3 months	40	29	42	38	36
At least once in the last 12 months	51	27	44	28	35
Never	50	22	31	27	28
Total	42.1	28.9	41.4	38.6	36.6
N	346	2,086	2,070	2,078	6,580

Note: Question PP1. "Thinking about the [product] you just saw in the search results, in your opinion which of the following best describes **the order** in which they were shown to you?"
Source: London Economics analysis of online experiment data

Table 36 : Correct responses to questions identifying personalised prices in the experiment, by country and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
CZ	31	35	26	24	28
FR	36	32	37	32	34
DE	37	33	35	40	36
PL	24	30	31	30	30
RO	36	37	33	33	35
ES	32	32	33	30	32
SE	53	32	39	40	38
UK	44	265	263	265	837
Total	40.3	33.7	36.2	36.4	35.7
N	346	2,086	2,070	2,078	6,580

Note: Question PP2. "Thinking about the [product] you just saw, in your opinion which of the following best describes **the prices** of the products shown to you?"
Source: London Economics analysis of online experiment data

Table 37 : Correct responses to questions identifying personalised prices, by socio-demographic group, region and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
Country group					
EU15	42	34	37	38	37
EU13	32	32	32	29	31
Age					
16-34	43	30	32	34	32
35-54	35	36	38	36	36
55-64	48	34	42	43	40
65+	47	44	34	39	39
Gender					
Male	38	35	37	36	36
Female	42	32	35	36	35
Working status					
Employed	41	32	37	37	36
Pupil / Student / In education	48	33	29	35	33
Self-Employed	38	35	32	32	33
Unemployed & not looking for a job + other non-active	41	37	37	36	37
Unemployed but looking for a job	25	35	37	34	35
Living area					
Large town or city	36	31	35	35	34
Small or medium sized town	39	35	38	33	36
Rural area or village	46	36	35	43	38
Educational attainment					
Low	28	34	37	35	35
Medium	40	33	34	34	34
High	45	34	38	39	38
Household financial situation					

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
Very easy	50	40	46	42	43
Fairly easy	40	33	34	38	35
Fairly difficult	44	33	35	33	34
Very difficult	25	40	46	34	39
Prefer not to say	22	24	21	39	29
Frequency of purchasing products online					
At least once a week	38	36	36	40	38
At least once a month	45	34	35	36	36
At least once every 3 months	37	30	37	36	34
At least once in the last 12 months	31	37	39	31	35
Never	58	26	40	21	31
Total	40.3	33.7	36.2	36.4	35.7
N	346	2,086	2,070	2,078	6,580

Note: Question PP2. "Thinking about the [product] you just saw, in your opinion which of the following best describes **the prices** of the products shown to you?"
Source: London Economics analysis of online experiment data

Table 38 : Correct answers to questions identifying advertising in the experiment, by country and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
CZ	18	18	23	20	20
FR	28	28	34	30	31
DE	51	37	37	36	37
PL	33	53	49	47	49
RO	56	58	54	56	56
ES	60	52	51	51	52
SE	60	68	66	65	66
UK	59	52	53	49	52
Total	46.8	43.1	44.1	41.9	43.2
N	346	2,086	2,070	2,078	6,580

Note: Question PP3. "Was there an advertisement on the screen just shown to you?"
Source: London Economics analysis of online experiment data

Table 39 : Correct responses to questions identifying advertising, by socio-demographic group, region and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
Country group					
EU15	46	43	44	41	43
EU13	52	46	45	45	46
Age					
16-34	51	48	48	45	47
35-54	44	43	44	41	43
55-64	47	37	38	38	38
65+	44	27	39	35	34
Gender					
Male	45	42	45	41	43
Female	48	44	43	43	44
Working status					
Employed	51	44	44	45	45
Pupil / Student / In education	54	46	46	40	44
Self-Employed	49	48	48	42	46
Unemployed & not looking for a job + other non-active	38	38	43	36	39
Unemployed but looking for a job	23	44	40	39	40
Living area					
Large town or city	57	49	46	44	47
Small or medium sized town	50	42	46	41	43
Rural area or village	33	37	39	42	39
Educational attainment					
Low	50	36	35	38	37
Medium	42	43	43	41	42
High	51	46	48	44	46
Household financial situation					
Very easy	61	53	55	41	50

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
Fairly easy	50	41	43	44	43
Fairly difficult	43	45	44	40	43
Very difficult	43	39	39	36	38
Prefer not to say	19	44	41	44	42
Frequency of purchasing products online					
At least once a week	56	47	51	46	49
At least once a month	44	42	41	43	42
At least once every 3 months	39	42	38	39	40
At least once in the last 12 months	46	38	47	31	40
Never	42	40	48	42	43
Total	46.8	43.1	44.1	41.9	43.2
N	346	2,086	2,070	2,078	6,580

Note: Question PP3. "Was there an advertisement on the screen just shown to you?"
Source: London Economics analysis of online experiment data

Table 40 : Correct answers to questions identifying targeted advertising in the experiment, by country and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
CZ	26	45	27	30	33
FR	18	21	23	29	24
DE	40	44	41	39	41
PL	36	38	28	32	33
RO	15	28	29	32	29
ES	28	32	32	25	29
SE	40	37	28	30	32
UK	55	38	41	38	40
Total	38.3	35.9	33.9	33.5	34.6
N	346	2,086	2,070	2,078	6,580

Note: Question PP3a. "Thinking about the advertisement you just saw, in your opinion which of the following best describes **the product that was advertised**?"
Source: London Economics analysis of online experiment data

Table 41 : Correct responses to questions identifying targeted advertising, by socio-demographic group, region and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
Country group					
EU15	40	36	35	35	36
EU13	28	33	31	26	30
Age					
16-34	53	37	40	36	38
35-54	29	37	31	34	34
55-64	27	29	32	29	30
65+	45	36	19	20	25
Gender					
Male	43	34	32	31	33
Female	34	37	36	36	36
Working status					
Employed	41	36	33	36	36
Pupil / Student / In education	62	35	51	38	42
Self-Employed	28	35	38	25	32
Unemployed & not looking for a job + other non-active	26	35	29	27	30
Unemployed but looking for a job	12	38	31	24	31
Living area					
Large town or city	45	34	36	33	35
Small or medium sized town	29	36	30	33	33
Rural area or village	45	38	39	35	38
Educational attainment					
Low	25	29	31	27	29
Medium	45	34	33	32	33
High	38	40	36	38	38
Household financial situation					
Very easy	35	36	35	39	36

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
Fairly easy	40	39	36	35	37
Fairly difficult	43	29	31	32	31
Very difficult	9	46	35	30	35
Prefer not to say	78	44	36	20	34
Frequency of purchasing products online					
At least once a week	35	40	37	34	38
At least once a month	36	34	36	36	35
At least once every 3 months	50	35	24	30	31
At least once in the last 12 months	35	38	37	30	35
Never	48	20	24	15	21
Total	38.3	35.9	33.9	33.5	34.6
N	346	2,086	2,070	2,078	6,580

Note: Question PP3a. "Thinking about the advertisement you just saw, in your opinion which of the following best describes **the product that was advertised**?"
Source: London Economics analysis of online experiment data

A5.1.3 Decisions taken by participants in the experiment, by country and socio-demographic group

Table 42 : Proportion of participants purchasing products, by country and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
CZ	44	57	59	63	59
FR	49	70	72	74	71
DE	75	73	73	78	75
PL	75	60	67	74	67
RO	71	66	68	69	68
ES	65	69	65	68	68
SE	82	69	67	75	71
UK	80	80	79	83	81
Total	68.6	71.4	71.7	75.5	72.6
N	346	2,086	2,070	2,078	6,580

Source: London Economics analysis of online experiment data

Table 43 : Proportion of participants purchasing products, by socio-demographic group, region and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
Country group					
EU15	70	72	73	77	74
EU13	61	67	64	67	66
Age					
16-34	76	75	75	78	76
35-54	63	69	69	75	70
55-64	69	68	72	69	70
65+	76	69	72	75	72
Gender					
Male	70	73	72	79	74
Female	67	70	72	72	71
Working status					
Employed	74	74	72	76	74
Pupil / Student / In education	81	70	76	82	76
Self-Employed	69	72	74	75	73
Unemployed & not looking for a job + other non-active	54	66	70	71	68
Unemployed but looking for a job	47	71	64	70	67
Living area					
Large town or city	61	75	74	78	75
Small or medium sized town	74	69	72	74	72
Rural area or village	69	71	69	74	71
Educational attainment					
Low	62	69	60	62	64
Medium	67	72	72	76	73
High	73	72	75	80	75
Household financial situation					

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
Very easy	69	72	78	84	78
Fairly easy	71	73	73	78	74
Fairly difficult	75	72	70	74	72
Very difficult	39	65	69	62	64
Prefer not to say	56	65	56	64	62
Frequency of purchasing products online					
At least once a week	73	74	76	77	75
At least once a month	77	73	74	78	75
At least once every 3 months	66	72	66	76	71
At least once in the last 12 months	46	61	67	69	64
Never	49	44	54	48	49
Total	68.6	71.4	71.7	75.5	72.6
N	346	2,086	2,070	2,078	6,580

Source: London Economics analysis of online experiment data

Table 44 : Proportion of participants switching platforms, by country and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
CZ	40	35	34	29	33
FR	34	32	30	26	30
DE	36	38	41	33	37
PL	42	40	32	29	34
RO	40	31	27	21	27
ES	31	30	29	25	28
SE	28	22	21	18	21
UK	44	30	30	19	28
Total	37.5	33.6	32.6	26.3	31.2
N	346	2,086	2,070	2,078	6,580

Source: London Economics analysis of online experiment data

Table 45 : Proportion of participants switching platforms, by socio-demographic group, region and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
Country group					
EU15	38	34	33	26	32
EU13	32	31	30	26	29
Age					
16-34	44	36	31	27	32
35-54	39	35	34	25	32
55-64	24	29	29	27	28
65+	30	23	34	28	28
Gender					
Male	40	34	32	26	31
Female	34	34	33	26	31
Working status					
Employed	36	33	33	27	31
Pupil / Student / In education	53	39	38	25	34
Self-Employed	33	29	36	28	31
Unemployed & not looking for a job + other non-active	35	34	30	25	30
Unemployed but looking for a job	41	31	30	23	29
Living area					
Large town or city	45	34	32	26	31
Small or medium sized town	37	31	34	27	31
Rural area or village	30	38	30	25	31
Educational attainment					
Low	46	24	24	20	24
Medium	29	35	31	23	29
High	43	35	38	33	36
Household financial situation					
Very easy	45	32	31	21	29

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
Fairly easy	31	35	35	29	33
Fairly difficult	43	31	31	26	30
Very difficult	45	37	30	20	30
Prefer not to say	27	33	23	20	25
Frequency of purchasing products online					
At least once a week	35	35	34	25	32
At least once a month	46	35	36	30	34
At least once every 3 months	30	36	25	24	28
At least once in the last 12 months	32	21	35	24	27
Never	49	44	54	48	49
Total	37.5	33.6	32.6	26.3	31.2
N	346	2,086	2,070	2,078	6,580

Source: London Economics analysis of online experiment data

Table 46 : Proportion of participants clearing cookies, by country and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
CZ	0	0	0	3	1
FR	0	2	1	8	3
DE	2	1	0	8	3
PL	0	1	0	8	3
RO	0	0	0	4	1
ES	0	0	0	6	2
SE	0	0	0	8	3
UK	0	1	0	7	3
Total	0.5	0.8	0.3	7.3	2.7
N	346	2,086	2,070	2,078	6,580

Source: London Economics analysis of online experiment data

Table 47 : Proportion of participants clearing cookies, by socio-demographic group, region and treatment

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
Country group					
EU15	1	1	0	8	3
EU13	0	0	0	6	2
Age					
16-34	0	2	1	8	3
35-54	1	0	0	8	3
55-64	0	0	0	4	1
65+	0	0	1	6	3
Gender					
Male	1	1	0	7	3
Female	0	1	0	8	3
Working status					
Employed	1	0	0	7	3
Pupil / Student / In education	0	4	0	7	4
Self-Employed	0	0	1	10	4
Unemployed & not looking for a job + other non-active	0	1	0	8	3
Unemployed but looking for a job	0	0	0	3	1
Living area					
Large town or city	0	1	0	8	3
Small or medium sized town	1	1	1	7	3
Rural area or village	0	1	0	7	3
Educational attainment					
Low	0	1	0	6	2
Medium	0	1	0	6	2
High	1	1	1	9	3
Household financial situation					
Very easy	0	1	2	6	3

Were you one of those participants?	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
Fairly easy	0	1	0	7	3
Fairly difficult	2	1	0	7	3
Very difficult	0	1	0	8	3
Prefer not to say	0	0	0	5	2
Frequency of purchasing products online					
At least once a week	2	0	1	6	2
At least once a month	0	1	0	10	4
At least once every 3 months	0	1	0	5	2
At least once in the last 12 months	0	1	0	6	2
Never	49	44	54	48	49
Total	0.5	0.8	0.3	7.3	2.7
N	346	2,086	2,070	2,078	6,580

Source: London Economics analysis of online experiment data

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