

15 March 2017



ConPolicy
Institute for Consumer Policy

Indicators of consumer protection and empowerment in the digital world

Results and recommendations of a feasibility study



Supported by:



Federal Ministry
of Justice and
Consumer Protection

on the basis of a decision
by the German Bundestag

verbraucherzentrale
Bundesverband

Commissioned by:

Federation of German
Consumer Organisations
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its world-wide member organisations

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About this report

This report was prepared by ConPolicy – Institute for Consumer Policy – with the support of Lucia Reisch (Copenhagen Business School) for the German Federation of Consumer Organisations (vzbv). It was presented at the G20 Consumer Summit, which was hosted by the German Federal Ministry of Justice and Consumer Protection in the context of the German G20 Presidency on 15 March 2017. Consumers International and its member organisations were involved and consulted in the preparation of this report.

We want to thank all the experts who provided valuable insight and expertise in the context of writing this study. The responsibility for the content lies fully with the author team.

How to read this study

A number of issues should be noted when reading this study. First, the study should be understood as a *feasibility study* and *scooping exercise*; the set of indicators presented here constitute a proposal that needs to be discussed and elaborated further. Ultimately, the choice of indicators is a political decision, not an empirical or scientific question. Second, the *indicators* presented in this study should not be misunderstood as constituting a fully-fledged index that allows for comparing different countries; rather, they are exemplary measurements of relevant issues in the field of digital consumer satisfaction and concern that we distilled. Third, the *consumer survey results* presented here should not be used to compare countries; rather, they should be seen as valuable snapshots of the respective status quo of consumer satisfaction and concern about different aspects of digitalisation in six selected G20 countries. Fourth, within the context of the present study, it was not possible to develop robust *methodologies* for the measurement of the indicators proposed here; this should be done in a further step. Finally, the study does not touch on *legal issues* that the development of such an indicator system raises; in case of a roll-out, we suggest to invite a legal opinion *ex ante*.

Executive Summary

The process of digitalisation has changed the lives of consumers around the world. Digitalisation makes it easier for consumers to access and process information, potentially increases choice and competition, as well as encouraging innovation. At the same time, however, consumers also face barriers and risks. More than half of the world's population still does not have access to the Internet, and many consumers fear that their personal information might be misused or that they might become victims of online fraud.

These barriers and fears constitute a significant impediment for the further development of the digital economy: When consumers mistrust businesses, they are discouraged from using new digital products and services. Hence, growth on the supply-side of the digital market presupposes consumer trust on the demand-side of the market.

As a result, governments around the world have put the task of consumer protection and empowerment in the digital world on their agendas. In their *Digital Economy Development and Cooperation Initiative*, the G20 set the target to bridge the digital divide by expanding broadband access and improving quality, developing skills and competences as well as strengthening confidence and trust. The G20 Initiative also encourages efforts to develop better metrics, inter alia, for important policy issues like trust in the digital economy.

The objective of the present study is to contribute to such a development of better metrics. It aims at testing the feasibility and making concrete proposals for a set of indicators to describe and measure progress towards an environment that is beneficial for consumer trust in the digital world. The study is based on a literature review, expert interviews, a consultation of Consumers International and its members as well as a consumer survey that was conducted in six G20 countries.

The key results of this study are summarised in eight theses:

1 A thriving and inclusive digitalisation process necessitates consumers' trust in digital markets

Evidence shows that without consumer trust, the digital transformation will most likely not be successful. Access to the Internet, information and communication technologies (ICT) and digital services as well as consumer trust in these products and services are all of key importance for an inclusive and successful digitalisation process.

2 In order to strengthen consumer trust, the demand-side of the market needs to be brought into the spotlight

While in the past, ICT strategies focused primarily on the supply-side, there is a growing recognition that demand-side issues such as privacy, data security, redress and digital literacy have to be equally and fully addressed as well. Otherwise, the digital economy will not develop as fast as it could, since consumers have reasons to stay offline.

3 To bring the demand-side into focus, the United Nations Guidelines for Consumer Protection (UNGCP) should be used as a policy framework

The UNGCP constitute an internationally endorsed set of consumer protection and empowerment principles. These should be used as a conceptual framework to strengthen consumer protection and empowerment also in the digital world.

4 To systematically improve the state of consumer protection and empowerment, valid indicators and good data are needed

Indicators and good data are necessary both to capture developments and for effective evidence-based policy-making. Hence, there is a need to develop indicators for the measurement of consumer protection and empowerment in the digital world as well as corresponding methodologies.

5 The UNGCP constitute a useful framework for indicator development; Digital Consumer Protection and Empowerment (DCPE) indicators can be derived

Based on the UNGCP, the present study proposes a comprehensive set of indicators which describes the state of consumer protection and empowerment in the digital world. The 65 indicators are grouped into the eight dimensions of the UNGCP principles.

6 Indicators, data-gathering methodologies and G20-wide data sets exist only for a few indicators; hence a double-fledged approach to address these gaps is necessary

The assessment of whether indicators, data-gathering methodologies and data already exist for this set of indicators shows that this is only partially the case: For the dimension access, both indicators and robust methodologies exist. For privacy & data security, education & awareness, dispute resolution & redress and governance & participation, indicators and data are partially available. For economic interests, product safety & liability and information & transparency, neither indicators nor data are available.

7 A survey based approach should be used to provide the needed data in the short-term

Representative consumer surveys are a straightforward ready-to-use tool and can be developed and carried out quite easily. The present study hence suggests that this approach should be used to generate periodic data that can be used in the short-term to fill some of the identified gaps.

8 In parallel, the G20 should initiate a four-step process to develop a comprehensive methodology in order to provide data in the mid- and long-term

To systematically overcome the identified gaps in indicators and methodologies, the G20 should initiate a process that leads to a comprehensive methodology for the assessment of the state of consumer protection and empowerment in the digital world in the mid- and long-term. This process should go hand-in-hand with other initiatives that aim at developing a tool kit for policy making in this field and recommendations for policy action. It should be implemented in four steps: 1) The G20 should set up a Consumer Protection and Empowerment Working Group for the Digital World to agree on an overall framework. 2) An international organisation should be tasked to develop a set of indicators and corresponding methodologies in detail. 3) This set of indicators should be tested in a pilot study and be refined. 4) The draft set of indicators should be presented to the G20 Working Group for revision and approval. Clear institutional responsibilities should then be assigned to periodically conduct data-gathering for the indicators.

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List of Abbreviations

ADR Alternative Dispute Resolution	LDCs Least Developed Countries
APEC Asia-Pacific Economic Co-operation	LTE Long Term Evolution (4G)
ASEAN Association of Southeast Asian Nations	Mbps Megabit per second
BEUC Bureau Européen des Unions de Consommateurs	ODR Online Dispute Resolution
BRIC Brazil, Russia, India, and PR China	OECD Organisation for Economic Cooperation and Development
CI Consumers International	RAPEX Rapid Alert System for non-food dangerous products
CIGI Centre for International Governance Innovation	SDGs United Nations Sustainable Development Goals
DCPE Digital Consumer Protection and Empowerment	UK United Kingdom
DDoS Distributed Denial-of-Service	UN United Nations
DETF G20 Digital Economy Task Force	UNGCP United Nations Guidelines for Consumer Protection
EU European Union	UNCTAD United Nations Conference on Trade and Development
FTC Federal Trade Commission	USA United States of America
GDP Gross Domestic Product	vzbv Federation of German Consumer Organisations
Gbps Gigabit of data per second	
GNI Gross National Income	
ICT Information and communication technology	
IoT Internet of Things	
ITU International Telecommunication Union	

1

Introduction

1.1. Background

Digitalisation is profoundly changing the everyday life of consumers: How they search for and compare information about products, services and prices, communicate with family and friends, shop, listen to music, watch videos and conduct financial transactions.

While the effects of digitalisation are not the same globally, digitalisation is a global phenomenon. Global Internet traffic, for example, is growing annually at a rate of 20 percent,¹ and at the end of 2016 it was expected that close to half of the world's population used the Internet.² With the rise of the Internet of Things (IoT), with its billions of devices which can be connected with each other and the Internet, it is expected that our social interactions will be transformed further.³

From a consumer perspective, digitalisation goes along with a wide range of opportunities. Particularly in the least developed countries (LDCs) and emerging economies, mobiles and smartphones enable consumers to have a comparatively cheap opportunity to access the Internet. Hence, consumers can use

From a consumer perspective, digitalisation goes along with a wide range of opportunities.

essential services such as information and communication websites or banking apps via smartphone. According to a World Bank survey, 62 percent of people in 12 African countries believe that their family is better off because of mobile phones; 76 percent say mobile phones help save on travel time and cost; and 62 percent also believe that mobile phones make them more secure.⁴

Furthermore, Internet services such as search engines play a major role for consumers in finding information. A survey conducted in the European Union (EU) shows that 88 percent of Internet users use search engines for finding information on the Internet at least once a week⁵ and 38 percent use them to find information before making an online purchase.⁶

In short, digitalisation potentially enables consumers to more easily access and process information, it increases choice and variety, by means of transparency it puts pressure on businesses which can lead to lower prices and encourage innovation and it increases consumer convenience, e.g. by the possibility to shop online 24 hours a day and 7 days a week.⁷

1 OECD, 'Digital Economy Outlook 2015', 2015, 17 and 46.

2 International Telecommunication Union, 'Measuring the Information Society Report 2016', 2016, 181.

3 OECD, 'Digital Economy Outlook 2015', Chapter 1.6.

4 World Bank Group, 'Digital Dividends: World Development Report 2016', 2016, 117.

5 European Commission, 'Special Eurobarometer 447: Online Platforms', June 2016, 6.

6 GfK Belgium, 'Provision of Two Online Consumer Surveys as Support and Evidence Base to a Commission Study: Identifying the Main Cross-Border Obstacles to the Digital Single Market and Where They Matter Most', September 2015, 140.

7 McKinsey & Company, 'Offline and Falling behind: Barriers to Internet Adoption', October 2014, 11, 12. World Bank Group, 'Digital Dividends: World Development Report 2016', 105; United Nations, Australian Aid, and ASEAN, 'Project on Strengthening Technical Competency for Consumer Protection in ASEAN: Phones, Internet Services & E-Commerce', 21 January 2016, 10; Internet Society, 'Global Internet Report 2015: Mobile Evolution and Development of the Internet', 07 2015, 10.

There are, however, also barriers and risks associated with digitalisation from a consumer perspective.

There are, however, also barriers and risks associated with digitalisation from a consumer perspective. One very fundamental challenge lies in the fact that while more than 3 billion people have access to the Internet globally, more than half of the world's population, 3.9 billion people, are still offline.⁸ For this reason, in the context of the United Nations Sustainable Development Goals (SDGs), the international community has agreed on Goal 9.c to strive to provide universal and affordable access to the Internet particularly in LDCs by 2020.⁹

Furthermore, when one analyses Internet usage rates, discrepancies can be observed on a global level: Internet usage rates are about twice as high in developed countries compared with developing countries.¹⁰ Beyond this, not all kinds of consumers benefit from digitalisation in a similar way. Studies of the Organisation for Economic Development and Cooperation (OECD) show that Internet uptake is linked to age and education, often intertwined with income levels.¹¹ Furthermore, other studies suggest that Internet uptake also relates to literacy levels as well as location (i.e. whether people live in urban or rural areas).¹²

International studies also highlight that consumers themselves see significant risks associated with digitalisation. According to a consumer survey published by the US Department of Commerce, US consumers are concerned about identity theft (63 percent), credit card or banking fraud (45 percent), data collection by online services (23 percent) and a loss of control over personal data (22 percent).¹³ Consumers in the European Union have similar worries. According to a Eurobarometer survey, 55 percent of the respondents say that they are concerned that their behaviour might be recorded via payment cards as well as via mobile phone use or mobile applications.¹⁴ Also, according to a study conducted in the BRIC countries, 64 percent of the respondents say that they are more concerned about their online privacy in 2015 compared to 2014.¹⁵

According to the recent EU Consumer Scoreboard, in e-commerce transactions 26 percent of consumers fear that an incorrect or damaged product would be delivered, 25 percent worry that replacement or repair of a faulty product is not easy and 22 percent think that it is not easy to return a product one does not like and get a reimbursement.¹⁶

8 GSMA, 'Connected Society: Mobile Connectivity Index Launch Report', June 2016, 2. See also International Telecommunication Union, 'Measuring the Information Society Report 2016', 181.

9 For the attainment of other SDGs information and communication technologies also play an important role. For an overview see: International Telecommunication Union, 'Measuring the Information Society Report 2016', Chapter 3.

10 Ibid., 77.

11 OECD, 'Digital Economy Outlook 2015', 138.

12 McKinsey & Company, 'Offline and Falling behind: Barriers to Internet Adoption', Chapter 3. See also: World Bank Group, 'Digital Dividends: World Development Report 2016', 104.

13 United States Department of Commerce – National Telecommunications & Information Administration, 'Lack of Trust in Internet Privacy and Security May Deter Economic and Other Online Activities', 13 May 2016, Figure 2.

14 European Commission, 'Special Eurobarometer 431: Data Protection', 2015, Section 1.3.

15 Center for International Governance Innovation, 'CIGI-IPSOS Global Survey on Internet Security and Trust', 2016, 5.

16 European Commission, 'Consumer Conditions Scoreboard: Consumers at Home in the Single Market – 2015 Edition', 2015, 74.

These concerns constitute a significant hurdle for the further development of the digital economy. 45 percent of US consumers, for example, express very low trust or no trust at all that companies use their connected device data securely and in ways that protect their privacy.¹⁷ These concerns have concrete implications. According to another US survey, 29 percent of US households have avoided conducting financial online transactions and 26 percent have avoided buying goods or services online as well as posting on social networks due to privacy or security concerns.¹⁸

Hence, the evidence suggests that only if the concerns of consumers are taken into account, will they trust the new products and services of the digital economy.¹⁹ Growth on the supply-side of the digital market therefore presupposes consumer trust on the demand-side of the market.

Unsurprisingly, heads of government have put the task of consumer protection and empowerment in the digital world not only on national²⁰ but also on regional²¹ and international agendas. The recently updated United Nations Guidelines for Consumer Protection (UNGCP), for example, call upon member states to

Evidence suggests that only if the concerns of consumers are taken into account, will they trust the new products and services of the digital economy.

“work towards enhancing confidence in electronic commerce by the continued development of transparent and effective consumer protection policies, ensuring a level of protection that is not less than that afforded in other forms of commerce.”²² Expanding the range of consumer policy issues in the digital world, the World Bank argues in its 2016

World Development Report that while “[f]irst-generation policies for the information and communication technology (ICT) sector, aimed at universal access and affordability, have proved successful for phone service [...] [n]ext-generation policies must also focus on demand-side issues of digital literacy, as well as privacy, cybersecurity, and [I]nternet governance, where a global consensus has yet to emerge.”²³

17 Altimer, ‘Consumer Perceptions of Privacy in the Internet of Things’, 2015, 8.

18 United States Department of Commerce – National Telecommunications & Information Administration, ‘Lack of Trust in Internet Privacy and Security May Deter Economic and Other Online Activities’.

19 BITKOM, ‘An International Agenda for the Digital Age’, 2016, 2.

20 For France see: French Government, ‘Projet de Loi Pour Une République Numérique, Projet Porté Par Axelle Lemaire. Description of Rationale of Original Law Proposal’, 2015. For Germany see: Bundesministerium für Wirtschaft und Energie, ‘Grünbuch: Digitale Plattformen’, 2016; Bundesministerium für Wirtschaft und Energie and Bundesministerium der Justiz und für Verbraucherschutz, ‘BMW/BMJV-Maßnahmenprogramm „Mehr Sicherheit, Souveränität Und Selbstbestimmung in Der Digitalen Wirtschaft“’, 2015; Maas, Heiko, ‘Unsere Digitalen Grundrechte’, ZEIT Online, 2015, <http://www.zeit.de/2015/50/internet-charta-grundrechte-datensicherheit>. For Italy see: Italian Government, ‘Camera Dei Deputati: Proposta Di legge “Disciplina Delle Piattaforme Digitali per La Condivisione Di Beni E Servizi E Disposizioni per La Promozione Dell’Economia Della Condivisione”’, 2016. For the United Kingdom see: UK Parliament, ‘Online Platforms and the EU Digital Single Market Inquiry’, 2016.

21 European Commission, ‘A Digital Single Market Strategy for Europe’, 6 May 2015; ASEAN, ‘ASEAN Economic Community Blueprint 2025’, 2015, Section C.3. See also: BEUC, ‘Consumers at the Heart of Trade Policy’, 2015, 7, 8; ZEIT-Stiftung Ebelin und Gerd Bucerius, ‘Charter of Digital Fundamental Rights of the European Union’, 2016.

22 United Nations, ‘United Nations Guidelines for Consumer Protection’, 2016, 20. For a similar principle see: OECD, ‘Consumer Protection in E-Commerce: OECD Recommendation’, 2016, 10.

23 World Bank Group, ‘Digital Dividends: World Development Report 2016’, 200.

Consistent with these developments, the members of the G20 under the Turkish G20 presidency in 2015, committed in Antalya to bridge the digital divide.²⁴ On the basis of preparatory work undertaken by the G20 Digital Economy Task Force (DETF), this objective was reiterated and concretised in September 2016 at the G20 summit in Hangzhou. Here, the heads of government presented the *G20 Digital Economy Development and Cooperation Initiative*.²⁵ According to this initiative, the digital divide should be bridged, inter alia, by expanding broadband access and improving quality, educating and strengthening confidence and trust.²⁶

In order to implement such an ambitious initiative, indicators and access to high quality data are of key importance. These indicators and data can be used, for example, to determine the scale of a problem, to conduct ex-ante impact assessments for new policies, to evaluate ex-post (legislative) policy initiatives and to monitor developments over time. Some well-known societal indicators and indices are: the UNDP *Human Development Index*, the OECD *Better Life Index*, the World Bank *Worldwide Governance Index*, the Yale University *Environmental Performance Index* and the Transparency International *Corruption Perception Index*.²⁷

In the realm of consumer policy one also finds examples of such indicators and indices. A widely-recognised example of a comprehensive approach is the *Consumer Scoreboard* of the European Commission. Also in the context of consumer protection and empowerment in the digital world one finds examples of such indicators and indices.²⁸

However, to date, there is no agreed upon set of indicators that specifically and comprehensively covers issues of consumer protection and empowerment in the digital economy with a global scope. The OECD notes in this regard that there was an “important gap in cross-country comparable metrics on trust”.²⁹ Within the G20 Digital Economy Development and Cooperation Initiative, the heads of government therefore welcomed and encouraged efforts by international organisations “to develop better metrics for important policy issues like trust in the digital economy, e-commerce, cross-border data flows, and the Internet of Things, as practical, relevant and appropriate.”³⁰

24 Turkish G20 Presidency, ‘G20 Leaders’ Communiqué – Antalya Summit, 15–16 November 2015’, 2015, 6.

25 Chinese G20 Presidency, ‘G20 Digital Economy Development and Cooperation Initiative’, 2016.

26 Ibid., 4–7.

27 UNDP, ‘Human Development Report 2015: Work for Human Development’, 2015; OECD, ‘Better Life Index’, 2016; World Bank Group, ‘Worldwide Governance Indicators’, 2015; Yale Center for Environmental Law & Policy, ‘Environmental Performance Index’, 2016.

28 These will be discussed in Chapter 3.

29 OECD, ‘Key Issues for Digital Transformation in the G20: Report Prepared for a Joint G20 German Presidency/OECD Conference’, 2017, 6.

30 Chinese G20 Presidency, ‘G20 Digital Economy Development and Cooperation Initiative’, 8.

1.2. Objective

The objective of the present feasibility study is to develop a proposal for a set of indicators describing and measuring progress towards an environment that is beneficial for consumer trust in the digital world: the *Digital Consumer Protection and Empowerment (DCPE)* indicators. Furthermore, the study analyses the extent to which some of these indicators and corresponding methodologies and data might already exist and summarises good practices in this regard. Finally, the study makes policy recommendations for how to take the objective of indicator development within the G20 policy context further.

According to the terms of reference, the study is based on:



The results of the study should directly contribute to the abovementioned call from the G20 heads of government to develop better metrics for issues such as consumer trust in the digital economy.

1.3. Approach

The following section describes how the different sources of information were generated, compiled and analysed.

1.3.1. Literature review and analysis of international reference documents



One major source of input was generated by means of a literature review. For this review, relevant keywords were defined and the following search-strategies were used:

- 1 Relevant databases of international and regional organisations were searched.
- 2 Literature databases such as Scopus, Google Scholar, Elsevier Science Direct and Cambridge Web of Knowledge were used.
- 3 Key international reference documents such as the UN Guidelines, recommendations such as OECD recommendations and position papers from consumer organisations were identified by means of an Internet search.

In addition to this approach, sources which have been identified by means of the abovementioned approach were screened for other relevant sources and these new sources were added. The compiled literature was reviewed, analysed and used to inform the present report.


1.3.2. Expert interviews



A second source of information was expert interviews with ten international experts (see Table 1 below). The objective of these interviews was to ensure that we did not miss any relevant reference document and that the different needs of consumers living in various world regions were adequately understood and taken into account.

For the expert interviews, a questionnaire was developed and semi-structured interviews were conducted. Identifying the experts, we made sure to cover different world regions, representatives from international and national levels and representatives from different stakeholder groups. The full questionnaire can be found in Annex 1: Questionnaire used in the expert interviews.

The following Table lists the institutions with which telephone interviews were conducted. Unfortunately, despite various attempts, we were not able to interview representatives from governmental and consumer organisations from the People's Republic of China.



International	International organisation	International Telecommunication Union (ITU) World Bank
	NGO	World Wide Web Foundation
	Business Association	World Economic Forum
ASEAN	Regional organisation	ASEAN (Committee on Consumer Protection)
European Union	Consumer Association	Bureau Européen des Unions de Consommateurs (BEUC)
Argentina	Consumer Association	UC Argentina
Germany	Business Association	German Association for Information Technology, Telecommunications and New Media (BITCOM)
India	Government	Government of Assam, India
South Africa	NGO	IAB South Africa

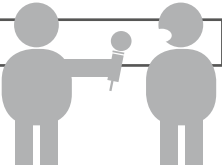


Table 1: Overview of experts consulted in telephone interviews

1.3.3. Consultation of Consumers International (CI) member organisations



To ensure a good understanding of the expectations and concerns of international consumer organisations, the results of a member survey of Consumers International were taken into account. Consumers International represents 240 member organisations from around the world. The survey was sent to 439 people from CI member organisations in 124 countries. It was open from 20 July until 12 August 2016. In total, 107 people from 77 countries responded to the survey. Supplementary questions were sent to CI members in the beginning of January 2017.

The surveys entailed questions about the current state of digital consumer protection and empowerment in the respective countries. It included issues such as access to the Internet, choice, safety, quality of information, consumer skills, redress mechanisms and data protection and security.

CI compiled the responses and made the results available to the project team. The project team reviewed the responses in a qualitative manner and identified patterns.

1.3.4. Consumer survey



To include consumers' viewpoints in the study and to test whether different aspects of consumer confidence are correlated with each other or not, the survey company YouGov collected panel data in six G20 member states: Argentina, China, France, Germany, South Africa and the United States of America. The data was collected either via country-specific omnibus online panels or as an individual online survey between 16 and 31 December 2016. The samples represent the online population in the respective countries based on age, gender and region.

In the survey, consumers could express their agreement or disagreement with eleven statements referring to different aspects of consumer protection and empowerment in the digital world on a 5-point Likert scale. The eleven statements were developed based on previous surveys and using working definitions of consumer protection and empowerment in the digital world and its dimensions.

After internal quality checks, the statements were pretested for comprehensibility by conducting cognitive interviews with ten people. All statements were then translated by professional translators. As an additional quality check, the statements were back-translated into English by Chinese, French, German and Spanish native speakers. This step ensured that the original meaning was retained despite the translation. Table 2 provides an overview of the eleven statements used in the consumer survey. The complete survey can be found in Annex 2: Questionnaire used in the consumer survey.

Dimension/Statement



Table 2: Statements used in the consumer survey

Prior to analysing the data, the following three steps were undertaken:

First, three statements which were formulated as “worry-statements” (“I am concerned that...”) rather than as “satisfaction-statement” (“I am satisfied with...”) were recoded. Thus, after recoding, agreement symbolised satisfaction for all statements.

Second, to increase data quality, participants were excluded when they showed obvious straight lining in their answers, indicated by equal answers across all eleven statements. Straight lining biases data quality because participants provide the same answers irrespective of the questions. These answers are highly unlikely when, for some questions, agreement symbolises trust whereas for other questions agreement symbolises distrust. Thus, straight liners were excluded, except for participants who consistently chose the scale midpoint as this might symbolise true undecidedness.

The median time participants needed to fill out the survey was between 58 and 101 seconds. Such differences may result from different reading speeds individually and for different languages. Participants who filled out the survey in less than a third of their country-specific median probably did not take the time to read the instructions and questions carefully. As a third step, these participants were excluded from the data set prior to analysing the data.

All these steps reduced sample sizes but increased data quality. Table 3 provides an overview of sample sizes before and after participant exclusion as well as the gender ratio in each country.

Despite all attempts to ensure the high data quality described above, it should be noted that large multi-national panel surveys can still be restricted in reliability due to undetected biases in people’s answers.

Online representativeness was ensured by quotas and weighting coefficients. The weights were adapted after the participant exclusion.

Since each statement covers one distinct dimension, the results of the consumer survey are presented in Chapter 3, in which the individual dimensions are described in detail. Due to rounding, graphs not necessarily add up to 100 percent.

Furthermore, the consumer survey data was used to test whether the individual dimensions belong to the same or different underlying factors. This test of the internal structure is described in Chapter 4.

31 In Germany the questions were included into a survey omnibus with 2000 participants.

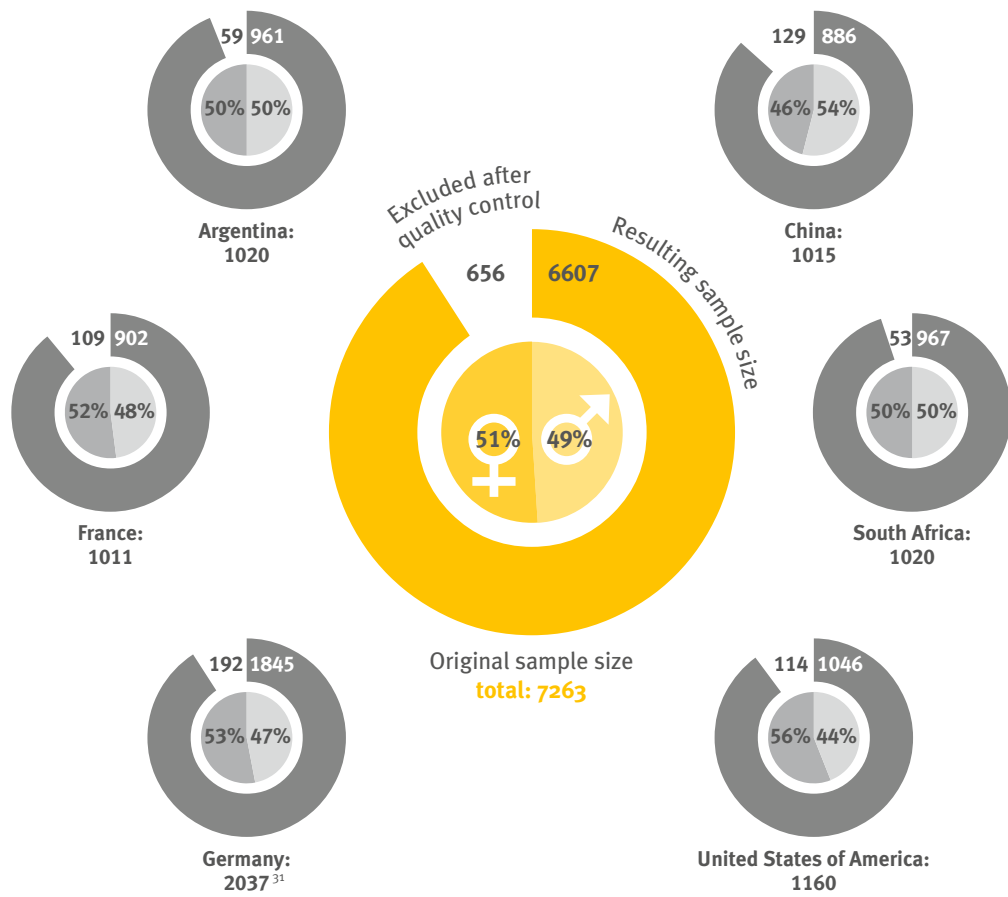


Table 3: Sample characteristics

1.3.5. Development of indicators and categorisation of the results of the indicator analysis

A first key objective of this study is to develop a proposal for a set of *Digital Consumer Protection and Empowerment* indicators. As the OECD highlights in its *Handbook on Constructing Composite Indicators*, the first step for the development of indicators is to carefully define the concept of what should be measured, since “what is badly defined is likely to be badly measured”.³² Hence, in the present report, we start to carefully define the various dimensions that constitute consumer trust. Based on these definitions we develop corresponding indicators.

These indicators focus on different aspects:

- **Regulatory context:** Such indicators focus, inter alia, on the existence and quality of laws and regulations in certain areas, enforcement structures or the existence of specific policy strategies. Examples are indicators concerning the existence of a privacy law and its quality or the existence of broadband strategies.
- **Business conduct:** Such indicators focus, inter alia, on business practices and behaviour. Examples are indicators on the extent to which businesses respect safety standards in the design phase of new products or the extent to which they have product recall procedures in place.
- **Consumer outcomes:** Such kinds of indicators focus, inter alia, on the outcomes of consumer policies. Examples are the proportion of the population which is covered by a high-speed mobile cellular network or consumer satisfaction with the quality of their Internet connections.

To ensure that the proposed set of indicators is not too complex, we only present well-selected indicators. It should be noted, however, that in a further review process our selection should be critically reassessed and the choice of foci should be assessed against future developments.

Furthermore, it should be noted that indicators can be measured in different ways. The existence and quality of privacy laws, for example, should ideally be assessed in a comprehensive legal analysis. In the present study, however, we often propose indicators that are based on expert opinions, since these can be conducted more cost-effectively and in the short-term. Again, we are selective in our proposals, trying to strike a balance between what might be realistic to implement for policy actors and what might be the scientifically best available methodology.

³² OECD and JRC, ‘Handbook on Constructing Composite Indicators: Methodology and User Guide’, 2008, 22.

A second key objective of this study is to analyse the extent to which some indicators describing the state of digital consumer protection and empowerment as well as corresponding methodologies and data already exist. The following criteria are used to categorise the results of this analysis:³³

Where indicators, a methodology for data-gathering and data on a G20-scale are already available, we used a green colour code.

Indicators and data
AVAILABLE

Where indicators, a methodology for data-gathering and data on a G20-scale are partially available, we use a yellow colour code.

Indicators and data
PARTIALLY AVAILABLE

Where no indicators, no methodology for data-gathering and no data are available we use a red colour code.

Indicators and data
NOT YET AVAILABLE

³³ See also: OECD and JRC, 'Handbook on Constructing Composite Indicators: Methodology and User Guide'.

1.4. Methodological limitations

This study represents a scoping exercise. Its overall objectives are to establish the feasibility of the establishment of indicators to describe and measure progress towards an environment that is beneficial for consumer trust in a digital world and to develop a proposal for a set of such indicators. Due to the nature of the study, a number of limitations need to be recognised:

- 1 Since these indicators cover a wide range of consumer issues, some issues need to be prioritised. Hence some aspects that might seem to be important to some stakeholders cannot be covered here. In the footnotes, reference is made to discourses that go beyond what this study was able to cover. One example for such issues are phenomena such as stalking, trolling, grooming and revenge on the Internet. These are not covered in this study, which does not mean that these aspects are unimportant for consumer wellbeing.
- 2 This study should be regarded as a “proof of concept” study that develops recommendations for a set of indicators. These recommendations should form the basis for a wider discourse about the measurement of a beneficial environment for consumers in the digital world.
- 3 This study does not develop an index.
- 4 The consumer survey covers only a limited number of G20 member countries. Hence it does not present a comprehensive picture of the status quo in the G20.

As argued in the final chapter (conclusions and recommendations), this study should be seen as an initial contribution to a process that should be initiated by the G20.

For the survey results, despite being empirical insight into consumers’ opinions, several additional limitations apply. These limitations can be summarised under the standard psychometric quality criteria for survey methodology:

- 1 **Reliability:** The reliability of questionnaires increases with the number of items used for one dimension. However, to cover all dimensions and keep the survey as short as possible, in most cases only one item per dimension was used in this study. Thus, it should be noted that the measurement of dimensions as implemented in this survey is limited in reliability.
- 2 **Validity:** Although all items used in the consumer survey possess a high degree of face-validity, i.e. are logically and semantically related to the dimension they intend to measure, using newly developed items restricts validity. To counter this, more sophisticated validation procedures are necessary.

3 Objectivity: Survey data should ideally not be influenced by the circumstances under which they were collected. This is assured in the consumer survey by standardised data collection and analysis procedures. However, it cannot be ruled out that country-specific circumstances systematically influenced the way people responded to the surveys, i.e. a recent scandal. Also, when the survey was part of an omnibus survey, framing effects of prior omnibus questions might apply.

In addition to these three quality criteria, limitations concerning causality and the frame of reference apply:

4 Causality: Explorative surveys as the consumer survey conducted for this report provide no information about causal reasons for the outcomes. A wide range of reasons may cause differences between as well as within countries. These include cultural differences, time-specific reasons (e.g., an awareness-raising campaign launched in one country during data collection) as well as idiosyncrasies of the countries. Only further research testing specific hypotheses can shed light on the causes underlying the survey results presented in this report.

5 Frame of reference: Since the items used in the consumer survey were developed specifically for the survey, no external frame of reference or benchmark exists. Thus, interpreting the results as being “high” or “low” cannot be done against an “objective” standard.

From these limitations, an important implication for interpreting the results arises: The consumer survey provides a valuable first impression for the status quo of satisfaction and concerns about different aspects of digitalisation in six selected G20 countries. Naturally, this status quo differs between countries. Because – as outlined above – no benchmark exists and reasons for the differences between countries are unknown, the survey results should not be used to compare countries with each other.

2

The Conceptual Framework

Nowadays digital technologies are not only an integral part of the operations of firms and governments, but also of consumers’ everyday lives. The proper further development of digital technologies is pivotal for economic growth and the competitiveness of economies. Yet, as the G20 and the OECD highlight, such a successful rollout of digital technologies depends, inter alia, on the trust of consumers in these new technologies.³⁴

In our survey, which was conducted in six G20 countries, consumers were asked whether they felt at ease with being a consumer in the digital world. As Figure 1 illustrates, general satisfaction is in a mid-positive region and varies between the six countries. The highest number of consumers who agreed to feeling at ease in the digital world is in Argentina, Germany and South Africa compared to the lowest level of agreement in China. In France and Germany, male consumers agreed to feeling at ease with being a consumer in the digital world significantly³⁵ more frequently than females, but these differences were small.³⁶

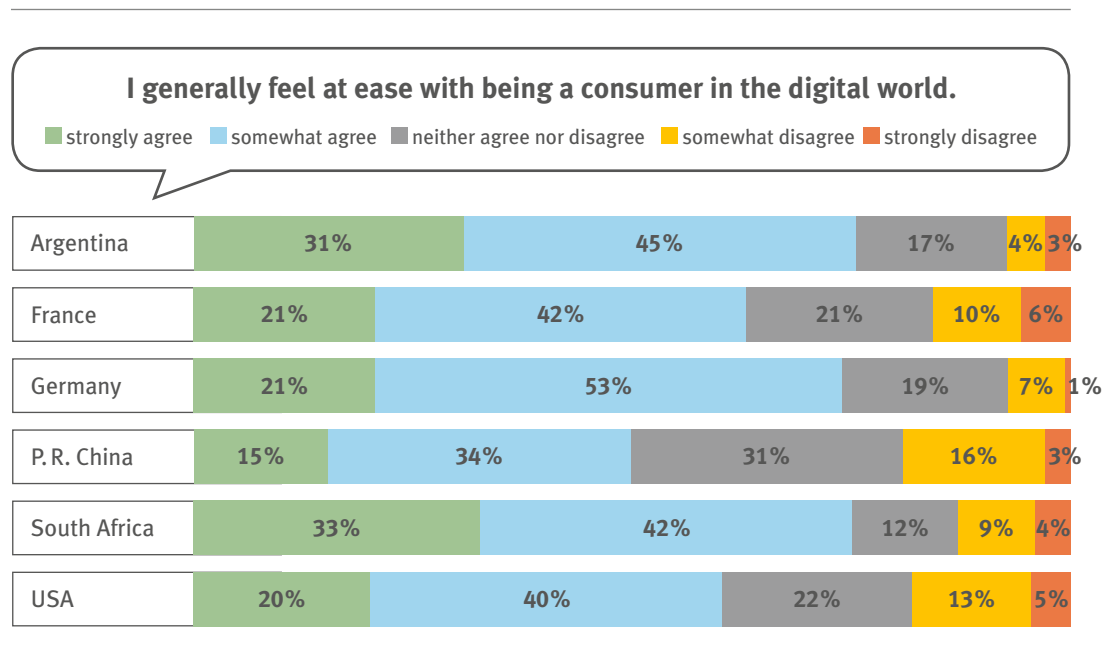


Figure 1: Consumer survey results for general consumer confidence in the digital world

The objective of this chapter is to explain how consumer trust is linked to a thriving digitalisation process and how consumer trust is constituted.

³⁴ See section 1.1. See also: OECD, ‘The Internet Economy: Regulatory Challenges and Practices’, 11 December 2014, 5.

³⁵ Significance tests were conducted using one-factorial ANOVA with Bonferroni corrected significance levels for post-hoc between country comparisons.

³⁶ The level of statistical significance used is $p < .05$. To interpret the practical relevance of effect sizes, Cohen’s d was used with $d = .2$ equaling a small effect, $d = .5$ equaling a medium effect and $d = .8$ equaling a large effect.

2.1. Why consumer trust matters for a thriving and inclusive digitalisation process

A number of studies show that the Internet plays an important role in furthering economic growth in developed as well as developing countries.³⁷ A recent analysis suggests, for example, that a 10 percent increase in broadband penetration in developing countries is correlated with a 1.35 percent increase in GDP.³⁸ Another projection by the consulting firm McKinsey for Africa estimates that the Internet could transform sectors from agriculture to retail to health care and account for up to \$300 billion of Africa's annual GDP by 2025.³⁹ Other studies suggest that in addition to the direct contribution of the Internet to economic growth, it also brings material increases in economic productivity, since the Internet makes it more efficient for consumers to trade, communicate and access information.⁴⁰

In addition to these positive effects on economic development in general, Section 1.1 highlights a number of direct positive impacts for consumers, such as better access to information, an increased range of choices, potentially lower prices and more innovation in products and services.

Yet, consumer research also suggests that consumers face barriers and real and perceived risks in the digital world that undermine consumer trust and slow the digitalisation process. A 2015 global representative survey covering

Consumers face barriers and real and perceived risks in the digital world that undermine consumer trust and slow the digitalisation process.

24 countries, which was commissioned by the Centre for International Governance Innovation (CIGI), showed that 39 percent of the respondents have reduced the amount of biographically accurate information that they provide online, 23 percent made fewer financial transactions online, 21 percent made fewer online purchases and 11 percent used the Internet less often due to privacy and security concerns.⁴¹

Two surveys conducted by TRUSTe, a privacy management solution company, further underline that these barriers and risks have real impacts. According to the results of these surveys, due to privacy concerns, 46 percent of UK and 44 percent of US respondents withheld personal information, 31 percent of UK and 32 percent of US respondents did not download an app or a product and 23 percent of UK and 28 percent of US respondents stopped an online transaction in the year 2016.⁴²

37 Inter-American Development Bank, 'Socioeconomic Impact of Broadband in Latin America and Caribbean Countries', 2012; Deloitte, GSMA, and CISCO, 'What Is the Impact of Mobile Telephony on Economic Growth?', 2012.

38 Colin Scott, 'Does Broadband Internet Access Actually Spur Economic Growth?', 07 2012, 2, <https://pdfs.semanticscholar.org/1f71/7d81a992e514cba3349199152f8f85e08a57.pdf>.

39 McKinsey & Company, 'Lions Go Digital: The Internet's Transformative Potential in Africa', November 2013, 6.

40 GSMA, 'Connected Society: Mobile Connectivity Index Launch Report', 6.

41 Centre for International Governance Innovation, 'CIGI-IPSOS Global Survey on Internet Security and Trust', 14.

42 TRUSTe, 'GB Consumer Privacy Index 2016', 2016. and TRUSTe, 'U.S. Consumer Privacy Index 2016', 2016.

The 2016 Global Internet Report by the international Internet Society hence concludes: “Without trust, those online are less likely to entrust their personal information to the Internet, and, those who are not yet online will have a reason to stay offline. The Internet economy will not grow as fast as it could, and the UN Sustainable Development Goals (SDGs) will be that much harder to achieve.”⁴³

It is therefore not surprising that organisations such as the World Bank highlight that demand-side issues have to be taken seriously in the promotion and development of the digitalisation process.⁴⁴ If one takes into account that in the OECD, consumer spending is responsible for approximately 60 percent of the Gross Domestic Product (GDP), the importance of the supply-side is further underlined.⁴⁵

This leads to the question of how consumer trust could and should be secured and strengthened and how consumers should be protected and empowered in the digital world.

2.2. How consumer trust is constituted

In the literature, one finds different ways in which demand-side barriers to Internet adoption and participation in the digital economy are defined and grouped.⁴⁶ The present study takes the United Nations Guidelines for Consumer Protection (UNGCP) as its point of departure. This approach is also recommended by the OECD in its report about *Key issues for digital transformation in the G20*.⁴⁷

The UNGCP were first adopted by the United Nations (UN) General Assembly in April 1985 and were recently revised in December 2015, inter alia, to better reflect experiences of consumers in the digital world. In its Resolution 70/186, the General Assembly recommends UN member states to implement these guidelines. Furthermore, these guidelines also influenced other policy strategies such as the ASEAN Economic Community Blueprint 2025.⁴⁸

The UNGCP propose key principles for consumer protection. It can be assumed that if these principles are met, markets are regarded as trustworthy and as working in consumers’ best interests. Based on the UNGCP principles, the following eight generic dimensions of consumer protection and empowerment are considered in the present study:⁴⁹

⁴³ Internet Society, ‘Global Internet Report 2016’, 2016, 16.

⁴⁴ World Bank Group, ‘Digital Dividends: World Development Report 2016’, 200.

⁴⁵ OECD, ‘Key Issues for Digital Transformation in the G20: Report Prepared for a Joint G20 German Presidency/ OECD Conference’, 124.

⁴⁶ McKinsey & Company, ‘Offline and Falling behind: Barriers to Internet Adoption’, Chapter 4. Facebook, ‘State of Connectivity 2015: A Report on Global Internet Access’, 2016.

⁴⁷ OECD, ‘Key Issues for Digital Transformation in the G20: Report Prepared for a Joint G20 German Presidency/ OECD Conference’, 9 and 124–133.

⁴⁸ ASEAN, ‘ASEAN Economic Community Blueprint 2025’, Sections B.2 and C.3.

⁴⁹ Please note that the order in which the general principles are presented differs slightly from the Guidelines. See: United Nations, ‘United Nations Guidelines for Consumer Protection’.



Access: Consumers should have access to essential goods and services.



Economic interests: The economic interests of consumers should be protected and promoted.



Product safety and liability: Consumers should be protected from hazards to their health and safety.



Privacy and data security: Consumer privacy and the free flow of information should be protected as well as secure payment mechanisms being offered.



Information and transparency: Consumers should have access to adequate information to enable them to make informed choices according to their individual wishes and needs.



Education and awareness: Consumers should be educated – this also includes their awareness about environmental, social and economic consequences of their consumption choices.



Dispute resolution and redress: Consumers should have access to effective dispute resolution and redress mechanisms.



Participation: Consumers should have the freedom to form consumer- and other relevant groups or organisations and they should have the opportunity to present their views in decision-making processes affecting them.

In addition, the principles encompass two horizontal guidelines: First, vulnerable and disadvantaged consumers (particularly rural consumers and people living in poverty) should be particularly protected and supported. Second, consumers should promote sustainable consumption patterns. Whereas the vulnerability principle is recognised, where relevant, throughout the eight dimensions mentioned above, our study does not systematically address the sustainable consumption principle due to limitations in scope. The exclusion of the latter principle does not render this aspect less important. It should be included with these indicators in a later step.

The UNGCP also highlight that both governments as well as businesses should contribute to an effective consumer policy framework. First, *governments* are called upon to establish consumer policies that implement these principles.

Both governments as well as businesses should contribute to an effective consumer policy framework.

They should also work towards ensuring that consumer protection agencies have the necessary human and financial resources.

Second, *businesses* should ensure that they treat consumers fairly; do not engage in illegal, unethical and discriminatory or deceptive practices; provide complete, accurate and non-misleading information; engage in education and awareness-raising activities; protect consumer privacy and make available complaints-handling mechanisms.

Resolution 70/186 requests that the United Nations Conference on Trade and Development (UNCTAD) exchanges information on progress and experiences regarding the implementation of the resolution, review that information and report to the General Assembly on this subject. To this end, an Intergovernmental Group of Experts on Consumer Protection Law and Policy has been established to provide the institutional machinery.⁵⁰

Figure 2 summarises the eight different dimensions that constitute the framework for the indicator development in this study. Deviating from the UNGCP, we have added governance to the UNGCP principle participation, since we see participation of consumers and their representatives as being part of a bigger governance challenge.

⁵⁰ UNCTAD, 'Method of Work and Work Programme, 2016–2020', 12 2016.



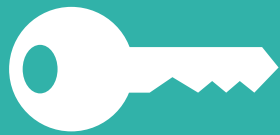
Figure 2: The eight dimensions of the Digital Consumer Protection and Empowerment indicators

3 The Digital Consumer Protection and Empowerment indicators

Based on the conceptual framework (see Chapter 2), this chapter explains key consumer issues within each of the eight dimensions, develops indicators to measure progress towards them and discusses whether these indicators, data-gathering methodologies and data on a G20 scale already exist. Furthermore, the results of the consumer survey conducted in six G20 member states are presented in this chapter. Whether men and women, different age groups or countries differed in their answers is reported when these differences form an interpretable and statistically significant pattern.

MAVESH INTERNET
Internet
Email
Hotmail
Yahoo-mail
Available

3.1. Dimension 1: Access



MAVESH INTERNET

3.1.1. Description of the issue

Access to the Internet and ICT is a prerequisite for consumers to participate in the digital economy. Hence, not only the UNGCP recognise the importance of access, but also the SDG 9.c calls for a significant increase in “access to information and communications technology” and to “strive to provide universal and affordable access to the Internet”, particularly in the least developed countries, by the year 2020. Also, the G20 committed themselves in their September 2016 Digital Economy Development and Cooperation Initiative to promote “broadband network coverage and improve service capacity and quality [...]. Promote the broadband connectivity among the poorest citizens, especially the poorest 20 percent of citizens, and citizens from low-density areas and strive to provide universal and affordable access to the Internet in the least developed countries. Reaffirm the goal of ensuring the next 1.5 billion people are connected and have meaningful access to the Internet by 2020 in accordance with the Connect 2020 agenda.”⁵¹ However, as criticised by the Alliance for Affordable Internet, if current trends persist, the world will miss this goal by 22 years.⁵²

Based on reports by major international organisations and definitions provided in the literature, the present report defines **ICT access** in a threefold way:

- first, the sheer existence of broadband and mobile connections
- second, its usability depending on cost, speed and reliability, and
- third, its equity, i.e. the accessibility particularly for vulnerable consumer groups.

With regard to these three aspects, our research provided a range of existing indicators:

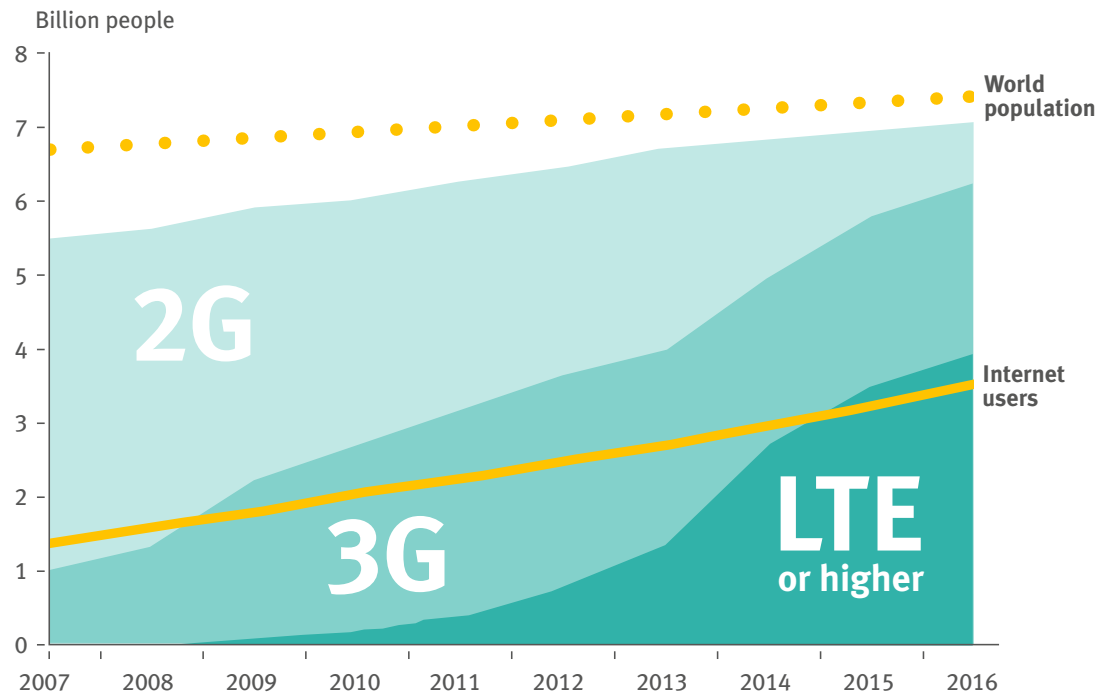
One indicator to measure ICT access is the **proportion of the population which is covered by a high-speed mobile-cellular network**. Here one needs to distinguish between different network qualities: 2G (narrowband) networks offer basic access to services (particularly voice-based). Yet 3G, LTE or higher networks are necessary to make full use of the Internet.

According to the International Telecommunication Union (ITU), which is the United Nations specialised agency for ICT, the proportion of the global population covered by a mobile-broadband network is expected to have reached 84 percent in 2016. The challenge, however, is that in rural areas the penetration rate is only 67 percent. Furthermore, just slightly more than half of the global population is covered by LTE or higher networks.⁵³ Figure 3 illustrates this.

⁵¹ Chinese G20 Presidency, ‘G20 Digital Economy Development and Cooperation Initiative’, 4, 5.

⁵² Alliance for Affordable Internet, ‘Affordability Report 2015/16’, 2016, 4.

⁵³ International Telecommunication Union, ‘Measuring the Information Society Report 2016’, 88.



Note:* Estimate

Figure 3: Mobile network coverage and evolving technologies, 2007–2016 (Source: ITU)

Another indicator to measure ICT access is **the proportion of the population with fixed-broadband subscriptions and their speeds**. ITU data shows that there are very substantial differences between developed and developing countries, as well as within regions. On the one hand, there are some countries, such as the Republic of Korea, Denmark and France where fixed-broadband penetration rates are around 40 percent and almost exclusively high speed (i.e. above 10 Mbps). On the other hand, there are many low-income economies where less than 2 percent of the population have fixed-broadband plans typically of low-speed (i.e. below 2 Mbps).⁵⁴

Analysing this data per world region, a large difference in access becomes visible: While the average in Europe is 29 percent of the population, in Africa it is only 0.5 percent. Figure 4 illustrates the weighted average for fixed-broadband subscriptions within each region, together with figures for the highest and lowest performing countries in each region.

⁵⁴ Ibid., 90.

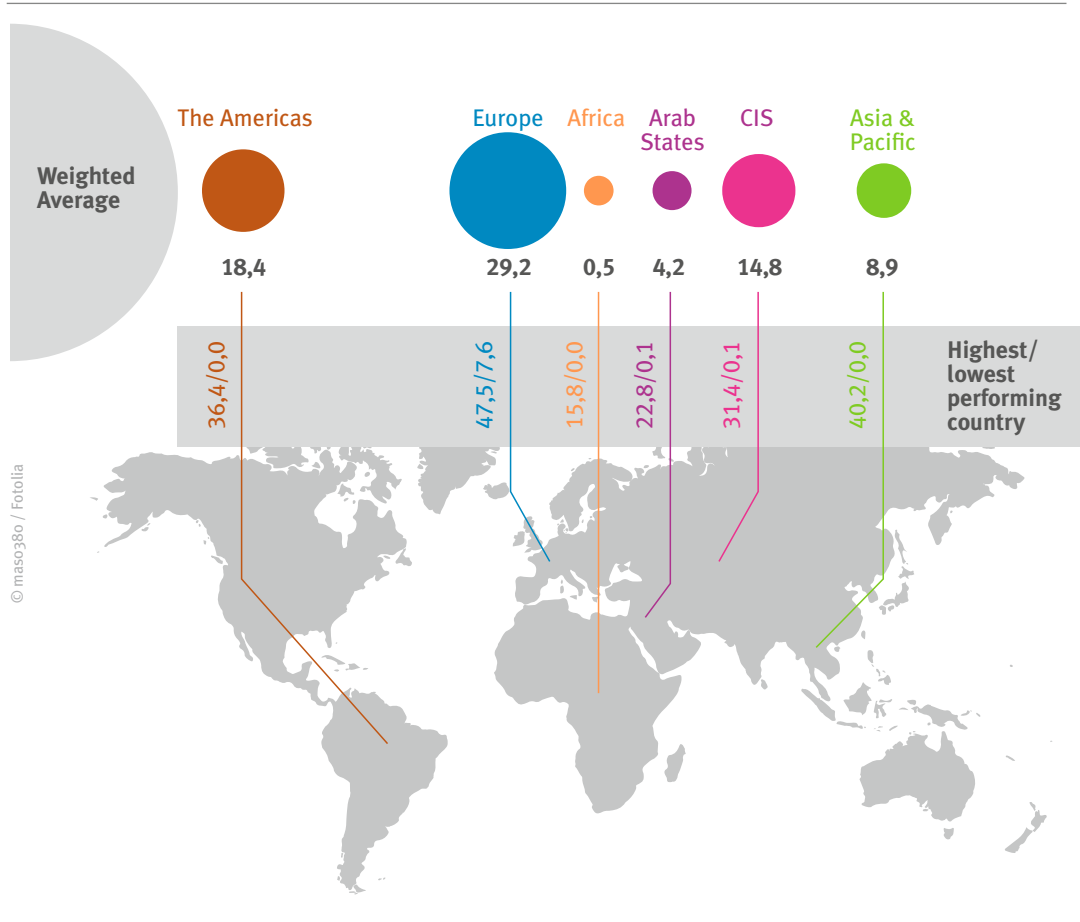


Figure 4: Fixed broadband subscriptions per 100 inhabitants, per region, 2015 (Source: ITU)

Mobile uptake is another indicator for access. Here ITU data shows that universal use of mobile-cellular services has not yet been achieved. Global data shows that nearly 20 percent of the world’s population still does not use a mobile phone. Socio-economic data shows that particularly young (5–14 years old) and old consumers (>74 years old) do not own or use a mobile phone, many women rely on someone else’s mobile phone or SIM card to access mobile-cellular services and people who live in rural areas are less likely to own or use a mobile phone than people in urban areas.⁵⁵

Another important indicator for access are **prices**, because high costs of ICT services can lead to an exclusion of consumers. Our G20 consumer survey shows that the consumer experience in the six G20 countries varies significantly between the countries: The mean satisfaction is lowest in South Africa, Argentina and the USA and significantly higher in China and Germany while French consumers are more satisfied with their costs than South Africans but less satisfied than Germans (see Figure 5). When interpreting these results, it should be

55 Ibid., Chapter 5.

noted that very high satisfaction with prices is hard to achieve and should thus not be the expected standard. However, the variance between countries illustrates different degrees of satisfaction in the different countries.

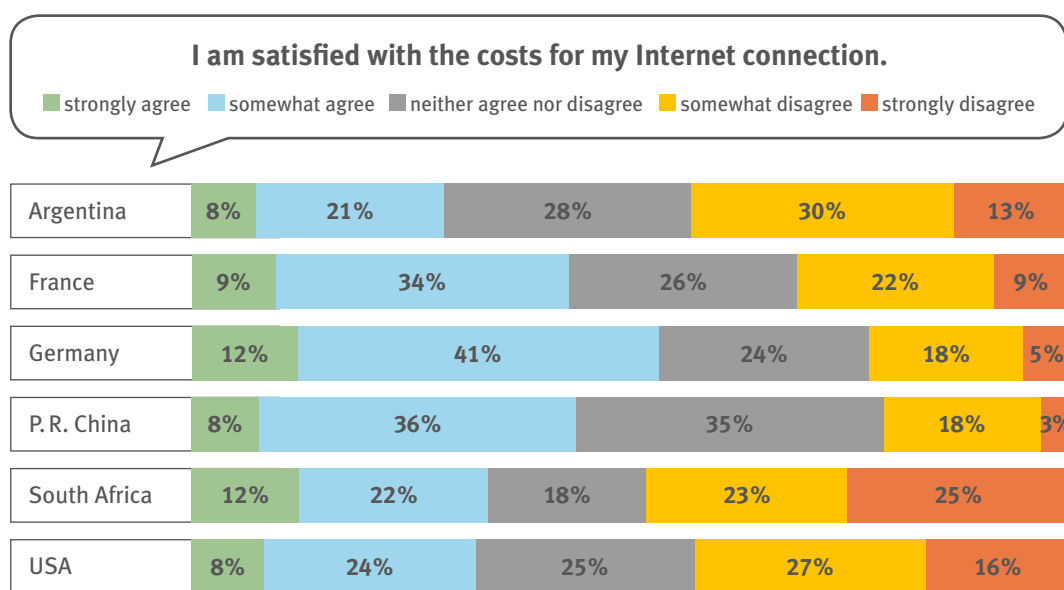


Figure 5: Consumer survey results for satisfaction with costs

This mixed result is further supported by other evidence: On the one hand, according to the ITU, *mobile-cellular prices* continued to decrease in 2015, and this decrease was stronger than in the previous years. By the end of 2015, on average, a mobile-cellular sub-basked (cost of 30 outgoing calls per month, plus 100 SMS messages) cost approximately the same in developed, developing and the least-developed countries. The least developed countries saw a 20 percent drop in mobile-cellular prices, which represents the strongest decrease in five years.⁵⁶

On the other hand, while *fixed-broadband prices* continued to drop significantly in 2015, they remained high and basically unaffordable in a number of LDCs. Furthermore, the speed offered differs significantly: While in 2015 there was not a single developed country where speeds below 1 Mbps were offered, in a large majority of LDCs these speeds were offered.⁵⁷

Unsurprisingly, **Internet activity also varies by region**. ITU data suggests that despite the generally high physical availability of mobile and broadband networks, still over half of the global population is offline (i.e. 3.9 billion people). The share is disproportionately higher for females, the elderly, the less educated, lower income groups and rural populations.⁵⁸

⁵⁶ Ibid., 105.

⁵⁷ Ibid., 115ff.

⁵⁸ Ibid., 190.

A similar picture emerges when one analyses the **proportion of individuals using the Internet**. Whereas the percentage of individuals using the Internet in the last three months lies at 79 percent in Europe, the numbers go down to 25 percent in Africa. Figure 6 summarises ITU data about the proportion of individuals using the Internet by region and by development status.⁵⁹

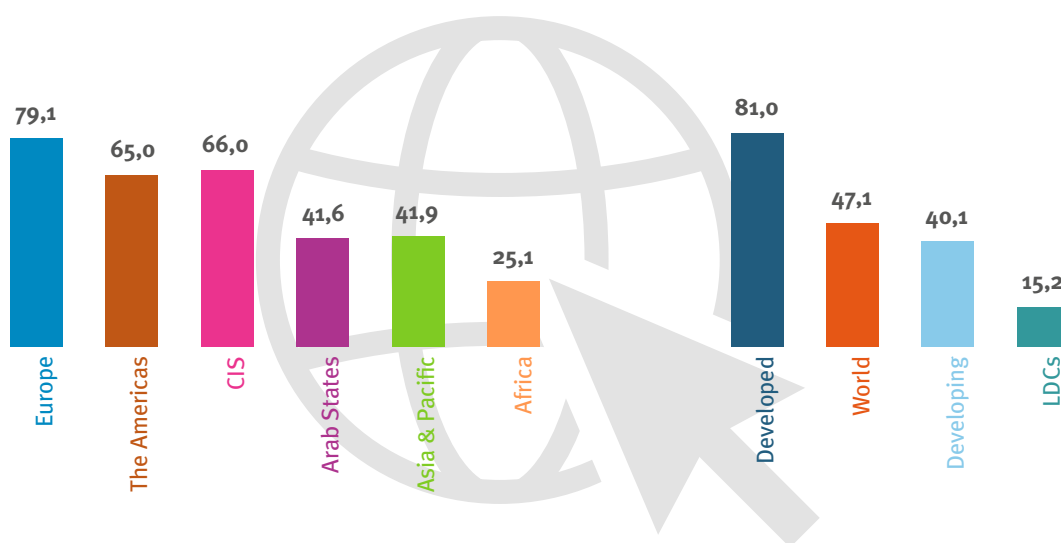


Figure 6: Proportion of individuals using the Internet, by region and by development status, 2016 (Source: ITU)

This overview shows that much needs to be done to close the access gap and ensure access to the Internet from the supply-side in some world regions (particularly in Africa) by increasing high-speed mobile-cellular and fixed-broadband coverage by means of infrastructure deployment and a reduction in costs.

Moreover, the data suggests that demand-side issues should also be taken into account. The Groupe Speciale Mobile Association (GSMA) and others argue that there is also a *usage gap*: There are almost 1 billion people that potentially have access to mobile Internet that do not use it. These people are typically in lower income groups, living in rural areas with little or no fixed infrastructure.⁶⁰

GSMA and the ITU highlight that the key reasons for non-adoption can be found in demand-side factors such as network performance, affordability, poor quality of services, awareness, digital skills and the lack of locally relevant content and services.⁶¹

As a consequence, the ITU warns that the full potential of the Internet remains untapped, especially for low-income and less educated users and that the Internet could reinforce existing inequalities rather than narrow the gaps.⁶²

⁵⁹ Ibid., 91.

⁶⁰ GSMA, 'Connected Society: Mobile Connectivity Index Launch Report', 3.

⁶¹ Ibid., 8, 9. and International Telecommunication Union, 'Measuring the Information Society Report 2016', 181.

⁶² International Telecommunication Union, 'Measuring the Information Society Report 2016', 181.

Our G20 consumer survey shows that the satisfaction with Internet quality in the six countries falls into a mid-positive range. The mean satisfaction levels in Germany and the USA are significantly higher than in other countries (see Figure 7).

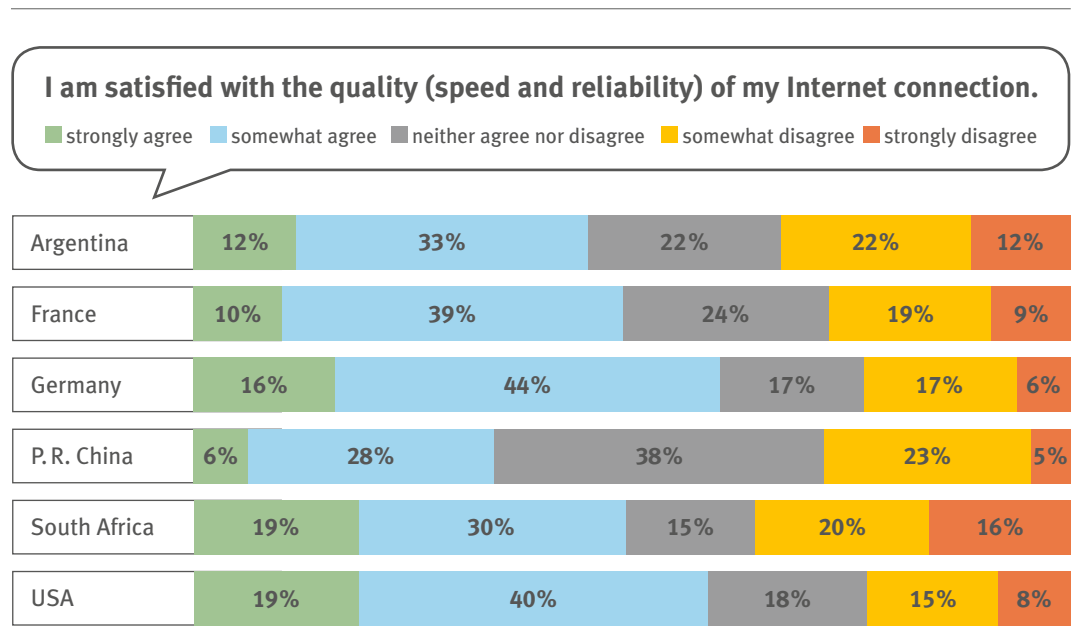


Figure 7: Consumer survey results for satisfaction with quality

One important policy instrument to address the access-gaps are national broadband plans. The following box illustrates good practices in this regard.

Good practices

National broadband plans

National broadband plans are an important policy tool to promote digital infrastructure development and deployment. A report by the United Nation's Broadband Commission for Sustainable Development shows that 77 percent of countries worldwide (i.e. 151) have adopted National Broadband Plans.⁶³ The OECD lists the following examples for broadband objectives in the G20 context:⁶⁴

The European Commission has proposed targets for a European Gigabit Society by 2025. All schools, transport hubs, main providers of public services and digitally intensive enterprises should have access to Internet connections with download/upload speeds of 1 Gigabit of data per second (Gbps). Furthermore, all European households should have access to networks offering a download speed of at least 100 Mbps.

The United States aims for 100 Mbps connections to 100 million homes by 2020.

Canada focuses on boosting coverage in underserved areas by investing CDN 500 million over 5 years.

South Korea aims for 1 Gbps connections to 90 percent of urban areas (85 cities) and 100 Mbps to 100 percent of households (including rural areas with 50 households) by 2017.

Australia aims for 50 Mbps speeds to 90 percent of households and businesses, and at least 25 Mbps to the whole population.



⁶³ Broadband Commission for Sustainable Development, 'The State of Broadband: Broadband Catalyzing Sustainable Development', 2016, 33.

⁶⁴ OECD, 'Key Issues for Digital Transformation in the G20: Report Prepared for a Joint G20 German Presidency/OECD Conference', 57.

3.1.2. Indicators, their measurement and available data

From a consumer policy perspective, the access dimension could be described with and measured by the following indicators:

1 Access to networks	
Proportion of the population which is covered by a high-speed mobile-cellular network	Proportion of the population which is covered by a high-speed fixed-broadband network
2 Mobile uptake	
Proportion of the population using a high-speed mobile-cellular service	Proportion of the population using a high-speed fixed-broadband subscription
3 Affordability	
High speed mobile-cellular prices	High speed fixed-broadband prices
4 Use	
Proportion of individuals using the Internet ⁶⁵	
5 Consumer satisfaction	
Consumer satisfaction with the quality of and costs for the Internet connection	

Table 4: Access: Overview of key indicators

Indicators and data AVAILABLE

As the discussion of this dimension shows, indicators, data-gathering methodologies and data on a G20 scale are already available. The work of the ITU on the measurement of the information society is a useful and reliable source for such data. Hence this dimension could be directly applied in the context of Digital Consumer Protection and Empowerment indicators.

⁶⁵ More specific use-of-Internet indicators are included in the indicator set for education and awareness (see Section 3.6.2).

In addition to data from the ITU, there are also other organisations providing methodologies and data regarding the access dimension that go beyond the abovementioned indicators:

- The Alliance for Affordable Internet with its *Affordability Report* also includes indicators such as clear, time-bound targets in National Broadband Plans for reducing costs and increasing penetration, the existence of specific policies to promote free or low-cost access, the sum of investment per telecom subscriber and the number of Internet Exchange points (IXPs).⁶⁶
- The *Australian Digital Inclusion Index 2016* encompasses three access dimensions: Internet access (in terms of frequency, places and number of access points), Internet technology (in terms of computers, mobile phones, mobile broadband and fixed broadband) and Internet data allowance (mobile and fixed Internet). Furthermore, affordability is measured with two sub-indexes: The share of household income spent on Internet access and the total Internet data allowance per dollar expenditure.⁶⁷
- The GSMA with its *Mobile Connectivity Index* also includes indicators such as mobile latencies, access to electricity, number of servers, Gross National Income (GNI) per capita and the Gini co-efficient.⁶⁸
- HUAWEI's *Global Connectivity Index* also encompasses indicators such as ICT investment, telecom investment, fibre optics, data centre investment, cloud investment, big data investment and IoT investment.⁶⁹
- The Inter-American Development Bank's *Broadband Development Index (IDBA) for Latin America and the Caribbean* also encompasses indicators such as the extent to which national broadband plans by governments exist and have been implemented.⁷⁰
- The World Wide Web Foundation also includes indicators such as the existence of concrete targets for gender equity in ICT access and use in its Web Index.⁷¹

66 Alliance for Affordable Internet, 'Affordability Report 2015/16'.

67 J. Thomas et al., 'Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2016', 2016, 7.

68 GSMA, 'Connected Society: Mobile Connectivity Index Launch Report'.

69 HUAWEI, 'Global Connectivity Index: Connect Where It Counts – Mapping Your Transformation into a Digital Economy with GCI 2016', 2016, 81.

70 Inter-American Development Bank, 'Methodology for the Broadband Development Index (IDBA) for Latin America and the Caribbean', 2014, Section 3.4.

71 World Wide Web Foundation, 'Web Index: Report 2014–2015', 2014, 12–13.

3.2. Dimension 2:
Economic
interests



3.2.1. Description of the issue

To promote and protect the economic interests of consumers in the digital world, the option to choose between different innovative products and services at competitive prices should exist. A prerequisite for this is the existence of competition in markets.

Hence, Guideline 22 of the UNGCP recognises the importance of competition policy as a component of consumer protection when it calls upon member states to “develop, strengthen or maintain, as the case may be, measures relating to the control of restrictive and other abusive business practices which may be harmful to consumers, including means for the enforcement of such measures.”

The UNGCP furthermore refer to the UN Set of Multilaterally agreed Equitable Principles and Rules for the Control of Restrictive Business Practices.⁷² These rules call upon states to “adopt, improve and effectively enforce appropriate legislation and implementing judicial and administrative procedures for the control of restrictive business practices, including those of transnational corporations”.⁷³ Furthermore, with regard to businesses, the principles highlight that enterprises “should conform to the restrictive business practices laws”.⁷⁴

Competition law and policy therefore seek to ensure that businesses refrain from market practices that undermine competition. Such practices fall into two main categories: horizontal and vertical restraints on competition. Examples for horizontal restraints include collusive conduct with other competitors in the market and specific practices such as cartels, conspiracy and pricing behaviour such as predatory pricing, price discrimination and price fixing. Vertical restraints entail supplier-distributor relationships. These include, for example, exclusive dealing, geographic market restrictions, refusal to deal/sell, resale price maintenance and tied selling.⁷⁵

Competition policy is also a key component for the realisation of consumer value in the digital economy as the following examples show:

- **Telecommunication markets should be competitive:** The Consumers International member survey shows that in some countries, the telecommunication markets are characterised by monopolies, duopolies or oligopolies and that newcomers face high if not prohibitive barriers to market entry. Furthermore, even when several providers exist, the products and services often lack any substantial differences or are hardly comparable. As a result, consumers are harmed by insufficient competition.

⁷² United Nations, ‘The United Nations Set of Principles and Rules on Competition’, 2000.

⁷³ Ibid., Section E.

⁷⁴ Ibid., Section D.

⁷⁵ United Nations, ‘Manual on Consumer Protection’, 2016, 51.

This assessment is supported by OECD data. The OECD argues that the spread of high-quality broadband networks and the quality and cost of accessing these networks are linked to the state and diffusion of broadband networks in a country and the degree of competition in the market.

- **Digital enterprises should not misuse their dominant market position:** Companies such as Google, Facebook, Amazon, Microsoft and Apple have accumulated great market power in the digital world in general and in consumer technologies specifically. Particularly, such kinds of online platform operators can shape markets by controlling access to their platforms, defining the rules for interaction and defining the remuneration of the players. Care needs to be taken that these companies do not misuse their enormous market power.

That this is not only a theoretical concern can be illustrated with two examples: In July 2016, the European Commission decided to take further actions against Google. It accused Google of abusing its dominant position by systematically favouring its comparison shopping services in its search results and by restricting the possibility of third party websites to display search advertisements from Google's competitors.

Another example is Microsoft. In 2009, the European Commission investigated the company's practice of tying its web browser Internet Explorer to its dominant client PC operating system Windows, hereby infringing the rules on abusing a dominant position.⁷⁶ After Windows failed to comply with its commitments to offer users a browser choice screen, in 2013 the European Commission imposed € 561 million fine on Microsoft.

- **Mergers and acquisitions in the digital economy should not result in a lack of competition in markets:** There are legitimate reasons for companies to merge with or purchase other companies, for example to increase economic efficiency or diversify its product and service portfolio. From a competition perspective, it is, however, important that mergers and acquisitions do not result in a significant reduction of competition. Competition authorities hence should have the responsibility to investigate the effects of mergers and acquisitions and to decide about prohibitions or conditions.

⁷⁶ European Commission, 'Antitrust: Commission Confirms Sending a Statement of Objections to Microsoft on the Tying of Internet Explorer to Windows', 2009.

An example for such a need was Facebook’s decision to purchase WhatsApp in 2014. In this case, competition authorities both in the US and the EU investigated the merger. Both cleared the merger under the condition that the WhatsApp service would respect previous privacy policies and obtain users’ consent before changing any policies.

In addition to these “traditional” concerns of competition policy, some developments associated with the digitalisation of the economy also create new types of challenges for competition in general and competition policy in particular. Big Data with its data mining technologies is one of the most unique new developments in this regard. Enterprises increasingly adopt business models in which consumers obtain a service free of charge but pay with their personal data. Some competition authorities and experts highlight the potential negative effects of these new business models on competition. They argue that network effects and economies of scale lead to “winner-takes-all” outcomes that impede competition.⁷⁷ Hence, they also call for updates in competition law and its enforcement. While there is no agreement in the literature about the concrete implications, the following challenges and implications are discussed:⁷⁸

- The market definition is the cornerstone of competition analysis. Due to the multi-sided features of many digital markets, however, the definition of the market can be a very complex task and traditional tools such as the “small but significant and nontransitory increase in price test” (SSNIP test) fall short of capturing the specific features of these markets. Hence, there is a need to refine how digital markets should be defined in competition analysis.⁷⁹
- In the assessment of market power, the price of products and services traditionally plays an important role. However, in digital markets with often zero-price services, competition enforcers might underestimate the degree of market power or they might even assume that a market situation does not present a competition problem. The French Autorité de la Concurrence and the German Bundeskartellamt highlight, however, that even when products are available for free, the possession of Big Data might be an important source of market power, particularly when the data can be used as a barrier to entry. In other words, in the digital economy companies often do not compete *in* the market but *for* the market.⁸⁰ This fact should be taken into account in the assessment of market power.

77 OECD, ‘Big Data: Bringing Competition Policy to the Digital Era – Background Note by the Secretariat’, 2016, 9–14. See also: World Bank Group, ‘Digital Dividends: World Development Report 2016’, 19; BEUC, ‘A Consumer-Driven Digital Single Market’, 2015, 11.

78 OECD, ‘Big Data: Bringing Competition Policy to the Digital Era – Background Note by the Secretariat’, Section 3.1.

79 OECD, ‘Key Issues for Digital Transformation in the G20: Report Prepared for a Joint G20 German Presidency/ OECD Conference’, 138.

80 French Autorité de la Concurrence and German Bundeskartellamt, ‘Competition Law and Data’, 2016, 27–28.

- Similarly, in merger reviews, the privacy dimension should be brought into an assessment. In the abovementioned Facebook/WhatsApp merger case, the small value of the turnover of WhatsApp was not enough to trigger the threshold for a notification. However, Facebook was willing to pay \$19 billion for WhatsApp. This example shows that assets (such as a customer base or data) might be more valuable than turnover. Since transaction thresholds exist in some legislations, it is important to ensure that they not only focus on turnover but also on the value of the transaction.

This non-conclusive list of examples⁸¹ shows that digital markets pose distinct and new challenges for competition as well as competition regulation and its enforcement, and that governments should consider adapting their regulatory and enforcement frameworks to the digital world.

In addition to these specific concerns about competition, digitalisation creates other challenges for the economic interests of consumers:

- **Net neutrality:** A key concern from the consumer policy perspective is that all Internet traffic should be treated the same. This principle is often called “net neutrality”. Without such neutrality, Internet providers could discriminate against particular kinds of content impacting the delivery-speed or quality of the content or even block certain services. Yet, today, there is no common approach towards net neutrality on the international level. The OECD notes that while some G20 countries have introduced specific legislation or regulation to ensure net neutrality and have, inter alia, prohibited blocking and unreasonably discriminating against services (such as in Canada, South Korea, Brazil, the United States and the European Union), other countries have not yet approached this issue.⁸²
- **Lack of interoperability:** Consumer choice can be inhibited not only by a lack of available choices in markets but also by high transaction costs associated with switching suppliers. Such barriers can be the result of long-term fixed contracts, a lack of interoperability or a lack of phone number or data portability which leads to lock-in effects. If consumers cannot transfer their data easily from one provider to another (or only with high transaction efforts), it is unlikely that they will switch.⁸³

It is therefore important that governments make data portability and interoperability a key priority. Article 20 of the European Union General Data Protection Regulation states: “The data subject shall have the right to receive the personal data concerning him or her,

⁸¹ For a broader discussion see: OECD, ‘Big Data: Bringing Competition Policy to the Digital Era – Background Note by the Secretariat’; French Autorité de la Concurrence and German Bundeskartellamt, ‘Competition Law and Data’.

⁸² OECD, ‘Key Issues for Digital Transformation in the G20: Report Prepared for a Joint G20 German Presidency/OECD Conference’, 88, 89.

⁸³ Ibid., 136.

which he or she has provided to a controller, in a structured, commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance”. Other examples are the “My Data” initiative in the United States, the “Midata” initiative in the United Kingdom and the right to data portability in the Philippines.⁸⁴

- **Personalised pricing and price discrimination:** The price is a vital piece of information in consumers’ purchasing decisions. With the help of Big Data analytics, some businesses adjust their prices to individuals.⁸⁵ Depending on the location of consumers’ mobile devices, the brand and type of the device they use, the searches they perform or other characteristics, consumers are offered products and services at different personalised prices. While price discrimination is not a new phenomenon, the exponentially growing data processing and analysing possibilities make it possible to base prices not only on broad demographics but on personalised categories. This has led to a debate about this practice in a number of different countries. The US President’s Council of Economic Advisors highlights that this practice may facilitate discrimination against “protected groups”. When prices are not transparent, differential pricing could be conducive to fraud or scams that take advantage of unwary consumers.⁸⁶ The UK House of Lords discussed a proposal that personalised pricing schemes should have to declare their existence transparently to consumers.⁸⁷ Australia, on the other hand, has decided against adopting specific rules to address price discrimination; however, the legality of anonymity services is ensured so that consumers can choose to disguise their real identity.⁸⁸ In Germany, the Advisory Council on Consumer Affairs to the German Government recommends the introduction of strict rules on personalised pricing in order to avoid discrimination of vulnerable groups.⁸⁹

⁸⁴ Ibid., 131.

⁸⁵ OECD, ‘Price Discrimination: Background Note by the Secretariat’, 2016; Sachverständigenrat für Verbraucherfragen, ‘Digitale Welt Und Handel: Verbraucher Im Personalisierten Online-Handel’, January 2016, 19–23; Verbraucherzentrale Bundesverband, ‘Personalisierte Preise: Diskussionspapier Des Verbraucherzentrale Bundesverbands’, 2016.

⁸⁶ Executive Office of the President of the United States, ‘Big Data and Differential Pricing’, 2015, 16.

⁸⁷ House of Lords Select Committee on European Union, ‘Online Platforms and the Digital Single Market, 10th Report of Session 2015’, 2015, para 291.

⁸⁸ OECD, ‘Price Discrimination: Background Note by the Secretariat’, 35.

⁸⁹ Sachverständigenrat für Verbraucherfragen, ‘Verbraucher in Der Digitalen Welt: Verbraucherpolitische Empfehlungen’, 19 January 2016, Chapter 4.

Our consumer survey, which was conducted in six G20 countries, shows that consumers have relatively high levels of satisfaction with regard to switching to an alternative supplier if they are dissatisfied with the practices of an online service (overall mean of 3.55 on a 5-point scale). Interestingly, France differs from all other countries. Specifically, a large plurality (48 percent) of French consumers expressed to be neither satisfied nor dissatisfied (see Figure 8).

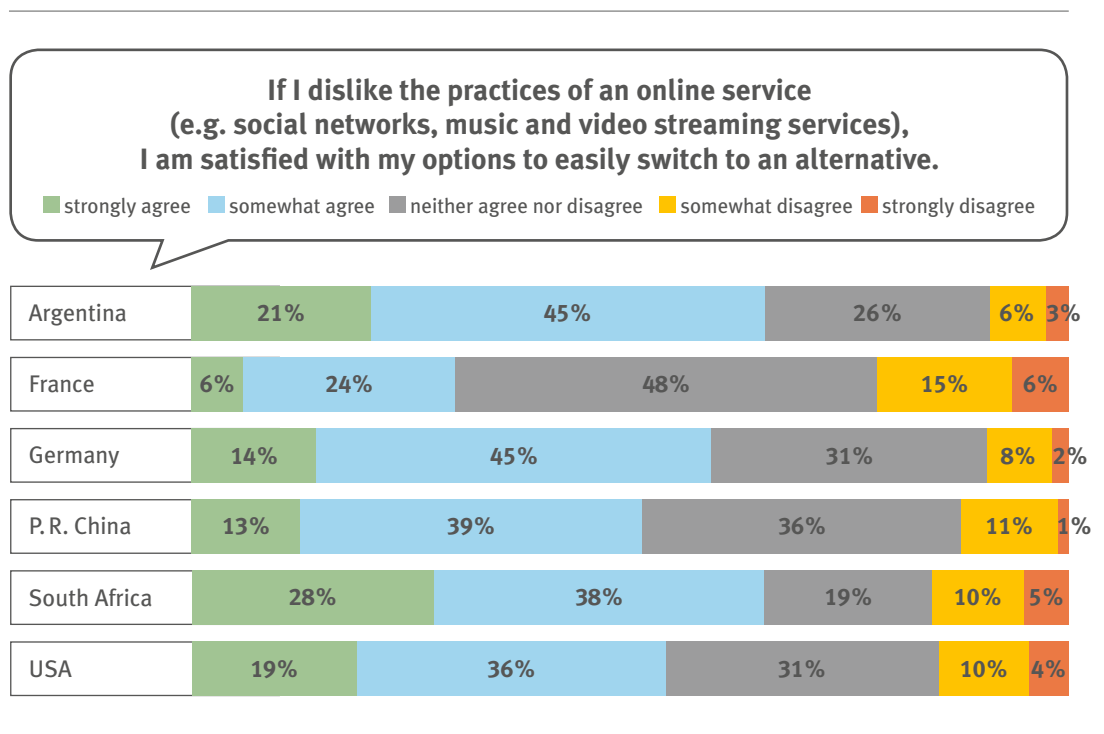


Figure 8: Consumer survey results for satisfaction with choice

In summary, the economic interests of consumers in the digital world consist mainly of the following dimensions:

- working competition resulting in a broad choice of products and services by avoiding monopolies and the misuse of market dominance also in the digital economy
- net neutrality
- interoperability and data portability
- non-discriminating offers and prices

3.2.2. Indicators, their measurement and available data

From a consumer policy perspective, the economic interests dimension can be described and measured with the indicators summarised in Table 5.

1 Adequacy of competition law and its enforcement	
Expert satisfaction with competition law to address the particularities of the digital economy	Expert satisfaction with competition law enforcement
Expert satisfaction with rules and regulations regarding interoperability and data portability	Expert satisfaction with net neutrality rules and regulations
2 Consumer experience	
Degree of liberalisation in various ICT sectors	Consumer satisfaction with the ability to easily switch to an alternative supplier if they dislike the practices of an online service
Consumer switching behaviour in various ICT sectors	Consumer concerns about personalised pricing and price discrimination

Table 5: Economic interests: Overview of key indicators

**Indicators and data
NOT YET AVAILABLE**

The basic challenge regarding these indicators lies in the absence of already existing indicators and corresponding data-gathering methodologies. This is not surprising, since it is rather difficult to measure the “competitiveness of the ICT sector” (Item 2) due to the wide range of markets that are covered by this term. Also, satisfaction with competition law and its enforcement (Item 1) is hard to estimate. Hence, there is a need to develop a robust and practical framework for the measurement of competition in the digital economy. In this regard, it would be useful to take into account the work of the OECD on competition assessment and some indicators that have already been developed.⁹⁰

⁹⁰ OECD, ‘Competition Assessment Toolkit – Volume 1: Principles Version 3.0’, 2016; OECD, ‘Key Issues for Digital Transformation in the G20: Report Prepared for a Joint G20 German Presidency/OECD Conference’, 37.

Expert opinions can be solicited in order to learn more about the economic dimension in the short term. The World Economic Forum's *Networked Readiness Index* and its *Global Competitiveness Index* are largely based on an executive opinion survey. In the context of consumer-orientated indicators, one would need to conduct a survey with representatives from consumer protection authorities, consumer associations and with consumers themselves.

In the development of a methodology for this dimension, the work of the OECD as well as the work of the following organisations should be taken into account:

- The Alliance for Affordable Internet with its *Affordability Report* also includes indicators such as flexibility, technology and service neutral ICT licensing frameworks and the extent to which the regulator and/or the competition authorities enforce the countries' respective ICT licensing requirements and regulations.⁹¹
- Taking a more comprehensive approach that goes beyond ICTs, the European Commission's *Consumer Markets Scoreboard* encompasses indicators such as comparability, choice/switching, prices and whether products live up to expectations.⁹²
- The Inter-American Development Bank's *Broadband Development Index (IDBA) for Latin America and the Caribbean* encompasses indicators such as the degree of liberalisation of ICT services, including 3G telephony, retail Internet access, international long distance calls, international gateways as well as the number of competitors in fixed and mobile broadband and the percentage of households with a computer and Internet access.⁹³
- The World Wide Web Foundation includes indicators such as the existence of effective net neutrality rules in its *Web Index*.⁹⁴
- The World Economic Forum's *Networked Readiness Index* includes indicators such as the intensity of local competition.⁹⁵

⁹¹ Alliance for Affordable Internet, 'Affordability Report 2015/16'.

⁹² European Commission, 'Consumer Markets Scoreboard: Making Markets Work for Consumers – 2016 Edition', 2016, Sections 5.1–5.4, 82–85 and 88–89.

⁹³ Inter-American Development Bank, 'Methodology for the Broadband Development Index (IDBA) for Latin America and the Caribbean', Section 3.4.

⁹⁴ World Wide Web Foundation, 'Web Index: Report 2014-2015', 12–13.

⁹⁵ World Economic Forum, 'The Global Information Technology Report 2016', 2016, 33–37.

3.3. Dimension 3: Product safety and liability



3.3.1. Description of the issue

Consumers should trust that the products and services sold in the market are not hazardous to their health and safety. Guidelines 16 to 19 and 33 to 35 of the UNGCP enumerate different elements that member states should put in place to ensure product safety.

The importance of product safety is aggravated in markets where products are increasingly complex and sophisticated so that inherent defects or hazards are not easily observable and where consumers face new types of products with which they do not have prior experience. Examples are electronic products such as smartphones, wearables or IoT-devices.

Historically, ensuring product safety has been one of the key objectives of consumer policy. Digitalisation has rendered this concern even more important. In globalised mass markets, product safety is still a major concern. A recent example of this is that some of Samsung's Galaxy Note 7 smartphones burst into flames, which has led to a global product recall.⁹⁶

Our G20 consumer survey shows that the level of concern about the safety of some digital technologies, such as self-driving cars or smart homes, is relatively high. In the survey, the majority of respondents in every country (except for China) voiced mild or strong concerns about these technologies. The level of concern is lowest in China and highest in the USA (see Figure 9).

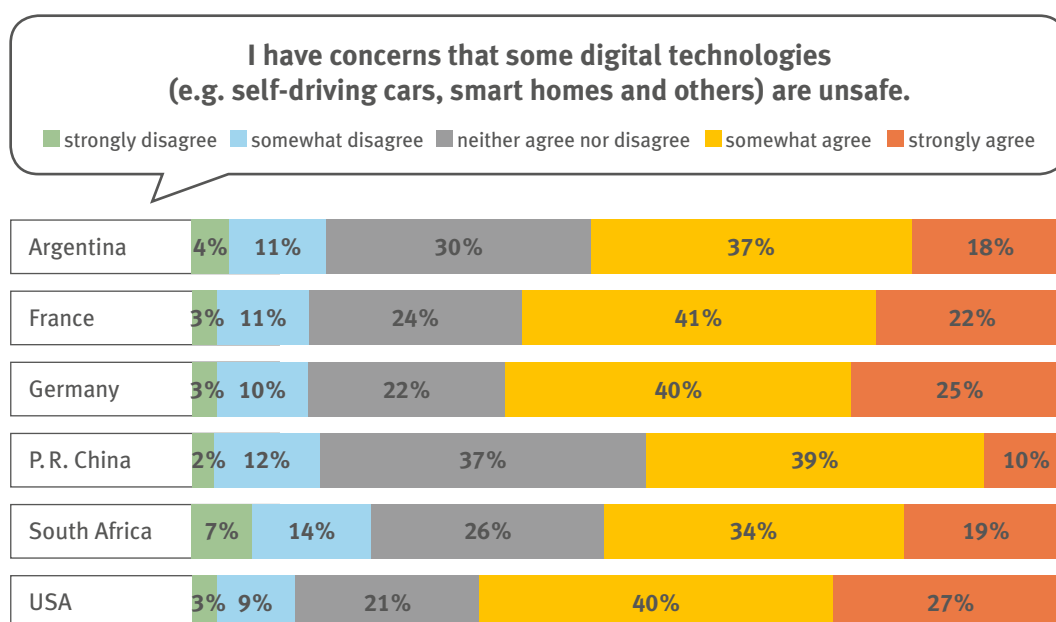


Figure 9: Consumer survey results for concerns about safety

⁹⁶ Samsung, 'Samsung Expands Recall of Galaxy Note 7 Device to Include Original and Replacement Device', 10 2016; Sean Hollister, 'Here's Why Samsung Note 7 Phones Are Catching Fire', *Cnet*, 10 2016.

Aggregated across all countries, women expressed slightly more safety concerns than men. This difference was driven by small gender differences in Germany, South Africa and the United States. In the remaining countries, women and men did not significantly differ from each other.

Aggregated across all six countries, younger consumers (18–24 year olds) are less concerned about safety aspects than older consumers (45 and older). This difference is not surprising and moderate in size. On the level of individual countries, this difference is only present in Argentina, Germany and the United States, but not in China, France and South Africa.

The following box summarises international good practices for a coherent and effective product safety regime:

Good practices

Product safety regime

According to the United Nations, an effective product safety regime should encompass the following elements:⁹⁷

a) Regulatory action and standard setting: Governments should adopt regulations, legal systems and standards (compulsory and voluntary) for product safety.

b) Pre-market design: Businesses should design their products in line with applicable safety standards so that their products are safe for intended or normally foreseeable use.

c) Duty of care: Actors that bring goods to the market (such as suppliers, exporters, importers and retailers) should ensure that these goods are not rendered unsafe through improper handling or storage while being in their care.

d) Monitoring action: Governments should implement a market monitoring system that encompasses both the pre-marketing and the post-marketing phases. Independent testing is an important element in this regard. Governments should ensure that testing facilities to test and certify safety, quality and performance of goods are available.

continued on
the next page

⁹⁷ United Nations, 'Manual on Consumer Protection', Section 9.2. and UNGCP, Recommendations 16–19 and 33–35.

e) Corrective action: When hazards arise, immediate action is necessary. Businesses should have product recall procedures in place (including notifications to the relevant authorities and the public). With regard to digital products where risk can be reduced by software updates, these updates should be made available. The relevant authorities should have the power to take respective action from issuing warning notices, ordering product recalls, setting conditions for the modification of products to prohibiting the sale of a product and finally the destruction of stocks.

f) Compensatory action: If dangerous products have caused damage, that loss or damage caused by a defective product should be compensated. This includes replacements, modifications, substitutions or financial compensation.



3.3.2. Indicators, their measurement and available data

On the basis of this discussion, the indicators summarised in Table 6 below can be used to describe and measure the product safety and liability dimension of the Digital Consumer Protection and Empowerment indicators.

1 Adequacy of safety & liability laws and their enforcement	
Expert satisfaction with safety and liability laws	Existence of regulatory authorities for safety
Existence of a market monitoring system for digital products and services (including independent testing facilities)	Expert satisfaction with the enforcement of safety and liability laws
2 Business behaviour	
Extent to which businesses respect safety standards in pre-market design	Extent to which businesses monitor their products once they are on the market
Extent to which businesses have product recall procedures in place	
3 Safety of ICT sector	
Number and severity of reported incidences of unsafe digital products and services	

Table 6: Product safety and liability: Overview of key indicators

Again, as with the competition dimension, it is methodologically quite difficult to measure safety and liability. Unsurprisingly there are no indicators nor methodologies for data-gathering available.

However, there is a range of singular approaches that might be helpful: First, the alerts for products based on the European Commission’s Rapid Alert System for non-food dangerous products (RAPEX) covers digital products, and the number of alerts per year is informative. Second, the European Commission’s *Consumer Markets Scoreboard* encompasses a safety indicator.⁹⁸ Third, in 2013,

⁹⁸ European Commission, ‘Consumer Markets Scoreboard: Making Markets Work for Consumers – 2016 Edition’, 94–98.

Consumers International conducted a member survey about the state of consumer protection around the world. This survey also included a question about the mechanisms to ensure safety.⁹⁹

Hence, it is necessary to further engage in the mid-term in indicator and methodology development processes. In the short-term, surveys can be used. Here again a combination of an expert survey with representatives from consumer protection authorities and consumer association as well as a consumer survey would facilitate the solicitation of data in the short-term.

**Indicators and data
NOT YET AVAILABLE**

Since indicators to measure this dimension do not yet exist, the state of play is again rated with red.

⁹⁹ Consumers International, 'The State of Consumer Protection Around the World', 2013, 31.

3.4. Dimension 4: Privacy and data security



3.4.1. Description of the issue

In the digital economy, personal data have become a key resource driving business models and services. In e-commerce, for example, personal data such as delivery addresses and payment information are necessary for physical and financial transactions. Furthermore, big data analytics is often used to personalise offers and improve services or even set prices (dynamically or sometimes even individually¹⁰⁰). With the increase in the capacities of processors, storage and transmission bandwidth, technical constraints on processing information have become less relevant. The European Data Protection Supervisor argues that in the future, governments and companies will principally be able to move beyond “data mining” to “reality mining”, penetrating consumers’ everyday experience, communication and even thinking.¹⁰¹

Due to the sharply increased role of personal data for business models and services, data security is also becoming an ever more important concern. As a result of the rise in significance of privacy and data security, it is not surprising that the UNGCP, for the first time, has incorporated these two aspects (Guidelines 5k and 14 h and f). Both issues are covered in this section.

Privacy

From a consumer perspective, data generation and use by companies create a range of concerns: On the basis of Internet searches, previous purchases and location data, consumers can be profiled. Also, big data analytics raises the question of whether data, which has initially been collected for a specific purpose, might be used for different purposes at a later point in time. There are also concerns about the lack of transparency of the algorithms used for analysing this data. The same holds true for the potentially discriminatory impact of such analytics when, for example, insurance rates and interest rates are based on the results of big data analytics.

One key challenge from the consumer policy perspective is that transparency about data collection practices of businesses is very difficult. This has to do with the fact that businesses do not only use data that is actively and voluntarily provided by consumers (such as the delivery address in e-commerce) but also so-called user-generated data. Such data is created when consumers search, shop or communicate on the Internet. The quality and quantity of such kind of data will grow exponentially, particularly with the growth of the Internet of Things (IoT). This kind of data might be very sensitive, offering information about personal health (e.g., health-trackers), consumption habits (e.g., smart fridges) and lifestyle patterns (e.g., smart home devices). Furthermore, IoT services might not only process the data of an individual using the IoT device but also that of others who are indirectly observed and recorded by the IoT tool.¹⁰²

¹⁰⁰ For a discussion of these practices see Section 3.2.1.

¹⁰¹ European Data Protection Supervisor, *Opinion 4/2015 Towards a New Digital Ethics – Data, Dignity and Technology*, 2015, 6.

¹⁰² *Ibid.*, 7.

Studies estimate that there will be between 20 to 50 billion connected devices by 2020.¹⁰³

Survey data suggest that consumers are concerned about these developments. In our G20 consumer survey, the respondents showed a high level of concern that too much personal data is being collected by businesses on the Internet. Here, the patterns in all six countries are comparatively similar (see Figure 10). Similar to the question about product safety concerns, aggregated across all countries, older consumers (older than 55) expressed significantly more privacy concerns than younger consumers. Again, on the level of individual countries, age differences are only present in Argentina, Germany and the United States but not in China, France and South Africa.

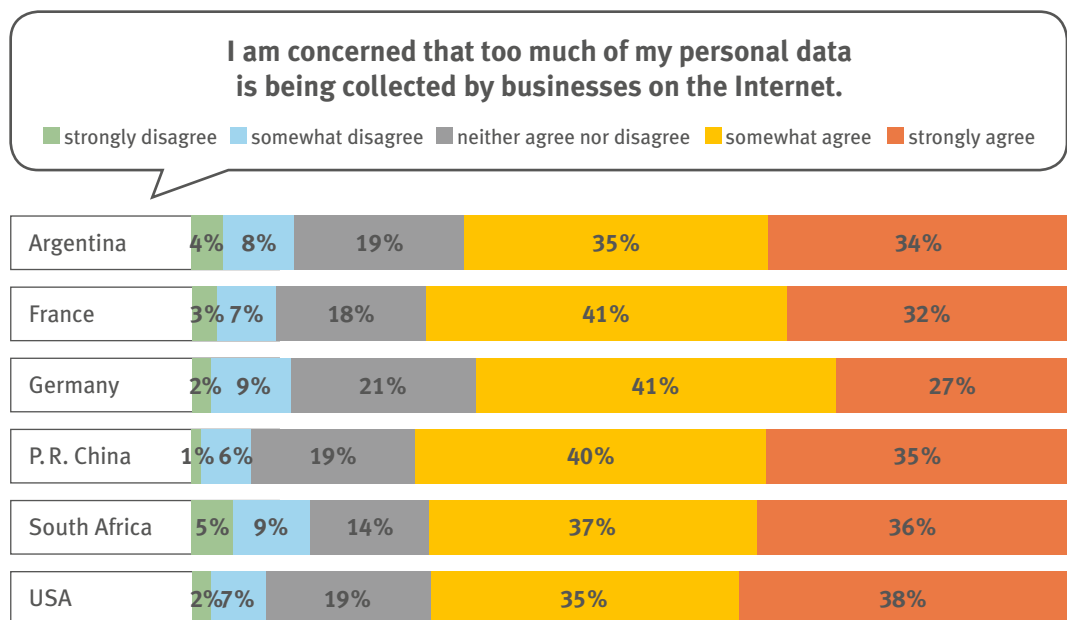


Figure 10: Consumer survey results for concerns about privacy

These results are further supported by two surveys, which were conducted in 2016. Here 92 percent of US and UK Internet users said that they worried about their privacy online. Furthermore, they argued that their concerns had increased compared with the previous year (45 percent of US and 39 percent of UK respondents).¹⁰⁴ The biggest concerns are that personal information may be bought or sold (79 percent), the lack of privacy as a result of having so much information about individuals available on the Internet (also 79 percent) and the risk that personal information may be monitored (78 percent).¹⁰⁵

¹⁰³ Woodside Capital Partners, 'The Internet of Things: "Smart" Products Demands a Smart Strategy', 2015, 5.

¹⁰⁴ TRUSTe, 'GB Consumer Privacy Index 2016'; TRUSTe, 'U.S. Consumer Privacy Index 2016'. According to an EU survey 72 percent of the respondents said that they were concerned about the data collected about them on the Internet. European Commission, 'Special Eurobarometer 447: Online Platforms', 40.

¹⁰⁵ Center for International Governance Innovation, 'CIGI-IPSOS Global Survey on Internet Security and Trust', 37.

Data security

A series of recent distributed denial-of-service (DDoS) attacks, including data theft on an unprecedented scale at Yahoo with 1 billion effected users¹⁰⁶ and a range of hacks of the SWIFT banking network which resulted in the theft of millions of dollars in 2015 and 2016,¹⁰⁷ have demonstrated the significance of adequate data security practices.¹⁰⁸ Such attacks have broad consequences ranging from financial, information and identity theft to the blackmailing of individuals, businesses and governments.¹⁰⁹

When it comes to data security threats, the following three types can be distinguished: 1) unauthorised access and misuse of personal information, 2) attacks on other systems and 3) physical safety risks such as when smart cars are hacked.¹¹⁰

These risks already existed with traditional computers and networks, but they are heightened in the IoT,¹¹¹ since: First, the more smart devices that are used, inter alia, in homes, the more vulnerabilities an intruder could exploit to compromise personal information. Second, if a particular device has security vulnerabilities it may facilitate attacks on the consumer's network to which it is connected, enable attacks on other systems (such as a DDoS attack) or be used to send malicious emails. Third, since some of the companies that enter the IoT market may not have experience in dealing with data security issues and some of the IoT devices have insufficient capabilities for updates and patches, the security threats created in IoT ecosystems are exacerbated.

Our G20 consumer survey shows that consumers are quite concerned about the risk of stolen or misused payment information – at a similar level as compared to the questions about their privacy (see Figure 11).

¹⁰⁶ Sam Thielman, 'Yahoo Hack: 1bn Accounts Compromised by Biggest Data Breach in History', *The Guardian*, 15 December 2016.

¹⁰⁷ Michael Corkery, 'Once Again, Thieves Enter Swift Financial Network and Steal', *The New York Times*, 12 May 2016.

¹⁰⁸ For more recent examples see: Internet Society, 'Global Internet Report 2016', Chapter 3.

¹⁰⁹ OECD, 'Digital Security Risk Management for Economic and Social Prosperity: OECD Recommendation and Companion Document', 2015, 24–28.

¹¹⁰ Federal Trade Commission, 'Internet of Things: Privacy & Security in a Connected World – Staff Report', January 2015, 10.

¹¹¹ *Ibid.*, 10–14.

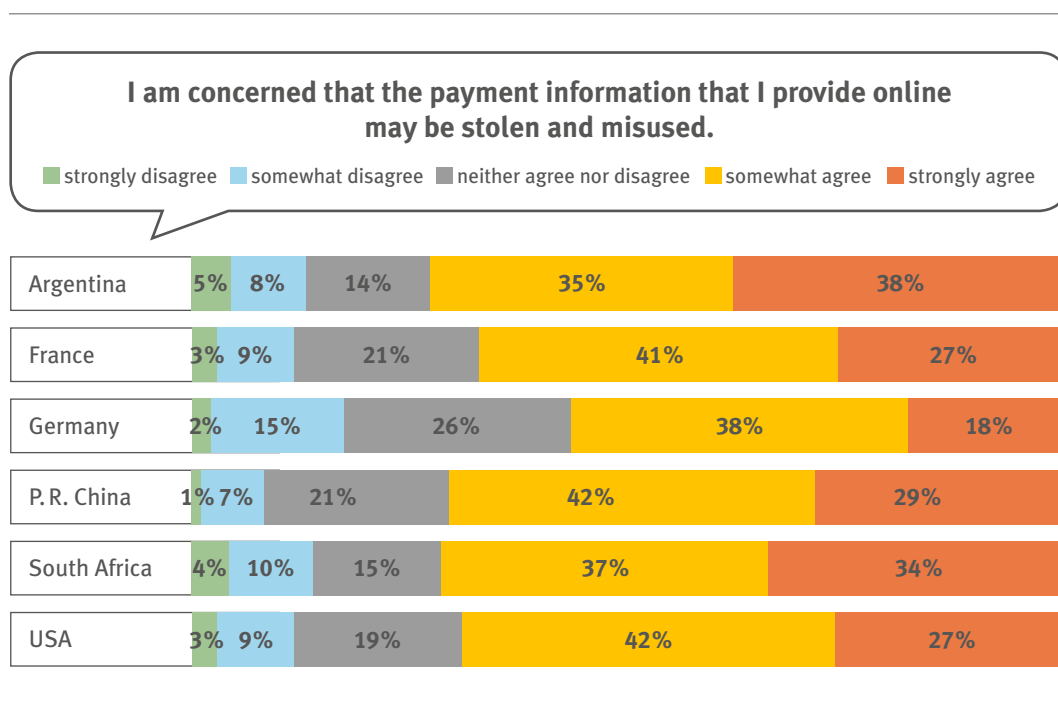


Figure 11: Consumer survey results for concerns about data security

As for payment security concerns, again, women expressed slightly more concern than men. This is the case in China, Germany and the United States but not in the other three countries. Again, older consumers were more concerned than younger consumers but the difference was not significant. Furthermore, the differences between age groups were only present in Argentina, Germany and the United States but not in China, France and South Africa.

Conclusions

The necessity to regulate data protection and security is recognised internationally. In 2015, the United Nations appointed a Special Rapporteur on the right to privacy. In 2016, the European Union passed the new General Data Protection Regulation that replaces the European Directive on Data Protection. Data protection has been included in several trade agreements, and numerous countries are drafting new data protection laws or are reviewing existing ones.¹¹² For example, in Asia, many APEC members have passed data privacy laws in recent years based on the Privacy Agreement, which was developed in 2005 in the context of the Asia-Pacific Economic Co-operation (APEC).¹¹³

¹¹² United Nations, 'Manual on Consumer Protection', 3.

¹¹³ Freshfields Bruckhaus Deringer, 'Asia Data Privacy Guide 2014', February 2014, Chapters 1 and 2. and Hogan Lovells, 'Asia Pacific: Data Protection and Cybersecurity Guide', 2016. For a selected range of country profiles see: Privacy International, 'State of Privacy Briefings', 2016.

In the context of the G20, the need for such frameworks has been recognised. The G20 Digital Economy Development and Cooperation Initiative calls for a promotion of the “availability, integrity, confidentiality and authenticity of on-line transactions” and to encourage the “development of secure information infrastructure to promote trusted, stable, and reliable [I]nternet applications”.¹¹⁴ During the last decade, a number of good practices have emerged. These are summarised in the box below.

Good practices

Governments’ responsibility to strengthen privacy

Governments should ensure that *privacy laws* exist. These laws should take key internationally recognised privacy principles into account. On the basis of the analysis of a range of guidelines and regulations, UNCTAD identified the following data protection core principles. UNCTAD argues that these principles “appear in some form in all of the key international and regional agreements and guidelines regarding data protection”:¹¹⁵

Openness: Organisations must be open about personal data practices.

Collection limitation: Collection of personal data must be limited, lawful and fair, usually with knowledge and/or consent.

Purpose specification: The purpose of collection and disclosure must be specified at the time of collection.

Use limitation: Use or disclosure must be limited to specific purposes or closely related purposes.

Security: Personal data must be subject to appropriate security safeguards.

Data quality: Personal data must be relevant, accurate and up-to-date.

Access and correction: Data subjects must have the rights to access and correct their personal data.

Accountability: Data controllers must take responsibility for ensuring compliance with the data protection principles.

¹¹⁴ Chinese G20 Presidency, ‘G20 Digital Economy Development and Cooperation Initiative’, 7.

¹¹⁵ UNCTAD, ‘Data Protection Regulations and International Data Flows: Implications for Trade and Development’, 2016, 57. See also: OECD, ‘Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data’, 2013.

Good practices

Governments' responsibility to strengthen data security

Governments should ensure that digital products and services comply with high standards of *data security*. The US Federal Trade Commission (FTC) recommends the following security principles:¹¹⁶

A first key principle in this regard is *security by design*, which means that security should be built into the devices at the outset, rather than as an afterthought. As part of such an approach, companies should: i) conduct a privacy or security risk assessment, ii) minimise the data they collect and retain and iii) test their security measures before launching their products.

The second key component is personnel practices. Companies should train their employees about security and ensure that security issues are addressed at the appropriate level of responsibility within the organisation.

Third, companies should select and engage with service providers that are capable of maintaining reasonable security. Furthermore, they should provide reasonable oversight for these service providers.

Fourth, in cases where companies identify significant risks within their systems, they should implement a defence-in-depth approach, in which they consider implementing security measures at several levels.

Fifth, companies should consider implementing reasonable access control measures to limit the ability of an unauthorised person to access a consumer's device, data or the consumer's network.

Sixth, companies should monitor products throughout their life cycle and patch vulnerabilities.

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the next page

¹¹⁶ Federal Trade Commission, 'Internet of Things: Privacy & Security in a Connected World – Staff Report', 3. See also the OECD Recommendations of the Council on Digital Security Risk Management for Economic and Social Prosperity: OECD, 'Digital Security Risk Management for Economic and Social Prosperity: OECD Recommendation and Companion Document'.

Seventh, when companies use payment mechanisms they should implement security mechanisms that are commensurate with payment-related risks, including those resulting from unauthorised access or use of personal data, fraud and identity theft. Such protection should also include regulatory or industry-led limitations on consumer liability for unauthorised or fraudulent charges, as well as chargeback mechanisms, where appropriate. The development of different payment arrangements that may enhance consumer confidence in e-commerce, such as escrow services, should also be encouraged.

Finally, governments should strengthen enforcement. This implies shoring up institutions and structures with enforcement powers and the ability to impose sanctions.



3.4.2. Indicators, their measurement and available data

The key indicators to describe the privacy and data security dimension are summarised in Table 7.

1 Adequacy of privacy & data security laws and their enforcement	
Expert satisfaction with privacy and data security laws ¹¹⁷	Extent to which the laws correspond with the abovementioned good practices
Existence of regulatory authorities for privacy and data security	Existence of collective actions against privacy and data security law violations
2 State of privacy protection & data security	
Number and severity of reported incidences of data breaches	Number of secure Internet servers (per 1 million people) (secure Internet servers are servers using encryption technology in Internet transactions) ¹¹⁸
Consumer concerns about privacy	Consumer concerns about data security

Table 7: Privacy and data security: Overview of key indicators

As this discussion shows, indicators, data-gathering methodologies and data for this dimension exist – at least partially. Hence, while there is a need to develop these indicators and methodologies further, this development process does not need to start from scratch. It should take the above-cited work of international organisations such as the OECD, UNCTAD and of NGOs such as Privacy International¹¹⁹ into account. Furthermore, there is also data from private organisations available.¹²⁰

**Indicators and data
PARTIALLY AVAILABLE**

Since there are some indicators, methodologies and corresponding data available to measure some of the indicators of this dimension, the state of play is rated with yellow.

117 This indicator is used by the World Wide Web Foundation in its Web Index. See: ‘Web Index: Report 2014–2015’, 20–21.

118 This indicator is used in by the Alliance for Affordable Internet in its Affordability Report as well as by the Inter-American Development Bank in its Broadband Development Index (IDBA) for Latin America and the Caribbean. See: Alliance for Affordable Internet, ‘Affordability Report 2015/16’. and Inter-American Development Bank, ‘Methodology for the Broadband Development Index (IDBA) for Latin America and the Caribbean’, Section 3.4.

119 Privacy International, ‘State of Privacy Briefing Guidelines’, 2016.

120 ‘EMC Privacy Index’, 2014.

3.5. Dimension 5: Information and transparency



3.5.1. Description of the issue

In his seminal work on the “Market of Lemons”, Nobel laureate George Akerlof illustrated the importance of consumer information for consumer decision-making in the 1970s, especially how a lack of valid information can lead to market failure from the demand-side of the market.¹²¹

On principle, consumer information should equip consumers with relevant data about products, services, terms and conditions and other vital features of a transaction and enable them to make an informed choice.

The UNGCP recognise the importance of consumer information as a means to take informed choices in accordance with individual wishes and needs. Consumer information can take many forms, ranging from media reports, labels, comparative information by consumer organisations to consumer reviews on the Internet.

Due to the large importance of reliable information, there is a need for legislation that regulates information requirements for businesses, advertising as well as mandatory and voluntary labelling schemes, so that this information is not misleading, deceptive or fraudulent. This is especially important when considering appropriate information for vulnerable consumer groups.

The significance of reliable consumer information is further aggravated in a digital context. A key characteristic of many digital services is that they are intangible and delivered electronically. That means that their characteristics cannot be observed by inspection and there is a physical distance between buyers and sellers in e-commerce transactions. (In consumption theory, they would be categorised as “credence goods” or “experience goods”, but not “search goods”.)

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Despite the high relevance of consumer information, research shows that consumers are often overwhelmed by the amount of information. This means that not the quantity, but the quality of information matters for consumers. Also, CI member organisations have criticised that consumers often do not get adequate information about the speed, coverage and quality of Internet connections (e.g. “up to” speeds) and that consumers often do not understand Terms and Conditions and privacy disclaimers since they are written in legal or technical language which is incomprehensible to common consumers.¹²²

¹²¹ George Akerlof, ‘The Market for “Lemons”: Quality Uncertainty and the Market Mechanism’, *Quarterly Journal of Economics* 84, no. 3 (1970): 488–500.

¹²² Consumers International, ‘Results of the Member Survey about Consumers’ Right in the Digital Age’.

In response to these challenges, proposals have been made to simplify information disclosures, in particular regarding Terms and Conditions and privacy policies, and to increase transparency about data use practices.¹²³

Furthermore, digital technologies make new forms of information gathering techniques (such as search engines) and new kinds of information (such as online consumer reviews) possible. Yet, while 77 percent of EU Internet users expect that search results are presented in an order that corresponds best with their interest,¹²⁴ consumer organisations and enforcement agencies have criticised that paid-for links and advertisements can blur the “neutrality” of the search results and that search engines might favour their own products and services in the search results. Even more dangerous is the fact that search engine results and personally targeted information in social media and online platforms can influence political debates and might create “filter bubbles” that reinforce discrimination in some communities.¹²⁵

With regard to consumer reviews, only 49 percent of EU consumers believe that they are reliable.¹²⁶ Studies estimate that between 1 and 16 percent of all reviews are fake.¹²⁷ Hence, there is an increasing understanding that transparency requirements and quality standards for search engines, comparison tools and user reviews might need to be updated.¹²⁸

The consumer survey that was conducted for this study shows that the respondents are generally satisfied with the quality of information they find online. However, the results differ between countries. Respondents from South Africa expressed the highest satisfaction. In contrast, the satisfaction with online information in China was significantly lower than in any other country (see Figure 12).

123 See, for example: Sachverständigenrat für Verbraucherfragen, ‘Digitale Welt Und Handel: Verbraucher Im Personalisierten Online-Handel’; Sachverständigenrat für Verbraucherfragen, ‘Verbraucherrecht 2.0: Verbraucher in Der Digitalen Welt’, 2016.

124 European Commission, ‘Special Eurobarometer 447: Online Platforms’, 26.

125 Ibid., 31.

126 Ibid., 34.

127 European Parliament, ‘Online Consumer Reviews: The Case of Misleading or Fake Reviews’, 2015, 1.

128 European Commission, ‘Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions: Online Platforms and the Digital Single Market Opportunities and Challenges for Europe (COM(2016) 288 Final)’, 2016, 10, 11.

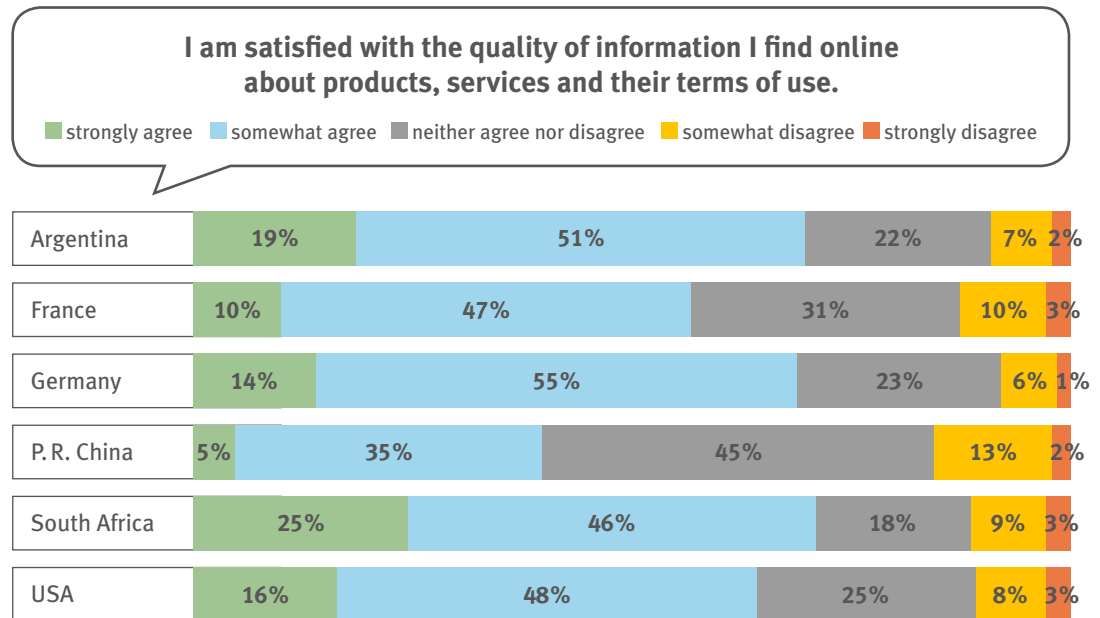


Figure 12: Consumer survey results for satisfaction with quality of information

The following box summarises good government practices with regard to adequate consumer information.

Good practices

Governments' responsibility for adequate consumer information

Governments should ensure that *legislation for adequate consumer information* exists. These laws should take key internationally recognised principles into account. In its recent *Recommendations on Consumer Protection in E-commerce*, the OECD defines a wide range of principles encompassing the following aspects:¹²⁹

Fair business, advertising and marketing practices

Online disclosures (such as information about the business, the goods and services or the transaction)

Confirmation process

Payment

Dispute resolution and redress (internal complaints handling, alternative dispute resolution and redress)

Privacy and security



¹²⁹ OECD, 'Consumer Protection in E-Commerce: OECD Recommendation'.

3.5.2. Indicators, their measurement and available data

To measure this dimension, the indicators summarised in Table 8 can be used.

1 Adequacy of consumer information & disclosure laws and their enforcement	
Expert satisfaction with consumer information and disclosure laws	Extent to which the laws correspond with the abovementioned good practices
Existence of regulatory authorities for consumer information and disclosure law enforcement	Existence of collective actions against consumer information and disclosure law violations
2 State of consumer information and disclosure practices	
Consumer satisfaction with consumer information and disclosure practices	Number of consumer protection issues in media ¹³⁰
Existence of comparative testing organisations ¹³¹	Existence of independent consumer organisations offering pre-purchase advice

Table 8: Information and transparency: Overview of key indicators

While there is research about the role of consumer information for consumer protection and empowerment, a reliable set of indicators to describe this dimension in the digital context does not exist. Hence, there is a need to develop such indicators and data-gathering methodologies. In doing so, work on good consumer information and on information disclosure requirements such as by the OECD, Consumers International¹³² and the World Health Programme¹³³ should be taken into account. The state of play is rated with red.

**Indicators and data
NOT YET AVAILABLE**

¹³⁰ European Consumer Consultative Group, ‘Report of the ECCG on Monitoring Indicators of the Consumer Movement’, 2011, 13.

¹³¹ Ibid., 13–14.

¹³² Consumers International, ‘The State of Consumer Protection Around the World’, 34.

¹³³ World Health Organization, ‘Guidelines for Consumer Organizations to Promote National Food Safety Systems’, n.d., 19.

3.6. Dimension 6: Education and awareness



3.6.1. Description of the issue

Consumer education and awareness seek to ensure that consumers have the knowledge and skills to make informed decisions according to their needs and preferences. Whereas consumer information seeks to provide consumers with reliable data, consumer education and awareness can be regarded as pre-requisites for the effective use of consumer information. The UNGCP recognise the important role of consumer education and awareness in Guidelines 5f, 11 and 42–48.

In general, consumer education and awareness should encompass a wide scope of subjects, ranging from living in households, seeking information and advice, managing money, buying goods and services, communicating satisfaction and dissatisfaction, housing and dwelling, caring for health, coping with problems, influencing and participating to caring for the future.¹³⁴

Digitalisation does not fundamentally change the role and nature of consumer education and awareness. It necessitates, however, a focus on digital compe-

In their G20 Digital Economy Development and Cooperation Initiative the G20 members argue that the use of technology in primary and secondary education, as well as in non-formal education, should be promoted to reduce disparities between income levels.

tences, i.e., improving digital literacy. The European Commission explains that digital literacy leads to “digital competence, the confident and critical use of information society technology for work, leisure, learning and communication. It is underpinned by basic skills in

ICT and the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet.”¹³⁵

The G20 members recognised the importance of consumer education in their G20 Digital Economy Development and Cooperation Initiative. Here they argue that the use of technology in primary and secondary education, as well as in non-formal education, should be promoted to reduce disparities between income levels.¹³⁶

¹³⁴ United Nations, ‘Manual on Consumer Protection’, 87.

¹³⁵ European Commission, ‘Commission Staff Working Document: The Use of ICT to Support Innovation and Lifelong Learning for All - A Report on Progress (SEC(2008) 2629 Final)’, 9 October 2008, 5.

¹³⁶ Chinese G20 Presidency, ‘G20 Digital Economy Development and Cooperation Initiative’, 5.

Based on the European Commission's Digital Competence Framework for Citizens,¹³⁷ we list examples of the types of competences consumers need in the digital world:

- 1 Information and data literacy: a) browsing, searching and filtering data, information and digital content, b) evaluating data, information and digital content, c) managing data, information and digital content
- 2 Communication and collaboration: a) interacting through digital technologies, b) sharing through digital technologies, c) engaging in citizenship through digital technologies, d) collaborating through digital technologies, e) netiquette, f) managing digital identity
- 3 Digital content creating: a) developing digital content, b) integrating and re-elaborating digital content, c) copyright and licences, d) programming
- 4 Safety: a) protecting devices, b) protecting personal data and privacy, c) protecting health and well-being, d) protecting the environment
- 5 Problem solving: a) solving technical problems, b) identifying needs and technological responses, c) creatively using digital technologies, d) identifying digital competence gaps

While not much data exist concerning the state of digital literacy, the existing information suggests a mixed picture: On the one hand, in the context of our G20 survey, we asked the participants to self-rate their knowledge of consumer rights online. Overall, a little less than half of all participants at least somewhat agreed to the statement “I know my rights as a consumer online”. However, across all countries, many respondents (23 percent to 41 percent) chose the middle category and neither agreed nor disagreed (see Figure 13). Yet, participants from the different countries differed in their answers: Respondents from France rated their knowledge of consumer rights online lowest compared to those from South Africa who rated their knowledge highest. Interestingly, in South Africa, 22 percent strongly agreed to the statements that they knew their rights as consumers online.

¹³⁷ Vuorikari, Riina et al., ‘European Commission: DigComp 2.0: The Digital Competence Framework for Citizens. Update Phase 1: The Conceptual Reference Model’, 2016, Chapter 3. See also: Wilson, Carolyn et al., *Media and Information Literacy: Curriculum for Teachers*, ed. United Nations Educational, Scientific and Cultural Organization (Paris, 2011).

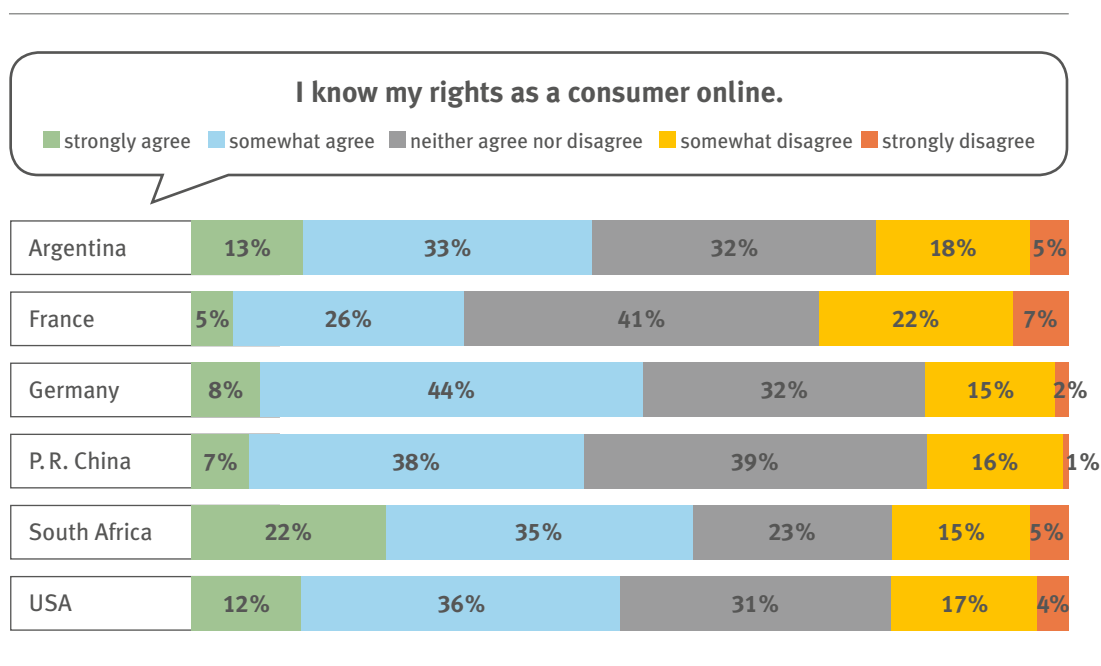


Figure 13: Consumer survey results for knowledge of rights as a consumer online

On the other hand, according to the EU-wide Digital Economy and Society Index, which is based on 2015 Eurostat data, the situation looks worse. The data presented here shows that 45 percent of the EU population aged between 16 and 74 have insufficient digital skills. This data is not based on self-ratings but the actual knowledge of consumer rights.¹³⁸

In addition to digital literacy, it is important to note that consumers should also have knowledge about fundamental aspects of consumer law, consumer rights and responsibilities and institutions where they can seek (independent) advice, resolve their disputes and seek redress.

Consumer education and awareness can be promoted in a number of ways, such as: inclusion in the school curriculum and continuing education, promotion in consumer clubs or by consumer associations (incl. consumer testing organisations) or by media campaigns. There is also a debate whether and how digital industry itself can and should be engaged in adult training and education programmes. In these activities particular attention should be given to the needs of vulnerable and disadvantaged consumers (mainly those with low income or with low or non-existent literacy levels).

¹³⁸ Vuorikari, Riina et al., 'European Commission: DigComp 2.0: The Digital Competence Framework for Citizens. Update Phase 1: The Conceptual Reference Model', 5.

3.6.2. Indicators, their measurement and available data

The key indicators to describe this dimension are summarised in Table 9.

1 Regulatory framework¹³⁹

Consumer education, including digital competences, is an integral part of the basic curriculum of the educational system

2 General output

Consumers have the ability to access competent and professional advice and assistance from an independent consumer organisation

3 Consumers' digital literacy¹⁴⁰

Information and data literacy: Proportion of the population which has used the Internet in the last three months for finding information about goods and services, comparing products and services, listening to music and watching videos, online banking or online shopping

Communication and collaboration: Proportion of the population which has used the Internet in the last three months for sending/receiving emails, (video-)telephoning over the Internet, participating in social networks, posting messages to chat sites or uploading self-created content to any website to be shared

Content creation: Proportion of the population which has used the Internet in the last three months for creating a website or blog

Safety: Proportion of the population which uses any kind of IT security software or tool (anti-virus, anti-spam, firewall) in order to protect a private computer or data and which updated one or more digital devices at least occasionally

Problem solving: Proportion of the population which has connected and installed new digital devices, installed a new or replaced an old operating system or modified the configuration parameters of software applications in the last 12 months

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¹³⁹ This list is based on: United Nations, 'United Nations Guidelines for Consumer Protection', Section G.

¹⁴⁰ This list is based on: European Commission, 'Measuring Digital Skills across the EU: EU Wide Indicators of Digital Competence', 2014.

4 Consumers' general literacy ¹⁴¹	
General consumer skills such as recognising a cheaper product or recognising labels correctly	Awareness of consumer legislation such as unfair commercial practices, cooling-off periods after purchase or guarantee periods
Consumer engagement such as comparing products, reading terms and conditions or interest in consumer information	Percentage of consumers who know national consumer organisations

Table 9: Education and awareness: Overview of key indicators

With regard to available indicators, data-gathering methodologies and data to evaluate this dimension, a mixed picture emerges. While some international and regional organisations such as the UNESCO and the European Commission have developed indicators and methodologies to measure digital literacy, there are two challenges: First, the methodologies are typically not tailored specifically enough to the need to measure consumers' digital literacy. For instance, the *UNESCO Media and Information Literacy Curriculum for Teachers* is tailored to the specific needs of teachers. Second, data is not available on a G20-level.

The European Commission's *Digital Economy & Society Index* pilot work can be seen, however, as a good example. Here, an attempt has been made to propose EU-wide indicators for digital competence.¹⁴²

However, most of the existing indicators and indices that take into account the dimension education and awareness use more "traditional" skill indicators as proxies, such as years of schooling or literacy levels:

- The *Australian Digital Inclusion Index 2016* encompasses three dimensions: 1) attitudes, including notions of control, enthusiasm, learning and confidence, 2) basic skills, including mobile phone, banking, shopping, community and information skills, 3) activities, including accessing content, communication, transactions, commerce, media and information¹⁴³
- The GSM Association (GSMA) with its *Mobile Connectivity Index* includes indicators such as adult literacy rate, school life expectancy, mean years of schooling, tertiary enrolment rate, gender literacy

¹⁴¹ This list is based on: JRC and ipsc, 'The Consumer Empowerment Index: A Measure of Skills, Awareness and Engagement of European Consumers', 2011, Section 2.3; European Commission, 'Special Eurobarometer 342: Consumer Empowerment', 2011.

¹⁴² See indicator 2a2 on basic digital skills.

¹⁴³ Thomas et al., 'Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2016', 7.

ratio, gender years of schooling ratio, gender bank account ratio, gender labour participation ratio and gender Gross National Income (GNI) per capita ratio.¹⁴⁴

- The Inter-American Development Bank's *Broadband Development Index (IDBA) for Latin America and the Caribbean* also encompasses indicators such as access to the Internet in schools, use of virtual social networks, video uploads on YouTube and the secondary and tertiary education enrolment rates.¹⁴⁵
- The ITU includes mean years of schooling and the gross enrolment ratio in its *Measuring the Information Society Report*.¹⁴⁶
- In the context of financial literacy, the OECD illustrates in its *Adult Financial Literacy Competencies* report how the literacy of consumers can be assessed.¹⁴⁷
- Again with regard to financial literacy, the World Bank report *Global Survey on Consumer Protection and Financial Literacy* includes indicators such as whether a financial consumer protection agency 1) has the responsibility to implement and/or oversee any aspect of financial education/literacy, 2) conducts a survey of financial capability/literacy and publishes regular reports, 3) develops and monitors implementation of a strategy, 4) provides training on financial literacy topics, 5) issues guidelines to the providers of financial services on financial education/literacy and 6) develops training materials on financial topics.¹⁴⁸

Indicators and data
PARTIALLY AVAILABLE

In summary, due to the lack of an internationally agreed upon set of indicators and data-gathering methodology, work still needs to be done to develop this dimension. Since there is some ground work that can be expanded, we rank this dimension in the category yellow.

¹⁴⁴ GSMA, 'Connected Society: Mobile Connectivity Index Launch Report'.

¹⁴⁵ Inter-American Development Bank, 'Methodology for the Broadband Development Index (IDBA) for Latin America and the Caribbean', Section 3.4.

¹⁴⁶ International Telecommunication Union, 'Measuring the Information Society Report 2016', 225.

¹⁴⁷ OECD, 'International Survey of Adult Financial Literacy Competencies', 2016.

¹⁴⁸ World Bank, 'Global Survey on Consumer Protection and Financial Literacy: Oversight Framework and Practices in 114 Economies', 2014, Section 8 and Annex 6.

3.7. Dimension 7: Dispute resolution and redress



3.7.1. Description of the issue

In market transactions, problems might arise. A delivered product may not match consumer expectations, a product may break within its warranty period or there can be differences in opinion about the interpretation of the Terms and Conditions between a consumer and a business. In these cases, consumers should have access to mechanisms to resolve disputes and obtain redress for economic harm resulting from transactions with businesses. Such mechanisms should provide consumers with confidence that their claims arising from online transactions with businesses will be settled in a fair and effective manner.

There are a number of reasons why consumer dispute resolution and redress are of great importance: First, if an individual consumer has suffered harm from a non-compliant product or service, this harm should be compensated. Second, the breach might diminish consumer confidence in traders, markets and enforcers, and as a result slow economic activity. Third, suppliers should not benefit by illicit gains, otherwise market activity would be distorted.¹⁴⁹

Due to the high importance of dispute resolution and redress, both for consumers individually and from a market perspective generally, it is not surprising that, in comparison with the former version, the updated UNGCP is character-

Due to the limited contact and the distance between consumers and businesses, effective (online) dispute resolution and redress mechanisms are of pivotal importance.

ised by a proliferation of references to dispute resolution.¹⁵⁰ Similarly, in a number of OECD recommendations, one finds numerous calls for the development of dispute resolution and redress mechanisms.¹⁵¹ In 2007, the OECD presented a Recommendation on Consumer Dispute Resolution and Redress.¹⁵² Also the

ASEAN Strategic Action Plan for Consumer Protection emphasises the importance of access to dispute resolution and redress.¹⁵³

Dispute resolution and redress also play a particularly important role in the digital economy. Most digital services are characterised by the fact that buyers and sellers have limited or no personal contact and that the two parties are often not in close proximity to one another. Also, e-commerce makes transborder transactions easier. Due to the limited contact and the distance between consumers and businesses, effective (online) dispute resolution and redress mechanisms are of pivotal importance.

¹⁴⁹ United Nations, 'Manual on Consumer Protection', 91.

¹⁵⁰ Ibid.

¹⁵¹ OECD, 'Recommendation of the OECD Council Concerning Guidelines for Consumer Protection in the Context of Electronic Commerce', 1999; OECD, 'Recommendation of the Council Concerning Guidelines for Protecting Consumers from Fraudulent and Deceptive Commercial Practices across Borders', 2003.

¹⁵² OECD, 'OECD Recommendation on Consumer Dispute Resolution and Redress in the Global Marketplace', 2007.

¹⁵³ ASEAN, 'The ASEAN Strategic Action Plan for Consumer Protection (ASAPCP) 2016–2015: Meeting the Challenges of a People-Centered ASEAN Beyond (Unpublished Manuscript) 2015', 2016, Section 4.1.2–4.1.5.

This can also be illustrated by the results of an EU-wide survey showing that about one in five consumers has experienced a problem buying or using goods or services on the Internet and thought to have a legitimate cause to make a complaint. Consumers complained about the fact that products were delivered later than promised, they received a damaged product or the products were not delivered at all.¹⁵⁴

Dispute resolution and redress can be provided in a number of ways:¹⁵⁵

- 1 Courts:** Civil courts represent the standard way in which individuals uphold their rights and seek redress. The general importance of judicial dispute resolution and redress mechanisms is recognised in Guideline 37 of the UNGCP. Unfortunately, this way often comes along with significant barriers for consumers due to potential costs, the potential for the consumer to lose the dispute, the lengthy duration of procedures, the complexity of the law or legal procedures, problems with the enforcement of a judgement or a mismatch between the value of the dispute and the cost or time needed to take legal action.
- 2 Collective redress:** Particularly in cases of mass claims (when a number of consumers allege that they had suffered economic harm as a result of the similar conduct of the same entity or related entities), an aggregation into a class or collective action might be an efficient solution. In this context, it is important that the plaintiffs in such public interest litigation have standing to sue. In many countries, consumer associations have been provided with such standing and are now permitted to bring public interest litigation or attempt substituted actions on behalf of a consumer. The Consumer Protection Acts of Thailand and India are examples of this.¹⁵⁶

In addition to collective action on behalf of consumers, many countries also permit representative claims by consumer associations for injunctions to protect consumers' collective interests or even for collective damage claims. Guideline 40 of the UNGCP underlines the importance of collective resolution procedures by calling upon member states to ensure that such procedures exist and are expeditious, transparent, fair, inexpensive and accessible to both consumers and businesses, including the particularly vulnerable such as overindebted or bankrupt consumers.

¹⁵⁴ European Commission, 'Flash Eurobarometer 397: Consumer Attitudes towards Cross-Border Trade and Consumer Protection', 2015, 49, 63.

¹⁵⁵ United Nations, 'Manual on Consumer Protection', Section 11.3.

¹⁵⁶ *Ibid.*, 92.

3 Administrative redress and enforcement: Public enforcement authorities can also play a part in delivering redress in both individual and collective cases. Here, the public enforcement authorities possess the right to order, or seek a court order for, a producer or a trader to one or more consumers. The Danish Consumer Ombudsman as well as various regulatory authorities in the United Kingdom have such powers.¹⁵⁷

4 Alternative Dispute Resolution (ADR) and Online Dispute Resolution (ODR): ADR systems are alternative ways to resolve disputes out of court. Arbitration, mediation and conciliation centres as well as ombudsmen systems have been established in various countries. In recent years ADR has been strengthened, for example, in the European Union by means of the ADR Directive¹⁵⁸ and its transposition into national laws. Importantly, ADR should not replace the judicial system but rather supplement it.

ODR is a specific version of ADR in which conflicts are resolved online. Initially, ODR was developed as a means to resolve disputes in online transactions only. Today, ODR is increasingly understood as a means to resolve any consumer dispute electronically. Examples of such kinds of systems can be found in Mexico, with the service Concilianet which was established by the Mexican consumer protection agency PROFECO.¹⁵⁹ ODR systems can also be efficient means to resolve cross-border consumer disputes.¹⁶⁰

ADR and ODR systems should be based on a range of key principles. These encompass, inter alia: access (here particular attention should be given to the needs of vulnerable and disadvantaged consumers); expertise, independence and impartiality; transparency; effectiveness; fairness; liberty and legality.¹⁶¹

5 Business customer care and complaint functions: Businesses should treat their customers fairly and respond to consumer feedback. Hence, they should set in place customer care and complaints functions where consumers can voice their enquiries and dissatisfaction and where a conflict can be resolved. Furthermore, businesses should develop customer satisfaction codes that set levels of service and describe performance and redress responses when service levels are not met. Such systems should, however, not be represented as being independent ADR systems.

¹⁵⁷ Ibid., 93.

¹⁵⁸ 'Directive 2013/11/EU of the European Parliament and of the Council on Alternative Dispute Resolution for Consumer Disputes and Amending Regulation (EC) No 2006/2004 and Directive 2009/22/EC (Directive on Consumer ADR)', 2013.

¹⁵⁹ United Nations, 'Manual on Consumer Protection', 96.

¹⁶⁰ The German Online-Schlichter is an example.

¹⁶¹ See: 'Directive 2013/11/EU of the European Parliament and of the Council on Alternative Dispute Resolution for Consumer Disputes and Amending Regulation (EC) No 2006/2004 and Directive 2009/22/EC (Directive on Consumer ADR)'. OECD, 'Recommendation on Consumer Dispute Resolution and Redress', 2007. and United Nations, 'United Nations Guidelines for Consumer Protection', Guidelines 37–40.

In the digital context, online platforms also play a very important role in facilitating access to dispute resolution and redress in two ways. First, online platforms need to make sure that consumers always know with whom they are entering a contract with. An EU-wide survey underlines the need for action. It shows that with regard to collaborative platforms 41 percent of respondents say that they do not know who is responsible in the event that a problem arises.¹⁶² Second, these platforms can provide dispute resolution mechanisms. One of the first online dispute resolution platforms was established by eBay and PayPal. Here, about 60 million disputes are resolved per annum.¹⁶³

Good practices

Business complaints handling processes

According to the UNGCP Guidelines 11f on consumer complaints and disputes, businesses “should make available complaints-handling mechanisms that provide consumers with expeditious, fair, transparent, inexpensive, accessible, speedy and effective dispute resolution without unnecessary cost or burden”. ISO 10002:2014 on “Quality management – Customer satisfaction – Guidelines for complaints handling in organisations” outlines the following good practices regarding complaints-handling processes:¹⁶⁴

- | | |
|------------------------------------|---------------------------------|
| 1 Communication | 2 Receipt of complaints |
| 3 Tracking of complaints | 4 Acknowledgement of complaints |
| 5 Initial assessment of complaints | 6 Investigation of complaints |
| 7 Response to complaints | 8 Communicating the decision |
| 9 Closing complaints | |



162 European Commission, ‘Flash Eurobarometer 438 – Use of Collaborative Platforms’, 2016, 6.

163 Cited in: United Nations, ‘Manual on Consumer Protection’, 96.

164 ‘ISO 10002:2014: Quality Management – Customer Satisfaction – Guidelines for Complaints Handling in Organizations’, 2014, 20.

For dispute resolution and redress mechanisms to effectively work, it is important that consumers and businesses understand how to avoid disputes and what dispute resolution and redress mechanisms are available. In designing education and awareness initiatives, special consideration should be given to the needs of disadvantaged and vulnerable consumers.¹⁶⁵

In our G20 consumer survey, the participants were asked whether they agreed with the statement “I am satisfied with the current complaint and replacement possibilities”. In most countries, the respondents answered with neither agreement nor disagreement. The highest satisfaction with complaint and redress mechanisms was observed in Germany (only 15 percent disagreed with the statement), which differed significantly from all other countries except for South Africa. The lowest satisfaction was expressed by respondents from China (27 percent disagreed with the statement). The level in China is similar to and not significantly different from either Argentina or France (see Figure 14).

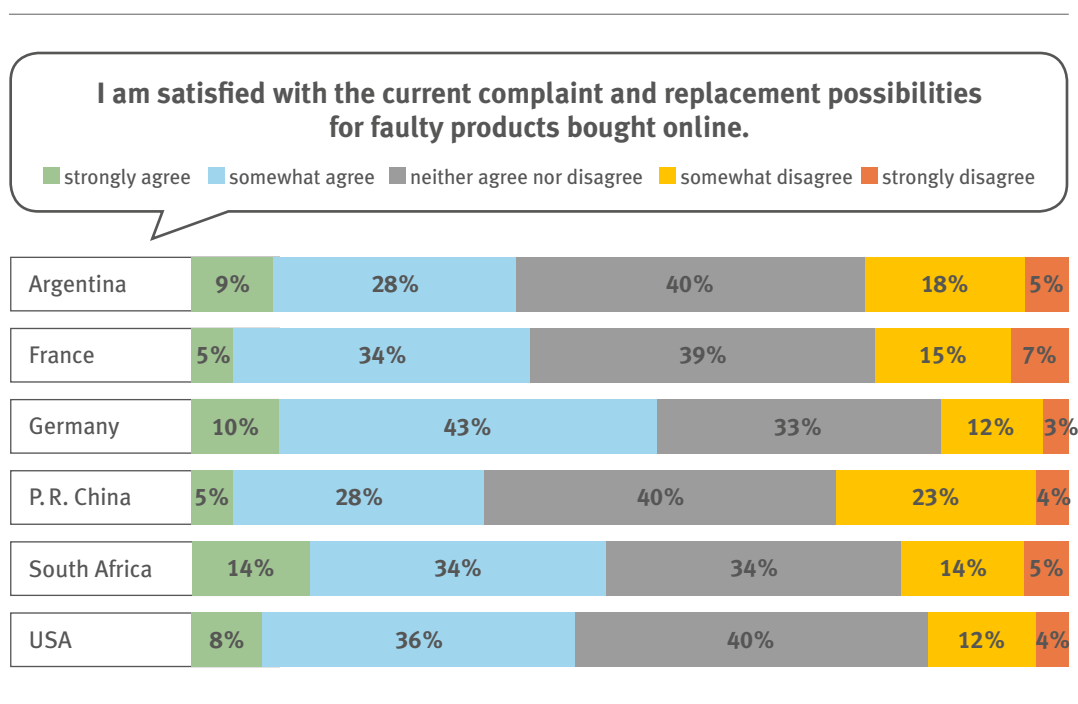


Figure 14: Consumer survey results for satisfaction with redress

¹⁶⁵ OECD, ‘OECD Recommendation on Consumer Dispute Resolution and Redress’, Section VI.

3.7.2. Indicators, their measurement and available data

This dimension could be measured by indicators summarised in Table 10.

1 Adequacy of legislation about dispute resolution and redress	
Expert satisfaction with the legislation about dispute resolution and redress	Extent to which the laws correspond with the abovementioned good practices
2 Business behaviour	
Awareness of businesses of dispute resolution and redress legislation	Existence of complaint management systems by businesses
3 State of dispute resolution and redress	
Consumer satisfaction with dispute resolution and redress practices	Awareness of consumers about their rights and dispute and redress possibilities
Experiences of consumers in attaining their rights	

Table 10: Dispute resolution and redress: Overview of key indicators

This discussion shows that to some extent indicators, data-gathering methodologies and data for this dimension exist. This means that while the indicators and their methodologies need to be developed further, the above-cited work of international organisations such as UNCTAD and the OECD as well as of regional organisations such as ASEAN or the European Union should be taken as reference points. The European Commission’s *Consumer Markets Scoreboard* as well as its *Consumer Conditions Scoreboard* entail indicators on complaints and dispute resolution.¹⁶⁶ Also, a Consumers International survey encompassed questions about redress.¹⁶⁷

**Indicators and data
PARTIALLY AVAILABLE**

Since there are some indicators and methodologies and corresponding data available to measure this dimension, the state of play is rated with yellow.

¹⁶⁶ European Commission, ‘Consumer Markets Scoreboard: Making Markets Work for Consumers – 2016 Edition’, 74–81; European Commission, ‘Consumer Conditions Scoreboard: Consumers at Home in the Single Market – 2015 Edition’, Chapter III.3.

¹⁶⁷ Consumers International, ‘The State of Consumer Protection Around the World’, 35.

3.8. Dimension 8: Governance and participation



3.8.1. Description of the issue

The discussion of the first seven dimensions indicates that digitalisation comes with both positive as well as negative impacts and bears opportunities but also risks for consumers. We have also shown that there is a need to constantly adjust the regulatory frameworks to steer the digitalisation process in the right direction – be it in the realm of access, competition, privacy, data protection or other areas.

Such constant adjustment of the regulatory frameworks and a stringent enforcement of the rules presupposes effective governance, law-making and enforcement structures. Importantly, in the policy process, consumer and other relevant groups should be heard and have the opportunity to present their views in decision-making processes affecting them. Consequently, the UNGCP recognise in Guidelines 14, 15 and 5j the following:

- The importance of member states to establish effective consumer protection policies
- The need for member states to “work towards ensuring that consumer protection agencies have the necessary human and financial resources to promote effective compliance and to obtain or facilitate redress for consumers in appropriate cases”
- The freedom “to form consumer and other relevant groups or organisations and the opportunity of such organisations to present their views in decision-making processes affecting them”.

The OECD highlights that in adjusting laws and regulations to steer the digitalisation process, governments need to reconcile a range of legitimate objectives and interests: competition objectives, the objective to preserve the capacity of the Internet to develop and stimulate innovation and the objective to protect consumers, enterprises and citizens adequately against fraudulent behaviour and breaches of privacy. This governance challenge is, however, complicated by the “multitude of players, activities and media involved, as well as by the rapid shifting of the economic and technological landscape and the virtual absence of geographical boundaries.”¹⁶⁸ National digitalisation strategies can be helpful tools to address this governance challenge.

¹⁶⁸ OECD, ‘The Internet Economy: Regulatory Challenges and Practices’, 27.

Good practices

National digitalisation strategies

Comprehensive national digitalisation strategies can be important tools to create consistent governance approaches to digitalisation. The OECD highlights that such strategies should encompass the following actions:¹⁶⁹

to enhance competition in telecommunication markets and improve Internet access for disadvantaged groups, SMEs and regions

to elevate the importance and clarify the objectives of policies and practices to address digital security and privacy risks

to ensure life-long learning mechanisms

to ensure Internet openness and cross-border data flows



Evidence suggests that governments are not yet fully equipped to deal with these complex challenges. First, when asked in our G20 consumer survey for the level of trust consumers had in their government to protect their rights as consumers online, most countries' average trust levels are below the midpoint of the scale, i.e. mid-negative. In other words, more people expressed distrust than trust, except for China where only 23 percent expressed distrust. Hence, China differs significantly in the level of trust in the government from all other countries, whereas countries such as France, Germany and the United States show similar levels of trust (see Figure 15).

The level of trust expressed in the survey significantly differed between older consumers and younger consumers in Argentina, South Africa and the United States. In these countries, younger consumers expressed more trust in their government to protect their rights as consumers online than older consumers.

¹⁶⁹ OECD, 'Key Issues for Digital Transformation in the G20: Report Prepared for a Joint G20 German Presidency/OECD Conference', 44.

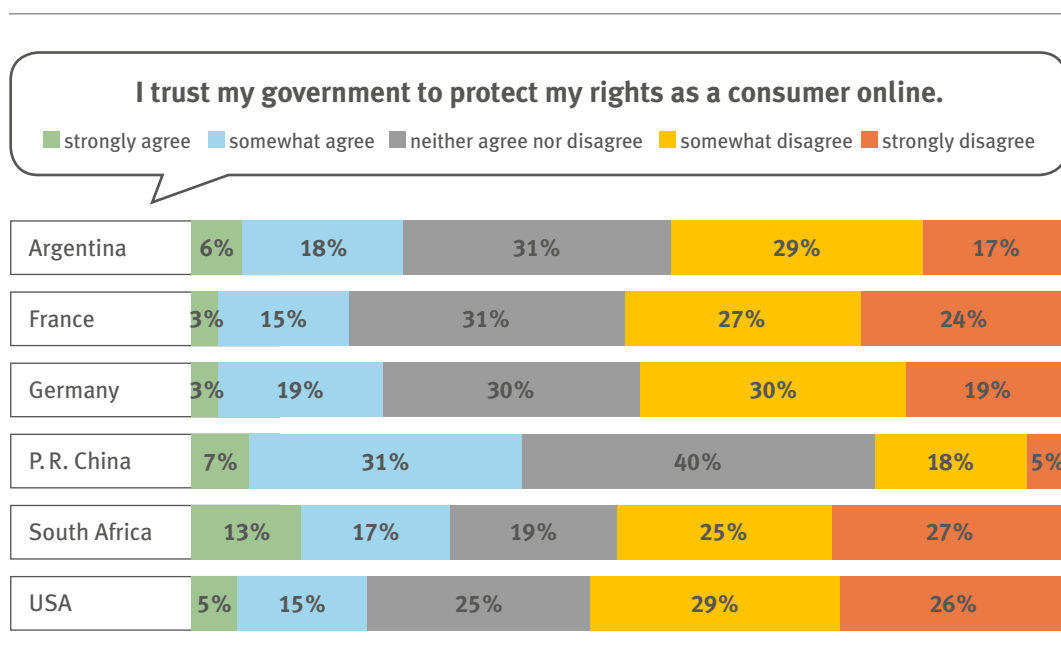


Figure 15: Consumer survey results for trust in government

Another international representative survey conducted for the Center for International Governance Innovation reaches similar conclusions with regard to privacy and data security. Here, only 30 percent of the respondents agreed with the statement that their governments were doing enough to keep personal information secure and safe from private companies.¹⁷⁰

Second, with regard to the legislator's capacity to adjust legislation concerning the digitalisation process, a UNCTAD survey of government representatives about obstacles to enacting data protection legislation in 48 countries in Africa, Asia, Latin America and the Caribbean suggests that by far the largest obstacles for effective law-making in the realm of data protection are the lack of skills or training for policy- and lawmakers (more than 60 percent) and for members of parliament (more than 40 percent).¹⁷¹ Similarly, a review of e-commerce legislation harmonisation in the ASEAN region by UNCTAD highlights that the legislative process is often slow, that there are low levels of awareness in government, there are resource constraints and a lack of continuity.¹⁷²

Third, with regard to enforcement, the same UNCTAD review in the ASEAN region concludes that independent and well-resourced regulators are often missing. That is particularly problematic because "adequate funding and secondary rule-making powers [are] especially important in the new technology field, characterized by rapid changes. A well-resourced, flexible regulator can usually address emerging issues through developing guidelines or using test cases – and

¹⁷⁰ Center for International Governance Innovation, 'CIGI-IPSOS Global Survey on Internet Security and Trust', 34.

¹⁷¹ UNCTAD, 'Data Protection Regulations and International Data Flows: Implications for Trade and Development', 2016, 8.

¹⁷² UNCTAD, 'Review of E-Commerce Legislation Harmonization in the Association of Southeast Asian Nations', 2013, 11–12.

this process is much faster than waiting for parliament to update legislation.”¹⁷³ Similarly, the abovementioned UNCTAD survey, which was conducted in Africa, Asia, Latin America and the Caribbean, shows that the lack of skills for police or law enforcement agencies (47 percent) and for the courts or regulators (33 percent) are regarded as key hurdles for effective enforcement.¹⁷⁴ Also, as an earlier CI member survey revealed, 80 percent of the members considered legislation, regulation and standards relating to redress as ineffective at keeping up with developments in the digital economy.¹⁷⁵

The need to improve good governance, consumer protection legislation and enforcement in the digital world is recognised internationally. First, international documents such as the UNGCP call upon member states to “work towards enhancing consumer confidence in electronic commerce by the continued development of transparent and effective consumer protection policies, ensuring a level of protection that is not less than that afforded in other forms of commerce.”¹⁷⁶ Also, the 2016 World Bank Report on Digital Dividends highlights the need for good governance. The authors argue that making the Internet universally accessible and affordable should be a global priority. However, while access to the Internet is critical, it is not sufficient. What a digital economy also requires is a strong analogue regulatory base, according to the World Bank.¹⁷⁷

Second, the most relevant global ICT regulators recognised the need to strengthen consumer protection in the digital world when they agreed at their 2014 meeting in Bahrain to “Best Practice Guidelines on consumer protection in a digital world”.¹⁷⁸ They argue that “governments must continue to play a major role in facilitating the protection of citizens at all levels through the development of a wide array of relevant legislation and government policies.” With regard to regulators, they demand that “in enforcing and reviewing relevant legislation, regulators and policy makers must establish effective mechanisms for cooperation [...] with dedicated consumer protection authorities, service providers and other relevant bodies at the national, regional and international level.” They also continue to claim that the ICT regulator “is increasingly seen as a partner to market players and an advocate for consumers’ rights. Their decisions are taken based on evidence and technical expertise to foster access and use of ICTs, competitiveness of the markets, and overall social and economic development.” – One of the implications the Alliance for Affordable Internet draws from this is that ICT regulators should perform their functions according to published and transparent rules, with the ICT regulatory decisions based on public consultations.¹⁷⁹

¹⁷³ Ibid., 11.

¹⁷⁴ UNCTAD, ‘Data Protection Regulations and International Data Flows: Implications for Trade and Development’, 2016, 9.

¹⁷⁵ Consumers International, ‘State of Consumer Protection Survey – Summary 2014/2015’, 2015, 7.

¹⁷⁶ United Nations, ‘United Nations Guidelines for Consumer Protection’, Guideline 63.

¹⁷⁷ World Bank Group, ‘Digital Dividends: World Development Report 2016’, 4. See also: OECD, ‘Digital Security Risk Management for Economic and Social Prosperity: OECD Recommendation and Companion Document’, 11ff.

¹⁷⁸ Global Symposium for Regulators, ‘GSR14 Best Practice Guidelines on Consumer Protection in a Digital World’, 2014.

¹⁷⁹ Alliance for Affordable Internet, ‘Affordability Report 2015/16’, 45.

3.8.2. Indicators, their measurement and available data

The key indicators that can be used to describe this dimension are summarised in Table 11.

1 Law-making	
Existence of a parliamentary committee in charge of consumer protection and empowerment (in the digital world)	Existence of a dedicated ministry in charge of consumer protection and empowerment (in the digital world)
Existence of a national strategy about consumer protection and empowerment (in the digital world)	
2 Enforcement	
Existence of dedicated enforcement authorities for laws in the realm of consumer protection in the digital world	ICT regulators perform their functions according to published and transparent rules, with the ICT regulatory decisions based on public consultations
Existence of the power of consumer organisations for collective legal action on behalf of consumers	
3 Participation of consumer organisations in law-making and enforcement	
Level of governmental financial contributions to independent consumer organisations	Level of participation of consumer organisations at hearings in the parliament, ministries and enforcement entities
4 Consumer trust in the system	
Percentage of consumers who trust their governments to protect their digital consumer rights	Percentage of consumers who trust consumer organisations to protect their rights as consumers

Table 11: Governance and participation: Overview of key indicators

Indicators and data
PARTIALLY AVAILABLE

This discussion shows that to some extent indicators and methodologies and data for this dimension exist. This means that while the methodologies need to be refined and data needs to be generated, the above-cited work of international organisations such as UNCTAD and the OECD, of regional organisations such as the European Union,¹⁸⁰ the European Consumer Consultative Group¹⁸¹ and the Inter-American Development Bank's *Broadband Development Index (IDBA) for Latin America and the Caribbean*¹⁸², as well as from national organisations such as the German Federation of Consumer Organisations (vzbv)¹⁸³ should be taken as reference points. In summary, we rate this dimension with yellow.

In addition to these sources, there are also other organisations providing methodologies and data regarding the governance and participation dimension:

- The GSM Association (GSMA) with its *Mobile Connectivity Index* also assesses generic World Bank indicators on the rule of law, government effectiveness, regulatory quality, political stability, voice and accountability as well as control of corruption.¹⁸⁴
- The World Economic Forum's *Networked Readiness Index* includes indicators such as the effectiveness of law-making bodies, laws relating to ICTs and judicial independence.¹⁸⁵

¹⁸⁰ European Commission, 'Consumer Conditions Scoreboard: Consumers at Home in the Single Market – 2015 Edition', Chapter III.2.

¹⁸¹ European Consumer Consultative Group, 'Report of the ECCG on Monitoring Indicators of the Consumer Movement'.

¹⁸² Here, the quality of the laws relating to ICT is included in the Index. See: Inter-American Development Bank, 'Methodology for the Broadband Development Index (IDBA) for Latin America and the Caribbean', Section 3.4.

¹⁸³ Verbraucherzentrale Bundesverband, 'Verbraucherschutzindex 2010: Das Verbraucherschutzpolitische Profil Der Länder Im Vergleich', 29 June 2010.

¹⁸⁴ GSMA, 'Connected Society: Mobile Connectivity Index Launch Report', 38, 39.

¹⁸⁵ World Economic Forum, 'The Global Information Technology Report 2016', 33–37.

4 Internal structure of the dimensions

Every dimension described in the previous chapter was represented in the consumer survey in at least one statement (see Table 2). In addition to analysing the data with regard to each question, we also tested how the individual dimensions relate to each other and whether they belong to one or more underlying factors. For instance, it may be the case that participants who report high levels of satisfaction with Internet access are also more satisfied with redress mechanisms in their country and trust their government to protect their rights as online consumers. Because every consumer answered each statement, it was possible to statistically analyse whether answers were similar for some statements. The results of this test are presented in this chapter.

4.1.1. Results and discussion

The analysis consistently yields two factors explaining between 40 and 46 percent of total variance in the data together.¹⁸⁶ The first factor encompasses all dimensions except for *product safety*, *privacy* and *data security*. These three statements form the second factor. Notably, these statements were negatively framed as “worry” statements rather than positively framed as “satisfaction” statements.¹⁸⁷

This pattern allows for two alternative interpretations: Either, participants answered the “worry” statements differently from the “satisfaction” statements due to methodological reasons (Interpretation 1), or safety and security aspects are logically different from the other dimensions (Interpretation 2). Based on the existing data, neither interpretation can be ruled out with certainty. However, since only Interpretation 2 allows for practical implications and conclusions, we will focus on this interpretation in the following discussion. Methodological doubts can only be ruled out in future research.

The two factors that statistically emerged from the data can be described as “digital infrastructure” (first factor) and “security aspects” (second factor). Digital infrastructure includes aspects such as satisfaction with access and costs, switching possibilities, quality of information, complaint mechanisms as well as (dis)trust in the government to protect one’s rights.

The security aspect factor, on the other hand, includes safety, privacy and data protection concerns. As such, it is relatively independent of the digital infrastructure factor because security concern dimensions and satisfaction with digital infrastructure dimensions are not correlated meaningfully.

¹⁸⁶ This empirical concept test was conducted using principal component analysis, a statistical method that identifies latent patterns and underlying factors between variables. The analysis was carried out for each country separately. However, the patterns between countries did not differ. Thus, in the following discussion, the general pattern is described rather than analysed for individual countries. For the number of consumers participating in the six countries, see section 1.3.4. The number of components was determined using scree plot inspection and the sequence of eigenvalues.

¹⁸⁷ Internal consistency of the eleven statements (measured with Cronbach’s Alpha) varied between .61 and .70, which is a good value.

Dimensions within each factor are at most moderately correlated (Range: $.48 > r > .02$), which means that satisfaction in one dimension frequently goes along with satisfaction in another dimension within the factor.¹⁸⁸ However, the size of the correlations indicates that each dimension included in the consumer survey is sufficiently distinct from the other dimensions.

Although gender differences are very small, the existing differences in the security aspect factor indicate greater security concerns for women than for men. These differences are mostly driven by consumers from Germany and the United States. Except for the pattern just described, the survey yields no overarching pattern concerning gender differences.

An interesting pattern emerges when comparing security concerns between age groups: In all three items referring to security, safety and privacy, older consumers (especially over 55) expressed more concern than younger consumers (especially under 34). However, this pattern does not arise in China, France or South Africa. Implications of this pattern are discussed in the following section.

4.1.2. Implications of the results

From these results, the following practical implications can be derived: Generally, consumer protection and empowerment in the digital world consists of several distinct dimensions, which belong to two overarching fields of application (digital infrastructure and security). Consumer protection policy should thus target both fields with specific measures. Improvements such as faster and less expensive access to the Internet, better information or an increase in choice between online services should be accompanied by improvements in ITC security, because consumers' security concerns might otherwise restrain them from taking full advantage of infrastructure improvements. Finally, to raise the overall level of consumer trust in the digital world, the security factor seems to possess relatively more urgency due to the generally lower level of satisfaction (respectively the higher level of concern) expressed by consumers in the survey. It could be the prioritised lever if a prioritisation was necessary.

Comparatively high safety and security concerns expressed by older consumers as compared to younger consumers in some countries (Argentina, Germany and the United States) potentially reflect the different degree of digital competence and experience between these age groups. In combination with comparatively low trust in their government to protect their rights as consumers online, the need to focus especially on older consumers with trust-building and concern-reducing interventions arises. This is important to avoid a growing gap between younger and older consumers in terms of trust and empowerment in the digital world. Based on the survey data in this report, however, this gap is relatively small and differs between countries.

¹⁸⁸ The highest correlation (aggregated over all six countries) was observed between privacy and data security concerns ($r = .48$) and satisfaction with costs and quality of the internet connection ($r = .45$).

5

Conclusions and recommendations

The overall objective of this study is to test the feasibility of the development of a set of indicators to describe and to measure progress towards an environment that is beneficial to consumer trust in the digital world. In doing so, the study describes how consumer trust in the digital world is constituted, develops indicators and analyses the extent to which these indicators already exist and could be considered as good practices in this regard. It thereby contributes to the G20 Digital Economy Development and Cooperation Initiative's objectives which encourage international organisations to develop better metrics for important policy issues such as trust in the digital economy (see Section 1.1).

The eight theses presented below build on the empirical and literature work done in the present study, extract the key lessons learned and sketch policy recommendations for building consumer trust and its measurement in global digitalised markets.

1 Thesis 1: A thriving and inclusive digitalisation process necessitates that consumers trust in digital markets

Digitalisation provides a range of opportunities for economic development and can also increase consumer welfare. Most prominently from a consumer perspective, digitalisation can lead to better access to information and products, increased choice, lower prices, more innovation and new products and services. At the same time, evidence suggests that consumers face substantial risks, encounter practical barriers and have concerns about some implications of digitalisation that altogether undermine consumer trust. This lack of trust in turn discourages some consumers from using new digital products and services, preventing particularly disadvantaged consumers from unlocking the potential of these technologies to improve their market position.

There is now an increasing understanding that growth on the supply-side presupposes consumer trust. The need to strengthen consumer trust is, inter alia, recognised by the G20 in their Digital Economy Development and Cooperation Initiative (see Sections 1.1 and 2.1).

2 Thesis 2: In order to strengthen consumer trust, the demand-side of the market needs to be brought into the spotlight

While ICT policies have focused primarily on universal access and instruments targeting the supply-side, there is now a growing recognition that demand-side issues have to be addressed. As the World Bank and others have argued, next-generation policies “must also focus on demand-side issues of digital literacy, as well as privacy, cybersecurity, and [I]nternet governance”.¹⁸⁹

In order to strengthen consumer trust, the demand-side of the market needs to be systematically integrated into ICT politics on all governance levels.

¹⁸⁹ World Bank Group, ‘Digital Dividends: World Development Report 2016’, 200. For a similar point see: GSMA, ‘Connected Society: Mobile Connectivity Index Launch Report’, 3. McKinsey&Company, ‘Offline and Falling behind: Barriers to Internet Adoption’, 8.

3 Thesis 3: To bring the demand-side into focus, the United Nations Guidelines for Consumer Protection should be used as a policy framework

As our literature review revealed, different approaches exist for bringing the demand-side into focus (see Section 2.2). Due to the fact that the United Nations Guidelines for Consumer Protection constitute an internationally endorsed set of consumer protection and empowerment principles, the present study uses the UNGCP as a conceptual framework to analyse consumer protection and empowerment in the digital world. This framework consists of the eight dimensions that are summarised below.



4 Thesis 4: To systematically improve the state of consumer protection and empowerment, valid indicators and good data are needed

Evidence-based impactful policy decisions need valid indicators and good data. The indicators should be derived from overall consumer policy objectives and the necessary data should be generated based on a robust methodology, collected by independent and trustworthy organisations.

In the context of consumer protection and empowerment in the digital world, it is therefore important to identify key indicators to develop corresponding methodologies to measure the state and progress towards a consumer-friendly demand-side environment and to generate the data. Here, care needs to be taken that the data is also analysed with regard to different consumer groups depending, inter alia, on age, gender, urban vs. rural, disabilities, income and education background.

If a prioritisation is necessary, the analysis of the internal structure of the dimension in Chapter 4 suggests that consumer satisfaction in the six G20 countries is

particularly low within the security factor, i.e. product safety, privacy and data security. This assessment is supported by the OECD, which identified a particular urgency to develop better metrics for security and privacy and which has promised to address this gap by undertaking work in this area over the period 2017–2018.¹⁹⁰

5 Thesis 5: The UNGCP constitute a useful framework for indicator development; Digital Consumer Protection and Empowerment (DCPE) indicators can be derived

Based on the eight dimensions derived from the UNGCP (Chapter 3), the study develops a wide-ranging set of indicators to describe the state of consumer protection and empowerment in the digital world. Table 12 summarises the different indicators for the eight dimensions.

¹⁹⁰ OECD, 'Key Issues for Digital Transformation in the G20: Report Prepared for a Joint G20 German Presidency/OECD Conference', 33.

<p>Access</p> <p>Consumer outcomes</p> <p>Access to networks Proportion of the population which is covered by a high-speed mobile-cellular network</p> <p>Proportion of the population which is covered by a high-speed fixed-broadband network</p> <p>Mobile uptake Proportion of the population using a high-speed mobile-cellular service</p> <p>Proportion of the population using a high-speed fixed-broadband subscription</p> <p>Affordability High speed mobile-cellular prices</p> <p>High speed fixed-broadband prices</p> <p>Use Proportion of individuals using the Internet</p> <p>Consumer satisfaction Consumer satisfaction with the quality of and costs for the Internet connection</p>	<p>Economic interests</p> <p>Regulatory context</p> <p>Adequacy of competition law and its enforcement Expert satisfaction with competition law to address the particularities of the digital economy</p> <p>Expert satisfaction with competition law enforcement</p> <p>Expert satisfaction with rules and regulations regarding interoperability and data portability</p> <p>Expert satisfaction with net neutrality rules and regulations</p> <p>Consumer outcomes</p> <p>Consumer experience Degree of liberalisation in various ICT sectors</p> <p>Consumer satisfaction with the ability to easily switch to an alternative supplier if they dislike the practices of an online service</p> <p>Consumer switching behaviour in various ICT sectors</p> <p>Consumer concerns about personalised pricing and price discrimination</p>	<p>Product safety and liability</p> <p>Regulatory context</p> <p>Adequacy of safety & liability laws and their enforcement Expert satisfaction with safety and liability laws</p> <p>Existence of regulatory authorities for safety</p> <p>Existence of a market monitoring system for digital products and services (including independent testing facilities)</p> <p>Expert satisfaction with the enforcement of safety and liability laws</p> <p>Business conduct</p> <p>Business behaviour Extent to which businesses respect safety standards in pre-market design</p> <p>Extent to which businesses monitor their products once they are in the market</p> <p>Extent to which businesses have in place product recall procedures</p> <p>Consumer outcomes</p> <p>Safety of ICT sector Number and severity of reported incidences of unsafe digital products and services</p>	<p>Privacy and data security</p> <p>Regulatory context</p> <p>Adequacy of privacy & data security laws and their enforcement Expert satisfaction with privacy and data security laws</p> <p>Extent to which the laws correspond with the abovementioned good practices</p> <p>Consumer outcomes</p> <p>State of privacy protection and data security Number and severity of reported incidences of data breaches</p> <p>Number of secure internet servers (per 1 million people) (secure internet servers are servers using encryption technology in internet transactions)</p> <p>Consumer concerns about privacy</p> <p>Consumer concerns about data security</p>	<p>Information and transparency</p> <p>Regulatory context</p> <p>Adequacy of consumer information & disclosure laws and their enforcement Expert satisfaction with consumer information and disclosure laws</p> <p>Extent to which the laws correspond with the abovementioned good practices</p> <p>Consumer outcomes</p> <p>State of consumer information and disclosure practices Consumer satisfaction with consumer information and disclosure practices</p> <p>Number of consumer protection issues in media</p> <p>Existence of comparative testing organisations</p> <p>Existence of independent consumer organisations offering pre-purchase advice</p>	<p>Education and awareness</p> <p>Regulatory context</p> <p>Regulatory framework Consumer education is an integral part of the basic curriculum of the educational system</p> <p>Consumer outcomes</p> <p>General outputs Consumers have the ability to access competent and professional advice and assistance from an independent consumer organisation</p> <p>Consumers' digital literacy Information and data literacy</p> <p>Communication and collaboration</p> <p>Content creation</p> <p>Safety</p> <p>Problem solving</p> <p>Consumers' general literacy General consumer skills such as recognising a cheaper product or recognising logos correctly</p> <p>Awareness of consumer legislation</p> <p>Consumer engagement</p> <p>Percentage of consumers who know national consumer organisations</p>	<p>Dispute resolution and redress</p> <p>Regulatory context</p> <p>Adequacy of legislation about dispute resolution and redress Expert satisfaction with the legislation about dispute resolution and redress</p> <p>Extent to which the laws correspond with good practices</p> <p>Business conduct</p> <p>Business behaviour Awareness of businesses of dispute resolution and redress legislation</p> <p>Existence of complaint management systems by businesses</p> <p>Consumer outcomes</p> <p>State of dispute resolution and redress Consumer satisfaction with dispute resolution and redress practices</p> <p>Awareness of consumers about their rights and dispute and redress possibilities</p> <p>Experiences of consumers in attaining their rights</p>	<p>Governance and participation</p> <p>Regulatory context</p> <p>Law-making Existence of: a parliamentary committee a dedicated ministry a national strategy ... about consumer protection and empowerment (in the digital world)</p> <p>Enforcement Existence of dedicated enforcement authorities</p> <p>ICT regulators perform their functions according to published and transparent rules</p> <p>Existence of the power of consumer organisations for collective legal action on behalf of consumers</p> <p>Participation of consumer organisations (c.o.) in law-making and enforcement Level of governmental financial contributions to independent c.o.</p> <p>Level of participation of c.o. at hearings in the parliament, ministries and enforcement entities</p> <p>Consumer outcomes</p> <p>Consumer trust Percentage of consumers that trust their governments and c.o. to protect their digital rights</p>
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Table 12: Overview of dimensions and indicators

6 Thesis 6: Indicators, data-gathering methodologies and G20-wide data sets exist only for a few indicators; hence a double-fledged approach to address these gaps is necessary

The study also analysed the extent to which indicators, data-gathering methodologies and G20 wide data exist for these indicators. It revealed that indicators, methodologies and data exist only for a few indicators. Table 13 offers a rough overview of the status quo.









Dimension	Assessment
 Access	Indicators and data AVAILABLE
 Economic interests	Indicators and data NOT YET AVAILABLE
 Product safety and liability	Indicators and data NOT YET AVAILABLE
 Privacy and data security	Indicators and data PARTIALLY AVAILABLE
 Information and transparency	Indicators and data NOT YET AVAILABLE
 Education and awareness	Indicators and data PARTIALLY AVAILABLE
 Dispute resolution and redress	Indicators and data PARTIALLY AVAILABLE
 Governance and participation	Indicators and data PARTIALLY AVAILABLE

Table 13: Summary of assessments of the existing methodologies and data quality with regard to the eight dimensions

This result should not surprise. As was noted in Thesis 2, in the past the focus has been on supply-side factors. Consequently, the access dimension is quite well developed, whereas the other dimensions are still relatively underdeveloped.

Based on this result, the study suggests a double-fledged approach for addressing these gaps that should deliver concrete results in the short- as well as in the mid- and long-term.

7 Thesis 7: First, a survey-based approach should be used to provide the needed data in the short-term

The study encompasses a consumer survey that was conducted in six G20 countries. Based on the UNGCP framework, the survey covered each of the eight dimensions. The results show that vital data for a demand-side-orientated digital policy can be derived from this data. Since consumer surveys can be comparatively easily developed, implemented and analysed, the study suggests that this approach should be used to generate periodic data that can be used in the short-term.

Furthermore, for some constructs, surveys are the only way to operationalise the relevant construct. This especially applies to consumers' attitudes and opinions, for which no "hard data" exists.

Several recommendations drawn from this study can help to increase the feasibility of this approach:

- 1 Start with a good construct definition:** Deducing questions or statements to describe an underlying latent construct such as trust is significantly easier with a concrete and clear construct definition at hand.
- 2 Use several items to increase reliability:** Using many items in a survey to measure a certain aspect increases the measurement's reliability. Here, a trade-off arises between reliability and the need for many items, on the one hand, and economically using the existing survey time on the other hand.
- 3 Integrate existing measurements if possible:** Although tailor-made surveys cover exactly the topic intended to be measured, they lack evidence for construct validity and usually no frame of reference for comparisons exists. These disadvantages can be outweighed by using or integrating existing measures (such as questionnaires or panel data).
- 4 Adapt the measures to the construct that should be measured:** Asking questions about subjective constructs such as opinions, trust or attitudes is a legitimate way to acquire new insight into the way consumers subjectively perceive certain aspects. However, it should be differentiated from objective data such as behaviour or costs. The latter two are more precisely assessed by behaviour-based questions, behavioural data that is independent of verbal statements or market analyses. How consumers subjectively feel about a certain topic does not necessarily indicate how they behave.
- 5 Pay attention to general quality criteria of survey design:** Any survey can only yield reliable results if it is constructed according to general quality criteria. To this end, it is necessary to phrase items

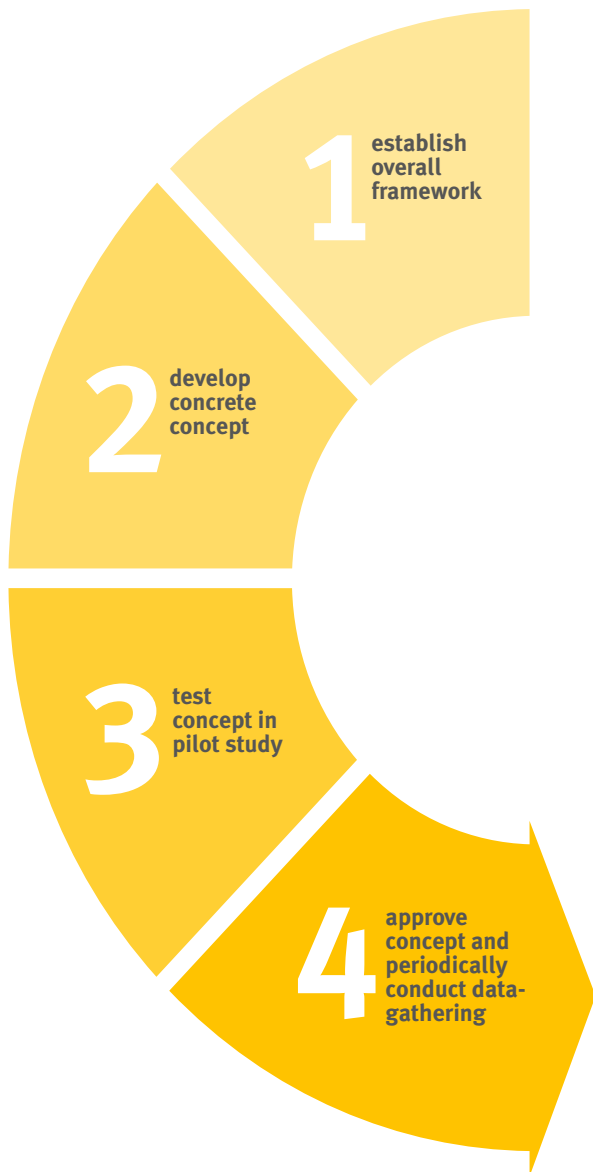
clearly, pretest items, translate them carefully and check whether the translation retained the item's meaning by back-translating it. In online surveys, it is furthermore necessary to identify participants who did not respond sincerely (e.g., “speeders” or “straight-liners”). Access to the survey should be ensured for all consumers to avoid systematically excluding certain consumer groups (such as vulnerable consumers). This is closely related to the need to use a representative or at least heterogeneous sample (e.g., based on age and gender).

To sum up, surveys can yield valuable insight if sampling, instrument construction and field work are performed on the basis of good scientific practice.

8 Thesis 8: Second, the G20 should initiate a four-step process to develop a comprehensive methodology in order to provide data in the mid- and long-term

To overcome the identified deficiencies in the methodologies, the G20 should initiate a process that develops a comprehensive and robust methodology for Digital Consumer Protection and Empowerment indicators in the mid- and long-term. This process should go hand-in-hand with other initiatives that aim at developing a tool kit for policy making in this field and recommendations for policy action.

This process could take place with the following four steps:



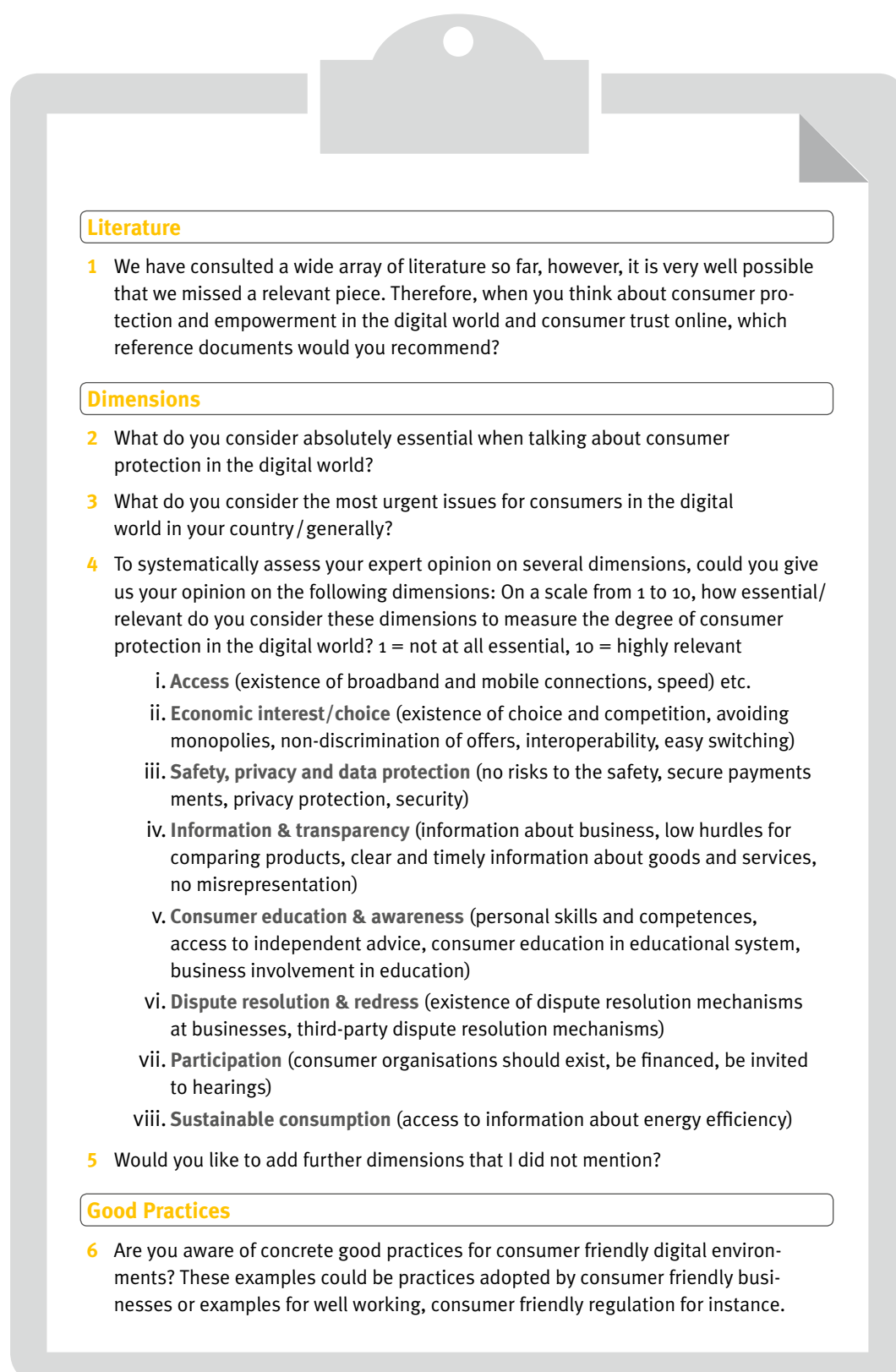
Step 1: The G20 should set up a consumer protection and empowerment working group for the digital world. This working group should agree on an *overall framework* of Digital Consumer Protection and Empowerment indicators. This framework should be consulted on the relevant stakeholders and should specify the objectives of the indicators as well as the dimensions that should be covered. The results of this study **could** constitute the basis for such a framework. As was argued in Section 2.2, sustainable consumption was excluded here. Due to the large importance of the issue, in the context of this overall framework, sustainability should be included as a horizontal issue.

Step 2: An international organisation should then be tasked with the concrete *development* of such a set of indicators and the corresponding data-gathering methodologies. The ITU, the OECD, UNCTAD or the World Bank would be competent and capable organisations for this purpose. Stakeholder participation in development should be ensured throughout the process. Furthermore, care should be taken that due account is given to incorporate existing approaches and indicators as well as to also ensure compatibility with other initiatives i.e. regarding the development of a toolkit for consumer policy making and other policy initiatives. Also, as was indicated in Section 1.3.5, in order to reduce complexity, we were selective in the types of indicators that we used in each dimension. Hence, our set of indicators should be further developed and critically scrutinised.

Step 3: The set of indicators and their data-gathering methodologies should be *tested* in a pilot study. Lessons should be learned and the indicators and methodologies be refined.

Step 4: The draft set of indicators and their data-gathering methodologies should be presented to the G20 working group for its approval. Clear institutional responsibilities should then be assigned to periodically conduct data-gathering for the indicators.

Annex 1: Questionnaire used in the expert interviews



Literature

1 We have consulted a wide array of literature so far, however, it is very well possible that we missed a relevant piece. Therefore, when you think about consumer protection and empowerment in the digital world and consumer trust online, which reference documents would you recommend?

Dimensions

2 What do you consider absolutely essential when talking about consumer protection in the digital world?

3 What do you consider the most urgent issues for consumers in the digital world in your country/generally?

4 To systematically assess your expert opinion on several dimensions, could you give us your opinion on the following dimensions: On a scale from 1 to 10, how essential/relevant do you consider these dimensions to measure the degree of consumer protection in the digital world? 1 = not at all essential, 10 = highly relevant

- i. **Access** (existence of broadband and mobile connections, speed) etc.
- ii. **Economic interest/choice** (existence of choice and competition, avoiding monopolies, non-discrimination of offers, interoperability, easy switching)
- iii. **Safety, privacy and data protection** (no risks to the safety, secure payments, privacy protection, security)
- iv. **Information & transparency** (information about business, low hurdles for comparing products, clear and timely information about goods and services, no misrepresentation)
- v. **Consumer education & awareness** (personal skills and competences, access to independent advice, consumer education in educational system, business involvement in education)
- vi. **Dispute resolution & redress** (existence of dispute resolution mechanisms at businesses, third-party dispute resolution mechanisms)
- vii. **Participation** (consumer organisations should exist, be financed, be invited to hearings)
- viii. **Sustainable consumption** (access to information about energy efficiency)

5 Would you like to add further dimensions that I did not mention?

Good Practices

6 Are you aware of concrete good practices for consumer friendly digital environments? These examples could be practices adopted by consumer friendly businesses or examples for well working, consumer friendly regulation for instance.

Annex 2: Questionnaire used in the consumer survey

The Internet has become an integral part of our everyday lives. As consumers, we use it for finding information, researching products, comparing prices, shopping, communicating and watching videos or listening to music. People have different attitudes and experiences as consumers online. We would like to find out more about how you feel about your experiences online.

For the following sentences, please indicate to what extent you personally agree or disagree on a 5-point scale.

No	Question	Answer
1	I generally feel at ease with being a consumer in the digital world.	1 Strongly disagree 2 Somewhat disagree 3 Neither agree nor disagree 4 Somewhat agree 5 Strongly agree
2.1	I am satisfied with the quality (speed and reliability) of my Internet connection.	See question 1
2.2	I am satisfied with the costs for my Internet connection.	See question 1
3	If I dislike the practices of an online service (e.g. social networks, music and video streaming services), I am satisfied with my options to easily switch to an alternative.	See question 1
4	I have concerns that some digital technologies (e.g. self-driving cars, smart homes and others) are unsafe.	See question 1
5.1	I am concerned that too much of my personal data is being collected by businesses on the Internet.	See question 1
5.2	I am concerned that the payment information that I provide online may be stolen and misused.	See question 1
6	I am satisfied with the quality of information I find online about products, services and their terms of use.	See question 1
7	I know my rights as a consumer online.	See question 1
8	I am satisfied with the current complaint and replacement possibilities for faulty products bought online.	See question 1
9	I trust my government to protect my rights as a consumer online.	See question 1

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