

**DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INNOVATION  
COMMITTEE ON CONSUMER POLICY**

**Cancels & replaces the same document of 2 September 2019**

**Roundtable on digital assistants and voice controlled e-commerce****Summary of discussion**

**OECD, Paris  
10 April 2019**

This document summarises a Roundtable on digital assistants and voice-controlled e-commerce that was held by the Committee on Consumer Policy (CCP) on 10 April 2019. It highlights some of the key themes and issues raised during the discussions. The final agenda for the roundtable is attached as Annex A.

This paper was approved and declassified by written procedure on 1 July 2019 and prepared for publication by the OECD Secretariat.

Anna Barker, [anna.barker@oecd.org](mailto:anna.barker@oecd.org), +33 1 4524 8208.

Brigitte Acoca, [brigitte.acoca@oecd.org](mailto:brigitte.acoca@oecd.org), +33 1 4524 9365.

Alice Weber, [alice.weber@oecd.org](mailto:alice.weber@oecd.org), +33 1 4524 9268.

**JT03450582**

## *Summary of roundtable on digital assistants and voice-controlled e-commerce*

### Background

1. On 10 April 2019, as part of its 97<sup>th</sup> Session, the Committee on Consumer Policy (CCP) organised a roundtable to explore the consumer benefits and risks associated with digital assistants and voice-controlled e-commerce.
2. The roundtable progresses the work developed by the CCP on understanding the impact of new technologies on consumers. It builds on a roundtable held jointly with the Working Party on Consumer Product Safety on connected consumers in November 2017, which resulted in publications on consumer policy and the smart home (OECD, 2018<sup>[1]</sup>) and consumer product safety in the Internet of Things (IoT) (OECD, 2018<sup>[2]</sup>).
3. The following provides a summary of the roundtable in which representatives from academia, the business community, and civil society, participated. It starts with an overview of the main themes that emerged from the discussion, including: the reliance on consumer data; the potential for consumer “lock-in”; impacts on consumer choice and competition; information disclosure challenges; and the need for post-sale consumer protections. It then provides details of the specific comments made by each of the panellists.

### Main points

4. Digital assistants include devices such as smartphones, tablets, computers and smart speakers, which use software systems (e.g. Amazon’s Alexa, Apple’s Siri, Google’s Assistant, Microsoft’s Cortana and Samsung’s Bixby) to undertake a range of tasks for users. One of these tasks is to provide a new interface for consumers to make purchases via voice activated commands. Such functionality, which relies largely on artificial intelligence (AI), algorithms and consumer data, has the potential to raise new benefits and risks for consumers, as discussed below.

#### ***Digital assistants rely on large amounts of consumer data***

5. Digital assistants need to rely massive amounts of consumer data in order to constantly improve and personalise their service. While this may benefit consumers by providing services and product recommendations that match their needs and preferences, it may also create disclosure challenges as well as potential privacy and security risks for consumers.
6. In particular, consumers may not be aware of the amount and type of information being collected about them, and how such data is used, both by digital assistants and third-parties. Moreover, the degree to which disclosure of this information to consumers is effective is unclear, whether provided by voice or in written form.
7. There is also the potential for consumer data to be used to discriminate between consumers through, for example, personalised pricing. However, the collection, use and sharing of consumer data is not unique to digital assistants. Indeed, such issues have been raised in relation to other IoT products and to online platforms, for example (OECD, 2018<sup>[1]</sup>; OECD, 2018<sup>[2]</sup>; OECD, 2019<sup>[3]</sup>). While this may not be the responsibility of

consumer agencies in some jurisdictions, the need for specific data protections to protect consumers in these markets requires further consideration.

***There is potential for consumer “lock-in”***

8. The reliance on consumer data provides a “feedback loop” whereby the more a consumer uses a digital assistant, the more data the digital assistant has about the consumer, making the digital assistant more able to improve its algorithm’s capacity to learn and tailor its service to the personal preferences and tastes of the consumer. Given this, a digital assistant that has a history with a consumer may have a “data advantage” over a competing digital assistant. This has the potential to distort competition if consumers feel “locked-in” to using the digital assistant that they have a history with.

9. However, personalised product recommendations that rely on prior history with the consumer are only one factor consumers might consider when deciding which digital assistant to use to make a particular purchase, or whether to use a digital assistant at all. Other factors, such as product selection, price, and convenience of the shopping experience, may continue to be the primary factors that influence this decision. Further, consumers maintain the ability to shop in multiple ways (e.g., physical stores, websites, mobile apps), to use third-party suppliers on a digital assistant, and to use multiple digital assistants (though their data will not necessarily be shared between these digital assistants). Finally, if problems of “lock-in” become an issue, measures such as data portability and interoperability could potentially allow consumers to switch or use multiple digital assistants.

***There may be impacts on consumer choice and competition***

10. Digital assistants may be well-placed to make personalised recommendations if they have relevant consumer data on which to base those recommendations (e.g. a consumer’s previous purchasing history, as discussed above). In making such recommendations, they may be able to avoid the influence of behavioural biases and marketing, which may otherwise have distorted a consumer’s decision making.

11. However, digital assistants and voice-controlled e-commerce business models can potentially impact choice and competition. In general, consumers will only be presented with one option at a time when shopping via voice-controlled e-commerce on digital assistants without screens. (On devices with screens, however, use of voice may simply be another way for the consumer to browse and shop online.) There is also the potential for digital assistants to recommend affiliated products, which may negatively impact competition, especially if consumers are unable to identify this conduct. However, the ability of consumers to switch to other forms of commerce (such as to make purchases in store, online (directly with retailers), through online platforms, or through other digital assistants) if they are not happy with the recommendations made by digital assistants, may moderate this risk.

12. The use of algorithms (and AI technologies) by digital assistants presents difficulties for consumer and competition agencies wishing to understand how these devices work. To the extent that there is evidence of consumer harm or anti-competitive conduct, consumer and competition agencies will need to be able to assess and test the underlying algorithms (and AI), as they would for any consumer or competition issue arising in any other market. The importance of algorithm transparency and accountability were both highlighted in the discussion.

Alternatively, the development and enforcement of minimum standards remains an option for regulatory bodies to consider if issues of preferential product selection or consumer discrimination become a problem. Such standards could include, for example, mandatory neutrality, or requirements on what data must be included or excluded in undertaking specific tasks. If such measures were pursued, a key issue would be ensuring that enforcement agencies are able to interrogate the algorithms to assess compliance.

### ***Relying on information disclosure may not adequately protect consumers***

13. The wealth of data being collected about consumers via digital assistants, and the potential lack of information provided to a consumer as part of a verbal e-commerce transaction, may raise information asymmetry issues. Such issues are not new to consumer policy. Indeed, consumers often know less than the seller about the features and quality of the products being sold (OECD, 2018<sup>[4]</sup>). For this reason, information disclosure is a key tool for addressing information asymmetries to empower consumers to make decisions that are in their best interests, especially in the online context (OECD, 2010<sup>[5]</sup>). However, there are questions about the effectiveness of information disclosures in the context of voice-controlled e-commerce.

14. It appears that most voice-controlled transactions still involve the provision of written information to the consumer via an app, a short text message, or an email on some form of screen. However, it is possible to have voice-only transactions and use of this type of transaction may increase.

15. To the extent that digital assistants present purchase options verbally, consumers will potentially receive very little information about a product pre-purchase. Consumers may not view this as a problem in a world where most consumers face information overload, especially for low-value, routine purchases, or purchases that they have already researched. Indeed, consumers retain the ability to choose whether to make a purchase via a digital assistant, an app, online, or in store. However, it does raise the question as to whether voice-only transactions comply with consumer protection laws in jurisdictions with information requirements. Further, in the absence of information being provided pre-purchase, it highlights the need for post-purchase consumer protections, as discussed below.

16. In addition, the effectiveness of disclosure for notifying consumers about what personal information is being collected and how this is being used, is a key issue. In particular, consumers may face information overload if this information is provided verbally. Alternatively, if it is provided in writing, there is a risk that consumers will not engage with the information if it is not presented in an accessible and time-relevant way. Similarly, disclosure of affiliations or other biases in underlying algorithms may be difficult for consumers to understand, depending on how these are delivered. For these reasons, there is likely to remain a role for the relevant enforcement agencies to ensure that consumers are adequately protected. However, as noted above, the degree to which these issues are more acute for digital assistants compared to other IoT products and online services is unclear.

### ***Effective post-sale protections are important and businesses have a role to play***

17. Where consumers receive little information prior to making a voice-controlled purchase, it will be increasingly important that there are effective consumer protections in place post-purchase. In this respect, many countries have a “right of withdrawal” for online purchases whereby they can return a product or service bought online within a prescribed

period (for example, fourteen days in the European Union). This would address issues of accidental purchase and purchases that are not fit-for-purpose. Further, some jurisdictions have protections against aggressive practices, which could arguably be relevant in the case of unsolicited and/or unwanted orders made on a consumer's behalf.

18. However, even in these circumstances, consumers will have to deal with the hassle of returning the ill-suited goods, which may negatively impact their view of the shopping experience. For this reason, businesses should ensure that they assist consumers in making purchases that are in their best interests by having clear methods for agreeing a transaction and by providing relevant information to consumers in an accessible and timely manner, as required.

19. Some digital assistants already provide a number of consumer protections, including the ability to use password controls to complete a transaction, or to switch off voice-controlled shopping entirely.<sup>1</sup> In addition, in many cases, a consumer will receive a notification (via email or an app) to inform her that a purchase has been made, to provide relevant information about the purchase, and to allow her to cancel a purchase. Notwithstanding these protections, businesses should ensure that consumers have access to effective dispute resolution and redress processes. Further, businesses should work with consumer enforcement agencies to ensure compliance with existing consumer protection laws, including assisting agencies that wish to interrogate the underlying algorithms in the case of suspected breaches of consumer (or competition) laws.

## Academic perspectives

20. **Professors Niva Elkin-Koren and Michal Gal**, both from the University of Haifa, Israel, started off the roundtable with a pre-recorded presentation.<sup>2</sup>

21. Professor Elkin-Koren (Professor of Law, and Director of the Center for Cyber Law and Policy) provided an introduction and overview of voice-controlled digital assistants. She noted the importance of enabling consumer choice and providing consumers with complete information to ensure the proper functioning of markets, and the centrality of these principles in traditional consumption relationships. She also highlighted the traditional role of consumer policy in ensuring adequate information and providing protections against misleading information and deception. Traditionally, consumer protection laws assumed that consumers will engage in market transactions in person, and will exercise choice prior to acquiring products or services. Yet, she argued that the new generation of algorithmic consumer systems is challenging these assumptions. She provided an overview of the types of services that digital assistants can provide, from searching the internet, playing music, or checking the weather, to shopping on behalf of the consumer (sometimes autonomously). She noted the crucial role of consumer data in enabling such services. In respect of e-commerce, she noted the feedback loop created by previous purchase habits informing future suggestions. Hence, there is a (data) benefit to long-term relationships between consumers and digital assistants. In this way, it is more of an ecosystem (rather than a series of one-off purchases). There is also a paradigm shift in

---

<sup>1</sup> See, for example, (Amazon, 2018<sub>[13]</sub>).

<sup>2</sup> Professors Elkin-Koren and Gal have published on this issue. See Gal and Elkin-Koren (2017<sub>[6]</sub>) and Gal (2018<sub>[12]</sub>).

terms of what is meant by consumer choice: the consumer is no longer autonomous and choice is instead based on AI, machine learning and data.

22. Professor Gal (Professor of Law and Director of the Forum on Law and Markets) then talked through some of the consumer benefits and risks from this new form of e-commerce, and the potential policy implications. In terms of benefits, she noted that digital assistants can reduce transaction costs, offer speedier and more sophisticated decisions (given their ability to compare more parameters), avoid consumer biases (for example, being affected by marketing techniques), reduce the decisional effort of consumers, and offer personalised products. However, they have the potential to increase risks to consumer privacy and security, and they could potentially shape or manipulate preferences or decisions to a consumer's detriment. In particular, digital assistants could provide outcomes that serve the interests of the manufacturer rather than the consumer. Such concerns are strengthened by the fact that the underlying algorithms are a "black box" for consumers. Further, there is a problem of asymmetric information in that digital assistants have a lot of data on consumers whereas consumers have little information about how digital assistants work, and the degree to which their data is being collected and used, or shared with third parties. This could result in power disparities if a consumer feels locked-in to using the digital assistant and its algorithms.

23. In terms of potential policy responses, Professor Gal noted the importance of ensuring effective competition. To facilitate this, she suggested that consumers need information on affiliations and parameters affecting the algorithm's decisions so that they can make informed decisions when choosing between digital assistants (i.e. at market entry points). She also noted that data portability and interoperability could facilitate consumer switching (i.e. at market exit points). Market oversight and comparison algorithms were another potential option put forward for consideration. Beyond transparency, she suggested that consideration could be given to mandated neutrality for some forms of algorithms. Alternatively, there could be mandates on the types of data that should not be taken into account (data exclusion), or that must be taken into account (data inclusion) by certain algorithms.

## Business perspectives

24. Next, representatives from Amazon and Google provided a business perspective. First, the CCP heard from **Mr Ryan McCrate**, Associate General Counsel and Head of Alexa Legal at Amazon. Mr McCrate started by providing an overview of Amazon's Alexa technology, noting that it first became available on Amazon Echo in 2014, and is now available on over 150 devices manufactured by Amazon and third parties. He also noted that Alexa has over 70,000 "skills" that have been built by third parties. In relation to shopping, this started by allowing consumers to record shopping lists. It then progressed to allowing consumers to check on their Amazon orders, and, following demand, voice-controlled shopping was subsequently introduced. Today, consumers can use a wide range of "skills" to order goods or services directly from Amazon or third parties.

25. In developing the ability to shop through Alexa, Amazon were keen to ensure that the process was transparent and that consumers retained control. It put in place a number of safeguards, including the ability to turn off voice-controlled shopping or the requirement to enter a confirmation code before completing a purchase. Further, Mr McCrate noted that Alexa is not "always listening" except to listen for "Alexa", and only after that will the device start recording and sending data to the cloud. He also noted that Alexa does not currently automatically order any products for customers in any circumstances.

26. In terms of the options provided by Alexa, these are customised depending on the device the consumer is using, the type of product or service being bought, the consumer's previous purchase history and the type of request made by the consumer. The item is then either put in the consumer's shopping basket (on the Amazon website or app) or the consumer can buy the product immediately through voice. In the latter case, the consumer is provided with the product name and price over the speaker and will also be sent additional product information (via the Amazon app or the screen of the device being used, if applicable). Confirmation of purchase is always explicitly requested before purchase. Order confirmation information is then made available on the app and website, and the consumer receives an order confirmation email. These same standards apply for purchases made using third-party skills.

27. In the near future, Amazon expects purchases completed by voice to remain a relatively small percentage of total consumer purchasing. However, consumers do see its value, especially for purchasing everyday items that they are already familiar with. Mr McCrate noted that buying through Alexa can be time saving and convenient, citing an example of buying a train ticket taking two minutes on Alexa compared to seven minutes online, or buying nappies when a mobile device or computer is not readily at hand. By contrast, Amazon does not expect that consumers will soon use voice to complete purchases that involve complex choices. For example, many consumers will still prefer to visit a website or shop in person when purchasing products such as a new refrigerator.

28. **Mr Christian Wagner**, Senior Policy Analyst at Google, then provided Google's perspective. He noted that every ten years or so new technological developments emerge (e.g. the internet, mobile phones, voice assistants) that often present challenges for compliance and consumer acceptance. Ten years ago, Google launched "Voice Search". However, it did not result in a good user experience and therefore uptake was low. This highlighted the need to improve voice recognition and generation, which has occurred over the last decade, with Google Assistant's voice recognition now performing better than an average human. Mr Wagner noted that, like Alexa, Google's Assistant allows for third-parties to develop "actions" (like Alexa's "skills"), which can involve e-commerce activities. Third party adoption has been important to the rollout of Google's Assistant, which is integrated into some 400 million devices around the world, including in smartphones, tablets, headphones, wearables, cars and smart devices (such as smart speakers). He noted the importance of transparency, privacy and user control, including consumers' ability to control their privacy settings and whether or not the device is listening.

## Consumer perspective

29. Mr Justin Macmullan, Advocacy Director at Consumers International, finished off by providing a consumer perspective. He noted that while digital assistants are new, they have become extremely popular. However, their newness and the pace of change makes it difficult to determine the likely consumer risks, especially as there is a lack of consumer information available about how these types of devices work. He noted that the consumer benefits included convenience and the ability to multitask, ease of use for consumers with less dexterity or poor eyesight, and the potential for better decision making (free from behavioural biases and marketing). In terms of access and inclusion, he highlighted that access to affordable internet is an obvious prerequisite and that there could be concerns about voice recognition across different languages and for females. Mr Macmullen indicated that Consumers International had not yet reviewed the terms and conditions for

some of these devices but would be interested to understand what they said about liability and dispute resolution.

30. Mr Macmullan pointed to information disclosure as a key issue for digital assistants and voice-controlled e-commerce. He noted that consumers would be unlikely to be able to get all the information needed to make an informed decision if the information is only provided verbally. In addition, consumers' ability to process information delivered verbally may be limited, especially where a consumer is comparing multiple products. On the other hand, if information is provided via a screen, this undermines the idea of voice-controlled e-commerce as convenient and seamless. The ability of the digital assistant to influence choice was also noted as a potential issue. While choice is "curated" in any market, this is heightened for voice-controlled e-commerce. In the case of re-ordering, there may also be potential lock-in to a particular product as it is not clear that a consumer would be made aware of any new products on the market. He also noted the issues raised by Professors Elkin-Koren and Gal regarding the ability of digital assistants to promote affiliated products, potentially without the consumer's knowledge.

31. Mr Macmullan noted that past research by Consumers International suggests that consumer understanding of how much data they are sharing, and how AI uses that data, is limited. Further, even though consumers can often set preferences for how their personal data is collected and used, this is often quite difficult in practice. He also raised concerns about consumers not being able to avoid or correctly identify marketing. He also noted the importance of clear order confirmation and effective dispute resolution measures. In addition, like for all products using consumer data, privacy and security remain a potential source of concern. He finished by noting that there is a clear need for further research in this emerging area.

## References

- Amazon (2018), *Amazon Tips and Tricks: Alexa Voice Shopping - YouTube*, [13]  
<https://www.youtube.com/watch?v=Jr37Zt5y2VY> (accessed on 7 May 2019).
- Capgemini (2018), *Conversational Commerce - Why Consumers Are Embracing Voice Assistants in their Lives*, [8]  
<https://www.capgemini.com/wp-content/uploads/2018/01/dti-conversational-commerce.pdf>.
- Gal, M. (2018), “Algorithmic challenges to autonomous choice”, *Michigan Telecommunications and Technology Law Journal*, [12]  
[https://www.academia.edu/34704731/Algorithmic\\_Challenges\\_to\\_Autonomous\\_Choice](https://www.academia.edu/34704731/Algorithmic_Challenges_to_Autonomous_Choice)  
 (accessed on 17 April 2019).
- Gal, M. and N. Elkin-Koren (2017), “Algorithmic Consumers”, *Harvard Journal of Law & Technology*, Vol. 30/2, pp. 309-353, [6]  
<https://jolt.law.harvard.edu/assets/articlePDFs/v30/30HarvJLTech309.pdf>.
- Microsoft (2019), *Guidelines for Human-AI Interaction*, [11]  
<https://www.microsoft.com/en-us/research/uploads/prod/2019/01/Guidelines-for-Human-AI-Interaction-camera-ready.pdf>.
- OECD (2019), *An introduction to online platforms and their role in the digital transformation*. [3]
- OECD (2018), “Consumer policy and the smart home”, *OECD Digital Economy Papers*, [1]  
 No. 268, OECD Publishing, Paris, <https://dx.doi.org/10.1787/e124c34a-en>.
- OECD (2018), “Consumer product safety in the Internet of Things”, *OECD Digital Economy Papers*, No. 267, OECD Publishing, Paris, <https://dx.doi.org/10.1787/7c45fa66-en>. [2]
- OECD (2018), *Toolkit for Protecting Digital Consumers*, OECD, Paris, [4]  
<https://www.oecd.org/internet/consumer/toolkit-for-protecting-digital-consumers.pdf>  
 (accessed on 7 May 2019).
- OECD (2016), *OECD Recommendation of the Council on Consumer Protection in E-Commerce*, [10]  
 OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264255258-en>.
- OECD (2010), *Consumer Policy Toolkit*, OECD Publishing, Paris, [5]  
<https://dx.doi.org/10.1787/9789264079663-en>.
- Toplin, J. (2018), *Voice shopping grew threefold during the holidays*, [7]  
<https://www.businessinsider.fr/us/amazon-alexa-holiday-voice-shopping-grew-threefold-2018-12> (accessed on 2018).
- Voicebot.ai (2018), *Voice Shopping Consumer Adoption Report*, [9]  
<https://voicebot.ai/wp-content/uploads/2018/06/voice-shopping-consumer-adoption-report-june-2018-voicebot-voysis.pdf>.

## *Annex A: Agenda for the roundtable on digital assistants and voice-controlled e-commerce*

### **Introduction**

In November 2017 the Committee on Consumer Policy and its Working Party on Consumer Product Safety held a joint roundtable on connected consumers<sup>3</sup>. The discussion included a focus on the consumer benefits and challenges associated with growing consumer adoption of a range of “smart home” devices and applications, such as TVs, thermostats, security systems, and appliances. Among such devices are virtual assistants and automation hubs, which, using algorithms developed by businesses, can perform, through voice activated commands, a variety of functions in the home, including managing schedules, playing music, carrying out Internet searches, controlling light and temperature, and making online purchases. Software systems that make this possible on devices, such as smartphones and tablets, traditional computers, smart TVs and smart speakers, currently include Amazon’s Alexa, Apple’s Siri, Google’s Assistant, Microsoft’s Cortana and Samsung’s Bixby.

Algorithms have long been used to aggregate and organise data to help consumers make informed decisions in e-commerce. Search engines, social media, as well as travel, review or dating websites, all use algorithms to analyse user preferences and offer tailored options to consumers. But today’s digital assistants can take the next step: to predict consumers’ preferences, choose the products to purchase, and to make and execute transactions on behalf of consumers, based on their purchasing patterns. Some observers have called these voice-controlled virtual assistants “digital agents” or “algorithmic consumers” (Gal and Elkin-Koren, 2017<sub>[6]</sub>).

At a teleconference meeting held in February 2019, the CCP Bureau supported the idea of organising, at the CCP’s 97<sup>th</sup> Session in April 2019, a roundtable aimed to explore the consumer benefits, risks and policy challenges raised by digital assistants and voice-controlled e-commerce. To support the discussion, the following provides preliminary information on market trends, consumer benefits, as well as potential risks and policy challenges.

### **Overview of trends and consumer benefits**

Voice-controlled e-commerce is a nascent marketplace that is still a very small percentage of e-commerce. According to one estimate, in the United States, in 2018, it generated USD 2.10 billion in retail sales, representing just 0.4% of total e-commerce sales (Toplin, 2018<sub>[7]</sub>). Findings of a Capgemini survey conducted in 2017 in the United States, the United Kingdom, France, and Germany, show that consumers mostly use their digital assistants for simple functions, including seeking information (82%), and listening to music or streaming videos (67%). Some 56% of consumers would be interested in ordering meals from restaurants using digital assistants, while only 35% report having purchased a product (including grocery, home care or clothes) through such devices (Capgemini, 2018<sub>[8]</sub>). According to a survey carried out in 2018 in the United States, only one quarter of respondents reported using a smart speaker for voice shopping activities, while more than half had used smartphones, followed by PCs. As smart speaker ownership rises, however, voice shopping activities through smart speakers should surpass computer-based online shopping in the near future (Voicebot.ai, 2018<sub>[9]</sub>).

---

<sup>3</sup> For an overview of consumer benefits and issues in the smart home, see OECD (2018<sub>[1]</sub>).

Growth, however, is predicted as AI technology that enables voice-controlled e-commerce continues to improve, and partnerships among digital assistants companies and retailers expand. Google’s English-language voice recognition capability is now equivalent to or greater than humans. Amazon claims that Alexa’s skill set includes more than 50,000 tasks, including purchasing tasks. More than 40 large retailers connect with Google Express and more than 2 million items are available from Walmart through voice-controlled purchasing. An app by French cosmetic retailer, Sephora, interacts with Google Assistant to allow consumers to book beauty services. Starbucks’ customers can speak “Alexa, order my Starbucks” to order their usual products. Beyond smart speakers and e-commerce in the home, consumers’ interest in using a digital assistant while shopping in-store to find products, learn about discounts, or compare products, is growing (Voicebot.ai, 2018<sup>[9]</sup>).

In this dynamic context, consumer satisfaction with digital assistants seems to be growing. According to the Capgemini survey, consumers like the convenience, speed, and the ability to multitask. They value digital assistants’ ability to help them identify new preferences, overcome biases, provide customer support with chat-based shopping, and to save time and energy on purchasing decisions. More than four out of five consumers reported being satisfied, and it is expected that in 2021, 40% of consumers will likely prefer using digital assistants over apps or websites, in comparison to 24% in 2018. Likewise, consumer spending through digital assistants is expected to increase with a factor of six, making it a potentially important sales channel. (Capgemini, 2018<sup>[8]</sup>)

### Potential consumer risks and policy challenges

A number of challenges and risks for consumers may however challenge trust in the nascent voice-controlled e-commerce marketplace. The following provides a snapshot of these issues, which include: information disclosure and consumer choice limitations, transaction confirmation uncertainties, as well as dispute resolution and redress, and privacy and security challenges. Competition and market power issues may also have implications for consumer policy but these will not be the focus of this roundtable.

#### *Information disclosures*

Consistent with the OECD’s E-commerce recommendation (OECD, 2016<sup>[10]</sup>), e-commerce businesses should provide clear and accurate disclosures about themselves, the goods or services offered, and the transaction conditions, so that: i) consumers have sufficient and timely information to make an informed decision about a transaction, and ii) consumers can retain a complete, accurate and durable record of such information. Incomplete information or a lack thereof may indeed not only put consumers’ commercial interests at risk but also raise safety concerns.

In a context where consumers may use voice-command to purchase products through a medium with no screen (such as smart speakers), how will businesses make effective disclosures and consumers receive and retain such information? Are voice disclosures desirable and sufficient, and do they comply with existing consumer laws? Findings from the above-mentioned 2018 Voicebot.ai survey carried out in the United States reveal that over 20% of respondents did not like the fact that there was no screen. Noting however that voice-only shopping through a smart speaker will unlikely become a single option channel in the future, the survey report indicates that there will also be multimodal experiences where voice will be a tool used to facilitate a transaction process.

Another set of information disclosure issues that may need to be explored relate to the product “recommendations” from voice-controlled assistants, which may blur the line between advertising and information provision. Trust tools and channels, such as consumer ratings and reviews, and price and product comparison websites, have helped consumers navigate complex information. But in the case of

digital assistants with no screen, how can consumers be provided with disclosures that can help them understand and evaluate the credibility of the product and transaction information presented to them?

### *Consumer choice*

Consumers may give up a certain degree of autonomy when using digital assistants, and may not be offered the best deals. This may for example be the case if the algorithm is set to bypass some of their decisions (Gal and Elkin-Koren, 2017<sup>[6]</sup>), or if the supplier of a digital assistant recommends its own products and prices over the ones from its competitors.

### *Transaction confirmation and dispute resolution and redress*

There have been instances in some countries where digital assistants have ordered products by simply taking personal conversations as commands and acting upon them without the consumers' knowledge. Likewise, children have been in a position to order products without their parents' knowledge and consent.

A related question concerns the degree to which the transactions entered into by an algorithm that are not intended by a consumer are enforceable against the consumer, and who may bear responsibility for it. To address the issue, it may be important to distinguish between the various stages of a transaction process, and to consider the following questions:

- If a consumer indicates that she will purchase a certain product at a certain price on certain delivery terms, are subsequent "refills" for the product made via the digital assistant on the same terms unenforceable?
- If the digital assistant instead makes a transaction based on consumer preferences but not the precise terms as the original transaction, is that voidable?
- Do digital assistant suppliers seek to have consumers make any waivers which may raise concerns (such as preventing a consumer from using civil remedies if the services do not operate as a reasonable consumer would expect based on the supplier's representations to them)?
- How could a consumer seek redress or file complaints?

### *Privacy, security, and other data-related issues*

Digital assistants require a significant amount of personal data from their users to learn their preferences and provide them with personalised options. In such context, consumers may face issues such as unauthorized access to and use of their personal data. Moreover, algorithms could be subject to manipulation by third parties, without the consumer being aware of the fact. For example, third party suppliers may hack into a voice-controlled system and instruct it to recommend their products over others (Microsoft, 2019<sup>[11]</sup>). Further, the choices made by algorithms may not always be accurate because of wrong or faulty data, or because consumers are often more complex than an algorithm. Will consumers face risks of discriminatory treatment? Are such risks no different than in any other algorithmic context? Moreover, are there differences in risk levels among physical goods, intangible goods, and services, such as financial services?

## Roundtable Agenda

Four expert panellists have been invited to join delegates in discussing voice-controlled e-commerce, including the technological, business model developments, and consumer policy implications. At the conclusion of the Roundtable, delegates will be invited to discuss possible follow-up work in this area.

### Discussion Questions

1. What opportunities are presented by digital assistants and voice-controlled e-commerce for consumers and businesses alike?
2. What challenges will consumers face in using digital assistants to shop online?
3. To what degree are existing consumer policy frameworks adapted to address these challenges? How might consumer authorities learn about and address these issues?

### Panel Discussion

- **Michal Gal** and **Niva Elkin-Koren**, respectively Professor and Director of the Forum on Law and Markets, and Professor of Law, Faculty of Law of the University of Haifa, Israel [10 minutes]
- **Ryan McCrate**, Associate General Counsel and Head of Alexa Legal, Amazon [10 minutes]
- **Christian Wagner**, Senior Analyst, Public Policy and Government Relations, Google [10 minutes]
- **Justin Macmullan**, Interim co-Director General, Consumers International [10 minutes].

### Conclusions and Possible next steps