Benefits of online platforms

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Contents

Summary

There has been increasing political and regulatory interest in the role of platforms in Europe's digital economy. In May 2015 the European Commission published its strategy to develop a Digital Single Market for Europe, built on three pillars:

- better access for consumers and businesses to digital goods and services across Europe;
- creating the right conditions and a level playing field for digital networks and innovative services to flourish;
- maximising the growth potential of the digital economy.

As part of the second pillar the Commission has committed to analyse the role of online platforms.[1] This work will consider the degree of transparency, use of information, and competitive practices.

In this context, Google asked Oxera to consider how online platforms could be defined, and to assess how both consumers and businesses interact with, and benefit from, online platforms.

This report contributes to this debate by answering two key questions:

- what is the definition of an online platform?
- what value do online platforms provide to European consumers and businesses?

To date, these questions do not appear to have been examined fully in the public policy discussions on Europe's digital economy.

To answer these questions, Oxera has undertaken primary research in the form of a survey of European consumers and a series of interviews with European businesses. These are supplemented by a detailed review of the literature on the subject.

Definition and taxonomy of online platforms

The role of online platforms is key in delivering benefits to consumers and businesses: 'online platforms' are bringing together consumers and producers, allowing trades that would otherwise not happen.

Also, the diversity of online platforms in terms of activity, sector, business model, and size is striking but there is no apparent commonality between them. There is currently no single definition of an online platform that captures the plurality of the online ecosystem. When a rigorous definition is needed (e.g. in a policy context), the generic notion of 'online platform' does not seem fit for purpose.

The Commission's definition, in its recent consultation,[2] is too broad to be useful as a new category for regulation. Additionally, it is not clear how it differs

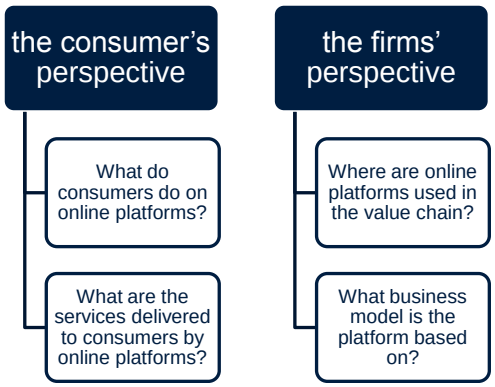
[1] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions (2015), 'A Digital Single Market Strategy for Europe', COM(2015) 192 final.
[2] 'an undertaking operating in two (or multi)-sided markets , which uses the Internet to enable interactions between two or more distinct but interdependent groups of users so as to generate value for at least one of the groups. Certain platforms also qualify as intermediary service providers.' European Commission (2015),

from Internet Society Services as laid out in the 1998 Directive.[3] However, using the indicative list given in the platform consultation document, we have investigated a set of intermediaries that *might* be considered platforms. We have identified key economic features that this loose grouping might be said to share:

- platforms serve distinct groups of users (e.g. buyers and sellers, senders and receivers);
- participation in one of the groups affects the benefits that the other groups may receive (e.g. the more buyers using a platform, the more a seller will want to list on it; more senders on a platforms means more people to receive messages from).

We can also classify websites and applications into groups, depending on some specific questions. The classifications vary according to whose perspective is being considered: the consumer's or the firm's. To this end, we therefore identify two families of taxonomies based on the consumers' perspective and the firm's perspective, as summarised below.

Bases for a taxonomy



Source: Oxera.

Assessing the benefits of online platforms for consumers

A survey of consumers' use of platforms in France, Germany, Poland and Spain

We present the analysis of an online survey of 1,500 consumers in each of France, Germany, Poland and Spain.[4] This survey provides new empirical evidence on:

- the activities for which consumers use online platforms, and how often;
- whether consumers use one or multiple platforms for specific tasks and whether they perceive barriers to using more than one platform;
- the nature and strength of the benefits and concerns consumers perceive in relation to online platforms;

'Consultation on Regulatory environment for platforms, online intermediaries, data and cloud computing and the collaborative economy', 24 September, p. 5.

[3] Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services; OJ L 204, 21 July 1998.

[4] These countries were agreed with Google. They are large EU economies, differing in terms of both Internet usage and the concerns expressed by public officials on online platforms.

- the reasons why consumers do not use online platforms.

The analysis distinguishes between different platform types based on the key activities that consumers perform on them, as illustrated below.

Taxonomy of platforms based on consumer activities

Communication platforms	Entertainment platforms	Online marketplaces	Comparison platforms	Information platforms
• communicate and stay in touch with friends, family and other contacts • meet and get to know people	• Access and share content such as music, videos or photos, and online gaming	• buy, sell or share products and services	• find, compare or review products and services	• look up information • search for opportunities

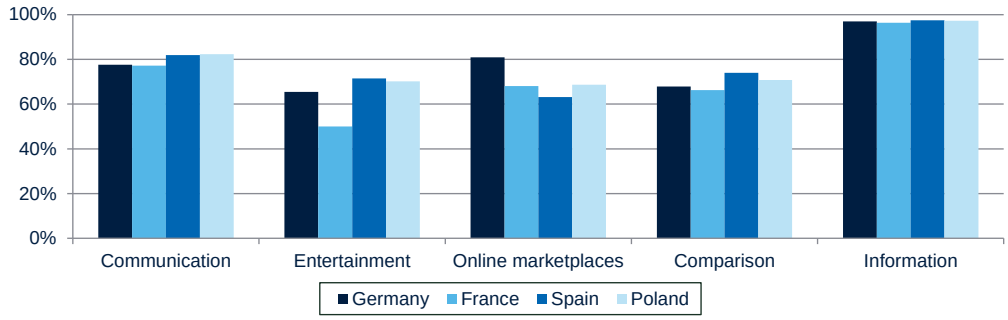
Note: This study has focused on the main platform categories, but this list is not exhaustive.

Source: Oxera.

Main conclusions of the consumer survey

Information and communication platforms are used most widely. Although the extent and frequency of use vary across platform types, the patterns are very similar across countries.

Types of platform consumers have used in the past month



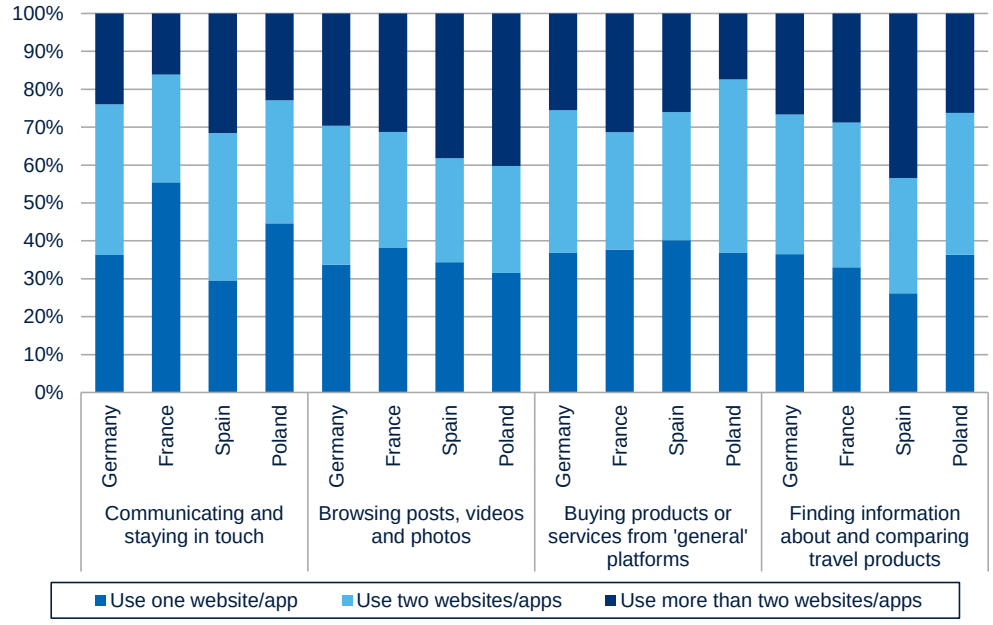
Question: For which of the following activities did you use the Internet in the past month?
Base: all respondents. Total respondents: 6,010 (Germany: 1,501; France: 1,505; Spain: 1,502; Poland: 1,502).

Source: Oxera analysis.

Do consumers use multiple platforms for the same activity and why (not)?

Almost two-thirds of consumers use two or more websites/apps for specific tasks.[5] This is known as multi-homing, as illustrated below.

Multi-homing with regard to selected tasks



Question: Which of the following websites/apps have you used in the past month to (specific task)? Base: respondents who stated that they perform tasks of each type (11,368 responses, of which Germany: 2,913; France: 2,640; Spain: 3,353; Poland: 2,462).

Source: Oxera analysis.

The results of the survey indicate that multi-homing is possible for most consumers and desirable to many, but not all. Multi-homing varies most across countries for consumers who use online platforms to communicate and stay in touch.

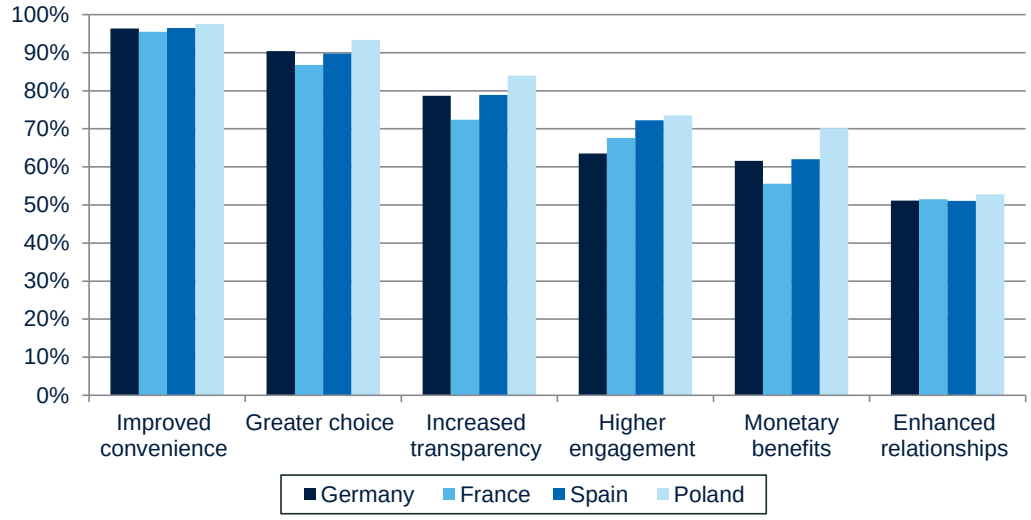
The majority consumers do not perceive significant barriers to multi-homing for the tasks considered in the analysis regardless of whether they currently multi-home. In particular, most consumers who use only one platform do so because they consider that platform to be most appropriate or find that their contacts use the same platform, indicating strong network effects. A large majority of these consumers do not experience time, price, awareness of alternatives and compatibility across platforms as barriers to also using a different platform.

What effects do platforms have on consumers?

Almost all consumers (97% of Internet users) think there are benefits from different types of online platform; a view that is consistent across countries. The most widely cited benefits relate to improved convenience, greater choice and increased transparency, see below.

[5] The tasks tested in the survey are : i) to communicate and stay in touch with friends, family and others; ii) to browse posts, videos and photos; iii) to buy products from ‘general’ marketplaces (those offering non-specialist products); iv) to find information about and compare travel products and services.

Consumer perceptions of benefits



Question: Thinking about the websites/apps shown below (list below consisting of platforms selected previously), to what extent do you agree or disagree with each of the following statements? Base: Total survey respondents (6,010).
Source: Oxera analysis.

Some types of online platform have more specific benefits. Our survey suggests that quantified benefits of platforms vary across countries, but are substantial:

- 32% (France) to 57% (Poland) of consumers have met in person at least one person through a communication platform; on average,[6] they got to know 1 person (France) to 5 people (Poland) in this way;
- consumers estimate that, in the past month, information platforms have saved them 50 minutes (France and Germany) and 100 minutes (Poland);
- consumers estimate that comparison platforms have saved them, on average, €12[7] (Poland) to €117 (Germany) in the past year.

Despite the evident widespread use, most consumers also have concerns with regard to the different types of online platform asked about in the survey. The principal concerns relate to confusing or inappropriate content, and privacy and security issues. However, not many consumers cite these concerns as reasons not to use platforms: only 20% (France) to 30% (Spain) of responses to reasons for not using certain platform types make reference to these issues. Overall, consumers are more likely to perceive benefits from than to raise concerns about online platforms.

Assessing the benefits of online platforms for businesses

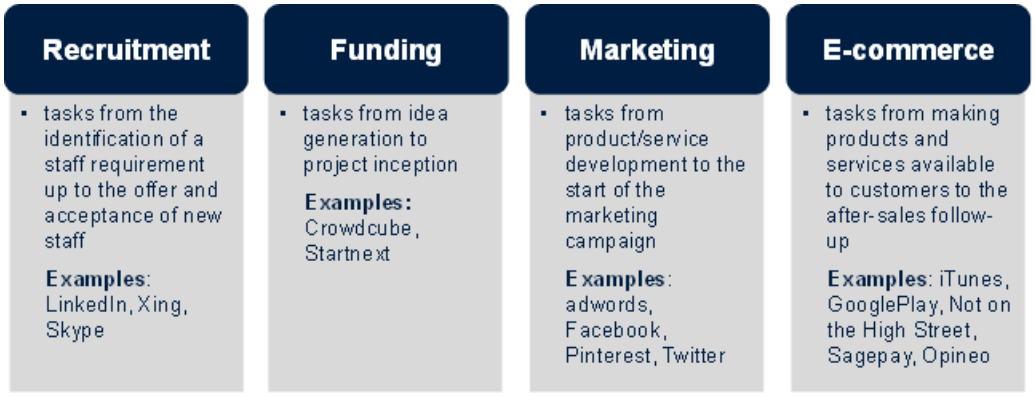
Literature review and case studies about recruitment, funding, marketing and e-commerce

To assess the benefits of online platforms for businesses, we reviewed the evidence in economics and business studies, and arranged interviews with a small set of businesses, which provided some case studies.

[6] Unless otherwise stated, the average indicates the median value.
[7] Equivalent to 51 zloty.

As with the consumer survey, the businesses selected for the case studies use online platforms. In addition, the businesses were chosen to capture a wide range of experience in the digital ecosystem. To this end, we identified four processes that are central in the daily life of companies, as illustrated below.

Taxonomy of platforms based on where in the value chain the online platform is used



Note: This study has focused on the main platform categories, but this list is not exhaustive.

Source: Oxera.

We then spoke to 14 businesses, each of whom had experience using online platforms in the context of these processes.

Main conclusions of the business case studies

The case studies and literature review identified several themes:

- **online platforms reduce the effects of geographic barriers**—interviews in all four business processes indicated instances of online platforms allowing the business to conduct activity across traditional geographic borders, to varying degrees. This was also supported by evidence from the literature;
- **with respect to funding, online platforms can support new and different types of businesses**—online platforms allow some projects to access a market of investors who are motivated by a variety of returns funding. Closely related to the reduced impact of geographic barriers, online platforms make unique businesses more viable by expanding the potential customer base;
- **online platforms change the cost structures of businesses**—our case studies indicated that platforms can reduce costs, particularly those incurred in targeting search efforts (i.e. for potential customers or staff). A caveat indicated in some of our case studies is that when online platforms are used for other benefits (brand value, or expanding the customer base), they often have associated time and monetary costs.

Findings specific to different business processes are discussed below.

Recruitment

Professional networks such as LinkedIn are now standard tools in the recruitment profession. These platforms increase the pool of candidates available, bringing in candidates from a wider area and those not actively looking for a job.

The cost of advertising is much lower on online platforms and more flexible than printed media.

Funding

Crowdfunding platforms broaden the funding market, and allow different types of investor to finance projects. Crowdfunding can enable projects where returns on investment are less certain, such as projects of primarily artistic or cultural benefit, to obtain funding. As a result, projects that may not have been candidates for traditional financing may become viable through platforms. This was the case for one of our interviewees and is supported by the literature.

The literature suggests that crowdfunding platforms not only expand the types of investor available, but also the amount of potential funding for projects. Our interviewees reported that their existing networks of customers/investors were also critical, although fundraising through the platform could speed up the process. One interviewee said that securing funding would have taken about three times longer through other channels.

E-commerce

The key benefit of e-commerce platforms such as online marketplaces and apps stores is enabling businesses to reach a wider market. According to the interviewees, this ranged from a small increase in sales to being essential to the business.

Online platforms also provide a low-cost channel for gathering customer feedback. This benefit was cited by a number of interviewees, some of whom were able to use this for product development or marketing.

The impact on operating costs is varied depending on the alternatives. Some users of e-commerce platforms would prefer to sell directly to avoid the fees charged by the platform. However, e-commerce platforms are much cheaper than bricks-and-mortar stores.

Marketing benefits

Reaching a wider audience seems to be a key benefit of using online marketing platforms. According to our interviewees, niche products might not exist without the ability to market through online platforms.

More targeting of advertising spend increases sales—one interviewee reported a doubling of the conversion rate for targeted adverts. Businesses were also able to measure the effectiveness of their marketing.

Feedback from social media can itself have an impact on sales. Using anecdotal evidence from our interviews and empirical estimates from literature suggest that a new article could increase sales in the long term by 0.5%.

Conclusions

Given the breadth of use and differing models, our analysis suggests that there is no single definition of an online platform that is useful from a policymaking perspective. The common notion of ‘online platform’ seems to assimilate applications and websites that are too dissimilar and that operate in very distinct markets. Furthermore, it is not fit for purpose in a regulatory or antitrust context.

Platforms serve important roles in bringing people and/or businesses together. They help facilitate social and commercial exchanges of goods, services and information which would not otherwise happen. We have tested some of these benefits to consumers and businesses and the results suggest that these benefits are experienced widely across both groups.

1 Introduction

The Internet economy is essential in both consumers' and firms' daily activities.[8] It is also becoming one of the major distribution channels for cultural and artistic content.[9] Online platforms lie at the heart of this ecosystem. They provide a key engine for growth and social development locally and globally. According to the European Commission, between 2001 and 2011 the information and communication technology (ICT) sector, of which online platforms form a part, accounted for 30% of GDP growth in the EU compared with 55% in the USA. The Commission also expects the Digital Single Market to provide between 1% and 2.1% of additional GDP in the long term.[10]

In this environment, there has been increasing political and regulatory interest in the role of platforms in Europe's digital economy. In May 2015 the European Commission published its strategy to develop a Digital Single Market for Europe, built on three pillars:

- better access for consumers and businesses to digital goods and services across Europe;
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As part of the second pillar the Commission has committed to analyse the role of online platforms.[11] This work will consider the degree of transparency, use of information, and competitive practices.

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To answer these questions, Oxera has undertaken primary research through a survey of European consumers and series of interviews with European

[8] According to the Commission: 'Online platforms (e.g. search engines, social media, e-commerce platforms, app stores, price-comparison websites) are playing an ever more central role in social and economic life.' See European Commission (2015), 'A Digital Single Market Strategy for Europe', Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2015) 192 final.
[9] A UK-based study shows that in creation and distribution, around one-third of organisations consider digital technologies to be essential, although the picture varies by art and cultural form. See Digital R&D Fund for the Arts (2013), 'Digital Culture: How arts and cultural organisation in England use Technology', http://artsdigitalrnd.org.uk/wp-content/uploads/2013/11/DigitalCulture_FullReport.pdf
[10] European Commission (2015), 'A Digital Single Market Strategy for Europe – Analysis and Evidence', p. 5, http://ec.europa.eu/priorities/digital-single-market/docs/dsm-swd_en.pdf
[11] European Commission (2015) 'A Digital Single Market Strategy for Europe', Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2015) 192 final.

businesses. These are supplemented by a detailed review of relevant literature.

The report is structured as follows:

- section 2 examines the notion of online platforms and outlines options for a taxonomy of platform types;
- section 3 outlines how European consumers use and perceive online platforms. This analysis is based on new survey evidence of consumers in France, Germany, Poland and Spain, as well as economic literature and existing empirical research;
- section 4 considers the benefits of online platforms to European businesses. We begin with a theoretical assessment of how businesses might use platforms for different activities. We then present evidence from a series of interviews conducted with European businesses, alongside relevant literature, to test for the existence of these theoretical benefits.

In each section and throughout the report, the main takeaway points are presented in boxes.

More detail on the approach and further analysis can be found in the technical appendix.

Appendices 1–3 present the extended results of the consumer survey, covering the use of platforms, multi-homing and effects of platforms on consumers for the different platform types considered in the survey. Appendix 4 gives an overview of the relevant economic literature and existing research relating to the consumer use of and benefits derived from online platforms. Appendix 5 presents the survey approach, including the survey design and the country-specific lists of platforms.

Appendix 6 offers an overview of the framework we used to identify benefits of platforms to businesses. Appendix 7 provides a summary of the participants in our case studies on business benefits. Appendix 8 provides detailed interview notes from the business case studies. Appendix 9 provides a review of the literature on the benefits of online platforms to businesses.

The English transcript of the consumer survey is reproduced in a separate document.

2 Online platforms: a definition

The rapid growth of the Internet and the emergence of worldwide economic entities has captured the attention of public institutions, legislators and regulators. In the past few years, for example, the OECD has published two reports dealing with the economic and social role of Internet intermediaries and with the digital economy.[12] In parallel, French CNUmm published a report on platform neutrality,[13] and, more recently, the European Commission published a consultation document on online platform.[14]

This attention is being distilled into two main objectives:

- understanding (and measuring) the benefits brought by the digital world;
- providing a framework to build 'an open and sustainable digital environment' that can support the economy in the long run.

In such a policy context, it is important to understand which features of online platforms are likely to provide benefits. This is the main objective of this study. It is the first step to understanding more widely whether there are groups of platforms that are likely to present specific issues that require intervention (regulation); and how the behaviour of platforms might affect market performance and its potential to distort competition (antitrust). This is outside of the scope of this study.

Given these objectives, a definition of online platforms is needed. However, as we show in section 2.1, the generic concept of an online platform is too vague; online platforms encompass websites or applications that are not only dissimilar but also operate in a variety of markets. Furthermore, adopting a 'working definition' is made challenging by the fast-changing nature of Internet usage and the plurality of business models used by platforms in the digital sector.

We then present different ways of classifying websites and applications into groups according to how comparable they may be (section 2.2), including the taxonomies that support our assessment of the benefits for consumers and businesses (in sections 3 and 4). Lastly in this section, we review the economic role of online platform (section 2.3), as this forms the basis of our assessment of the benefits of the online ecosystem for businesses and consumers.

In adopting a context-specific 'working definition' of 'online platforms', we need to take into account the fast-changing nature of Internet usage and the plurality of business models used by platforms in the digital sector.

There is no single method for defining and classifying digital platforms. The generic notion of 'online platform' is not fit for purpose in a policy context.

[12] OECD (2010), 'The economic and social role of Internet intermediaries', April, http://www.oecd.org/Internet/ieconomy/44949023.pdf; and OECD (2013), 'The Digital Economy 2012', February, http://www.oecd.org/daf/competition/The-Digital-Economy-2012.pdf
[13] CNNUM (2014), 'Platform Neutrality : building an open and sustainable digital environment', http://www.cnnumerique.fr/wp-content/uploads/2014/06/PlatformNeutrality_VA.pdf
[14] European Commission (2015), 'Consultation on Regulatory environment for platforms, online intermediaries, data and cloud computing and the collaborative economy', 24 September https://ec.europa.eu/digital-agenda/en/news/public-consultation-regulatory-environment-platforms-online-intermediaries-data-and-cloud

The role of online platforms is key in delivering benefits to consumers and businesses: online platforms are bringing together consumers and producers, allowing trades that would otherwise not happen.

2.1 Defining online platforms

The diversity of online platforms in terms of activity, sector, business model, and size is striking. Platforms range from small websites with a local reach to worldwide companies generating billions of revenues. They offer varied services such as Internet search engines (Google, Yahoo, Bing), online market places (eBay, Booking.com, Asos, Allegro, Amazon), video-sharing platforms (e.g. Dailymotion, Vimeo, YouTube), music and video platforms (e.g. Deezer, Spotify, Netflix, Canal Play), social networks (e.g. Facebook, Twitter), collaborative economy platforms (AirBnB, Uber, BlaBlaCar, Ulule, Crowdcube), online gaming (Steam), etc.

Finding a commonality between these Internet players, apart from being part of the Internet, does not seem straightforward. Starting from the definition recently provided by the European Commission (section 2.1.1), we show that the concept of online platforms is not fit for purpose in the policy context. It is too vague and does not provide the guidance necessary to ensure legal certainty (section 2.1.2).

2.1.1 The European Commission definition

In its recent consultation,[15] the Commission proposes a definition of online platforms:

> an undertaking operating in two (or multi)-sided markets , which uses the Internet to enable interactions between two or more distinct but interdependent groups of users so as to generate value for at least one of the groups. Certain platforms also qualify as intermediary service providers.

First, the Commission refers to online platforms as 'undertakings operating in [multi]-sided markets', or **multi-sided platforms** as referred to in the academic literature. Second, it specifies that the Internet 'enable[s] interactions between two or more […] groups of users'. Then, according to the Commission, the platform would be a digital **intermediary** matching the supply and demand for goods, services, or information, as part of a monetary or non-monetary transaction/exchange. In addition, the **groups of users** are supposed to be '**interdependent**'.

Finally, the Commission requires from an online platform that it **generates value** for at least one of the groups of users.

In appearance this definition is clear: a website or an application that satisfies these conditions can be considered an online platform. However, the Commission does not provide guidance on how to understand what a multi-sided platform is, what makes an online business an intermediary, and what interdependence means. In addition, in the context of technology convergence, the distinction between the Internet and other communication networks is less clear.

Interestingly, the Commission also asks those involved in the Internet economy whether they agree with the definition, and, if not, how they would change it.

[15] European Commission (2015), 'Consultation on Regulatory environment for platforms, online intermediaries, data and cloud computing and the collaborative economy', 24 September, p. 5.

The Commission's question therefore reflects the difficulties one generally faces in determining with precision what an online platform is. We illustrate these difficulties below.

2.1.2 Clarifying the terms of the Commission's definition

In order to understand the terms of the Commission's definition, and more generally any definition of online platforms, we briefly review the academic literature in economics and business. We show that clarifying the terms of the definition leads to questions remaining unanswered. More generally, this shows that there is no single definition of online platforms. Attempts to specify a single consistent definition cannot provide the guidance necessary for regulation and competition policymaking.

Multi-sided platforms

There are three main strands of literature in economics that seek to provide a general definition of multi-sided platforms.[16]

According to Rochet and Tirole (2006) who study card payment systems, in a multi-sided platform 'the volume of transactions [is affected] by charging more to one side of the market and reducing the price paid by the other side by an equal amount.'[17] The authors claim that the fundamental feature defining a platform is that businesses balance the contribution made to total profits by setting different access to and usage fees between the groups of users.

Evans and Schmalensee (2007) specify that a multi-sided platform 'a) has two or more groups of customers; b) who need each other in some way; c) but who cannot capture the value from their mutual attraction on their own; and d) rely on the [platform] in creating value that could not exist … in its absence.'[18] This definition highlights the importance of cross-group effects (or interdependence)—i.e. how the participation of one group of users affects the way other groups value the service/good being provided.

Finally, according to Hagiu and Wright (2015), there are two key requirements that characterise multi-sided platforms: a) the platform must allow two or more distinct sides to directly interact; b) and each side must be somehow affiliated with the platform.[19] More precisely, directly interacting means that the two sides transacting via the platform retain control over the terms of the transaction. Affiliation means that all sides make investments specific to using that particular platform, whether or not the investment is financial (e.g. by providing data).

These strands of literature focus on different aspects of the economics of multi-sided platforms: access to and participation in the platform, and cross-group effects and control. These three views are illustrated in Figure 2.1.

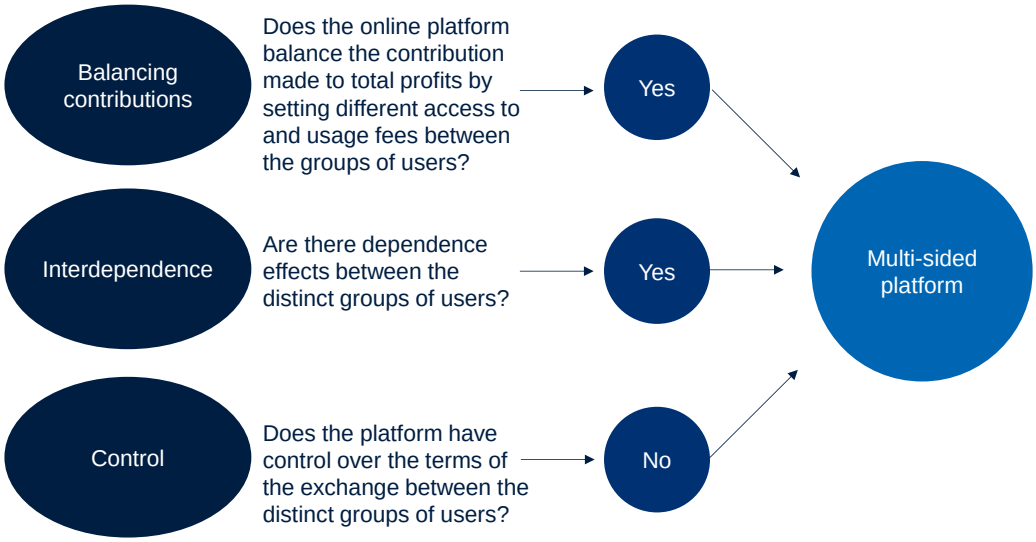
[16] The literature on multi-sided platforms was pioneered by Caillaud and Jullien (2003), Evans (2003), Parker and Van Alstyne (2005), and Rochet and Tirole (2003). See Caillaud, B. and Jullien, B. (2003), 'Chicken & egg: competition among intermediation service providers', *The RAND Journal of Economics*, **34**:2, Summer, pp. 309–328; Evans, D.S. (2003), 'Some Empirical Aspects of Multi-sided Platform Industries', *Review of Network Economics*, **2**:3, pp. 1–19, September; Parker, G. and Van Alstyne, M.W. (2005), 'Two-Sided Network Effects: A Theory of Information Product Design', *Management Science*, pp. 1494–504, October; Rochet, J. and Tirole, J.C. (2003), 'Platform Competition in Two-Sided Markets', *Journal of the European Economic Association*, **1**:4, pp. 990–1029.

[17] Rochet, J. and Tirole, J.C. (2006), 'Two-sided markets: a progress report', *The RAND Journal of Economics*, **37**:3, pp. 645–67.

[18] Evans, D.S. and Schmalensee, R. (2007), 'Industrial Organisation of Markets with two-sided platforms', *Competition Policy International*, **3**:1.

[19] Hagiu, A. and Wright, J. (2015), 'Multi-sided platforms', Harvard Business School Working Paper, March 16.

Figure 2.1 Definitions of multi-sided platforms



Source: Oxera.

Depending on the set of criteria used, some digital intermediaries may be considered online platforms in some cases, and in some others not. For instance, Gumtree, the UK classified ads website, does not require any kind of affiliation, and therefore would not be considered an online platform according to the third definition, but it satisfies the requirements of the other definitions.

Similarly, certain platforms identified by the European Commission in its definition may not satisfy part of these definitions. For instance, there is no interaction between content providers and users on Netflix, and no affiliation is needed from the consumers' side on Vimeo, Dailymotion or YouTube.

Intermediary

Some definitions (e.g. that of the OECD) require that online platforms do not retain control over the interactions they facilitate. That is, they require digital platforms to be 'pure intermediaries'.[20] However, in practice, many platforms retain some degree of control over the interactions they facilitate. This control may be quite limited and concerns data that users submit when creating an account or using a platform such as Facebook or Twitter. It can go further and include control over certain aspects of the transactions, such as quality standards and commission payments on Airbnb and BlaBlaCar. Finally, Amazon and Netflix retain wider control over prices and even distribute their own products. If online platforms were required to be pure intermediaries, Airbnb, BlaBlaCar, Amazon, Netflix or Facebook would not be considered online platforms.

In addition, many websites function as both an intermediary and a reseller. For example, Amazon provides a platform for businesses to sell their products and for consumers to find products (Amazon Marketplace), but also appears as a selling business on its own platform. If a platform is required to function solely as a marketplace, Amazon would be excluded because of its reselling activity. The main question here is whether resellers can be considered platforms? If

[20] The OECD defines 'pure' intermediaries in a way that excludes 'activities where service providers give access to, host, transmit or index content or services that they themselves originate'. OECD (2010), 'The economic and social role of Internet intermediaries', p. 10.

not, when a platform is also a reseller, is the entity as a whole an online platform?[21]

Finally, single organisations can operate multiple business models and new (online) business models can arise and gain popularity very quickly. Some businesses which may be considered physical intermediaries have extended their presence by developing online platforms. These include, for example, job centres, stock exchanges and retailers such as John Lewis in the UK or El Corte Inglés in Spain. In the case of trading venues/stock exchanges, the online exchange has often replaced the physical presence. Does this mean that physical intermediaries should be considered online platforms if they also have web interfaces?[22]

Interdependence

Interdependence is central in the various definitions of online platforms.[23] However, there seems to be some disagreement about the nature of the interdependence that makes an online business platform. This is reflected in differences in the institutional approaches to defining an online platform. The European Commission requires that online platforms 'generate value for at least one of the groups',[24] while, according to the OECD,[25] the value obtained by one type of user increases with the number or quality of the other kind of user.

As a consequence, websites or applications that are (partly) funded by advertising (such as Google Search) can be considered intermediaries bringing together advertisers and 'eyeballs'. This is generally the case for businesses that advertise products or services directly to consumers (think advertisements for hotels which appear when searching for flights), or businesses that pay to have their products displayed on search platforms. For some consumers, advertising may provide positive benefits, while for others, it may not. If cross-group effects are restricted to be positive in online platforms, Google Search would not be considered an online platform.

Internet

Technology convergence is the idea that as technology continues to evolve and grow, existing differing technology systems each advance in a way which means they serve the same purpose.[26] Such a convergence blurs the limits of the online world and the definition of what online platforms might be. For example, with a mobile phone, it is possible to use communications platforms such as Lync or WhatsApp (and thus use data) to call friends or family, or to use the standard telephony function (and use telephone networks). Both means of voice communication rely on IP technology.

[21] Some authors such as Hagiu and Wright (2015) require online platforms to be pure intermediaries. That is, platforms have little control over the terms of the transaction. This is also the position adopted by the OECD. See OECD (2010), 'The economic and social role of Internet intermediaries', pp. 7–10.
[22] For instance, the OECD considers that because brokerage intermediation and travel reservation services use the Internet rather than traditional methods, these services are often included in classifications according to their primary activity. See OECD (2010), 'The economic and social role of Internet intermediaries', April, p.10.
[23] See Boudreau, K.J. and Hagiu, A. (2009), 'Platforms Rules: Multi-sided Platforms as Regulators', in A. Gawer (ed.) *Platforms, Markets and Innovation*, Edward Elgar; and Rysman, M. (2009), 'The Economics of Two-Sided Markets', *Journal of Economic Perspectives*, **23**:3, pp. 125–43.
[24] See European Commission (2015), 'Consultation on Regulatory environment for platforms, online intermediaries, data and cloud computing and the collaborative economy', p. 5.
[25] See OECD (2010), 'The economic and social role of Internet intermediaries', April, http://www.oecd.org/Internet/ieconomy/44949023.pdf, p.17.
[26] See, for instance, Ofcom's definition http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr08/converge/

Similarly, the distinction between online messaging (for example, via WhatsApp) and messaging via SMS texting is becoming less clear. Apple devices mix SMS and online messaging (iMessages) through a single interface.

If we impose stricter requirements on the definition of the Internet (i.e. broadband, superfast broadband, fibre, cable), platforms allowing SMS to be sent or calls to be made are not considered online platforms. However, as networks continue to converge, mobile operators such as BT, Orange or Vodafone could potentially be considered online platforms.

2.2 Taxonomies of online platforms

The previous section outlined the considerable debate surrounding the definition of online platforms, but the regulatory and antitrust arenas require clearer guidance as to what constitutes an online platform.

In a policy context, the first step is usually to define the relevant market and then assess market power (in a market review) or establish dominance (in a competition case). To establish the boundaries of a market in the EU, regulation agencies and competition authorities examine and evaluate the competitive constraints faced by a firm, from both the demand and the supply side. To do so, they assess how substitutable products are from the point of view of a consumer, or the firms producing the goods or services.

The generic notion of an online platform is too vague to provide a framework that would be fit for purpose and ensure legal certainty. Yet, it does not mean that some digital platforms are not comparable along one or several dimensions. They can be classified into groups of platforms sharing some specific features. There are as many classifications as defining features.

Several classifications of platforms have already been introduced. The OECD uses six categories based on the kind of services consumers may use through online platforms: i) Internet access intermediaries, ii) hosting and data processing providers; iii) online e-commerce intermediaries; iv) search engines, v) portals; and vi) participative networked platforms.[27]

In the USA, official data seems to classify platforms according to where they belong in the value chain: manufacturing, wholesale, retail, services.[28]

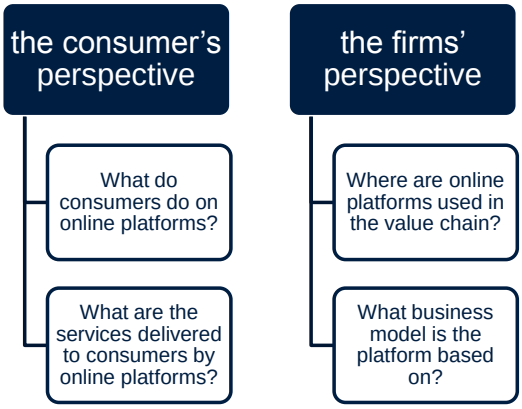
These taxonomies are established in specific contexts: the OECD seeks to understand and measure the benefits of online intermediaries, while the US administration's purpose is to compile national accounts.

With regulation or antitrust in mind, an alternative approach is to establish a classification by looking at how substitutable/comparable applications and websites are. However, this criterion is relative: the sets of substitutable/comparable platforms differ according to whether we consider the point of view of consumers or firms.

To this end, we therefore identify two families of taxonomies based on the consumer's perspective and the firm's perspective, as summarised in Figure 2.2. Each taxonomy is discussed in turn below.

[27] See OECD (2010), 'The economic and social role of Internet intermediaries', April p. 9.
[28] See Census Bureau, http://www.census.gov/econ/estats/e13-estats.pdf

Figure 2.2 Bases for a taxonomy



Source: Oxera.

2.2.3 Taxonomies based on the consumer's perspective

A first approach to the taxonomy is to focus on how consumers may use online platforms, by describing the online services offered to consumers, or distinguishing their activities.

In its consultation, the European Commission has taken the first route and defines 11 types of service: Internet search; specialised search tools; maps; news aggregators; online market places; payments systems; audio-visual and music; video-sharing; app stores; social networks; and collaborative economy.[29] Online gaming could be added to this list.

In the consumer analysis in section 3, we distinguish between five different platform types based on the key activities that consumers perform on them, as shown in Figure 2.3.

Figure 2.3 Taxonomy of platforms based on consumer activities

Note: This study has focused on the main platform categories, but this list is not exhaustive.

Source: Oxera.

Certain platforms may fall into multiple categories. For example, many social networks such as Facebook can be used both to access or share content, to communicate, to look up information and to buy things. Similarly, consumers can compare products and read reviews on comparison platforms such as Idealo, but might also do so on many online marketplaces, such as eBay.

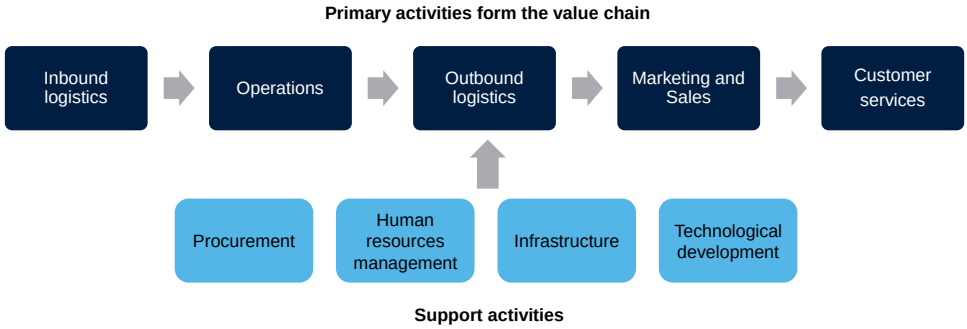
[29] See European Commission (2015), 'A Digital Single Market Strategy for Europe', Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, p. 5.

2.2.4 A taxonomy based on the firm's perspective

Another approach looks at where online platforms are used within the value chain. Such a classification is based on the firm's perspective. It focuses on identifying the process within the business activity where the online platforms deliver benefits.

Porter's value chain[30] offers a general framework for describing any value chain and categorising business processes. According to Porter, business processes can be classified as a primary or a secondary business activity. Primary activities form the value chain and include in- and outbound logistics, operations, marketing and sales, and the provision of customer services. Secondary activities are also essential but exist to support primary activities. They include processes such as procurement, human resources management, information technology development and infrastructure.

Figure 2.4 Porter's value chain



Source: Institute for Manufacturing.

We focus on the benefits that platforms deliver in four business processes, highlighted in Figure 2.5. This approach is the basis of our assessment of the benefits delivered to businesses, presented in section 4.

Figure 2.5 Taxonomy of platforms based on business activities

Recruitment	Funding	Marketing	E-commerce
• tasks from the identification of a staff requirement up to the offer and acceptance of new staff **Examples**: LinkedIn, Xing, Skype	• tasks from idea generation to project inception **Examples:** Crowdcube, Startnext	• tasks from product/service development to the start of the marketing campaign **Examples**: adwords, Facebook, Pinterest, Twitter	• tasks from making products and services available to customers to the after-sales follow-up **Examples**: iTunes, GooglePlay, Not on the High Street, Sagepay, Opineo

Note: This study has focused on the main platform categories, but this list is not exhaustive.

Source: Oxera.

This taxonomy is not exclusive, meaning that the same platform can be used for different parts of the value chain. For instance, Twitter can be used for marketing and recruitment purposes.

[30] See http://www.ifm.eng.cam.ac.uk/research/dstools/value-chain-/

Alternatively, some policymakers compare platforms according to their business model,[31] or their economic role. As an illustration, the OECD list of functions noted in section 2.3 can be used as the basis for a taxonomy.

2.3 The economic role of online platforms

Despite the difficulties in identifying what makes a website or an application an online platform in general, the literature in economics and business studies has analysed the benefits that online platforms bring to consumers and businesses in specific contexts.[32] We briefly review this literature as it shapes the way online platforms deliver benefits, and the way they can be measured (section 2.3.1). Drawing from this review, we identify the role of online platforms in the economy (section 2.3.2) and show that they are bringing together consumers and producers, allowing trades that would otherwise not happen.

2.3.1 Identifying the benefits for consumers and businesses

The Internet has lowered a range of costs,[33] for example relating to creating, distributing, acquiring and providing goods and services. Platforms in particular are characterised by positive network effects, meaning that, as the number of platform users increases, the benefits to other users also increase. In the context of platform markets, these effects can apply to users who are on the same side (indirect) or on the other side (direct) of the market.

As a consequence, consumers may benefit from online platforms through a variety of mechanisms that may not be at play in all online platforms, but certainly are in specific markets. They can lead to:

- greater convenience and reduced search costs—for example, less time taken to complete or simpler processes;
- lower prices due to an increase in supplier competition, which is driven by reduced barriers to entry, especially for small providers, increased transparency and easier supply across geographies;[34]
- more choice or variety, or greater quality, of products because of the greater reach of online platforms (such as e-commerce platforms) and their ability to bring together large numbers of users who are willing to interact;[35]
- more relevant products, services or content:[36] online platforms such as comparison websites may facilitate greater transparency and improved

[31] The European Parliament distinguishes platforms according to the business model they implement: advertising model, fees model, brokerage model. One can also think of business models based on voluntary donations. See European Parliament (2015), 'Challenges for Competition Policy in a Digitalised Economy', pp. 21–22.
[32] By focusing on specific markets, or specifying a working definition of online platforms.
[33] Levin, J.D. (2012), 'The Economics of Internet Markets', NBER Working Paper No. 16852.
[34] Increases in competition may in turn lead firms to improve the quality of the offering to consumers. They may therefore benefit from lower prices, better quality or a more diverse range of products. Studies such as Brynjolfsson and Smith (2000), Baye, Morgan and Scholten (2004) or Ellison and Ellison (2005) show that online competition has lowered prices, but price dispersion remains ubiquitous. See Brynjolfsson and Smith (2000), 'Frictionless Commerce? A Comparison of Internet and Conventional Retailers', *Management Science*, **46**:4, April; Baye, Morgan and Scholten (2004), 'Price Dispersion in the Small and in the Large: Evidence from an Internet Price Comparison Site', *Journal of Industrial Economics*, **52**:4, pp. 463–96; Ellison and Ellison (2009) ,'Search, obfuscation, and price elasticities on the Internet', *Econometrica*, **77**:2, pp. 427–52.
[35] The empirical literature tends to provide evidence of such benefits. See Levin, J.D. (2012), 'The Economics of Internet Markets, NBER Working Paper No. 16852, p. 25.
[36] Furthermore, many platforms use data on their customers to provide increased customisation and innovation. This includes tailored user experiences and proposing content that is likely to be of interest to the consumer.

matching. Access to more information, including ratings and reviews, improves the consumers' ability to find what they are looking for;

- social benefits;[37]
- wider economic benefits.[38]

Similarly, depending on the markets in which they operate, businesses may benefit from online platforms in the following ways.

- Market expansion—the infrastructure provided by online platforms such as crowdfunding platforms allows businesses to operate across a larger potential pool of buyers and sellers. This could involve overcoming geographic constraints, for example.
- Cost reduction (production, search and transaction)—online platforms such as e-commerce or recruitment platforms may benefit from economies of scale; provide consumers with ways to find potential products/services more efficiently (e.g. by increasing the candidate pool of potential hires);[39] reduce the time and cost of searching for staff;[40] and lower the costs of sales transactions.[41]
- Information expansion—online platforms such as social media platforms may improve firms' ability to collect and organise information, such as customer feedback, allowing them to observe aggregate patterns.[42]
- Divisibility of risk—for instance, crowdfunding platforms allow businesses to aggregate small investments over a large market in order to generate the capital needed, expanding the funding options for small, start-up businesses;[43]
- Signalling—online platforms such as websites provide online reviews. This can set standards for a seller and give buyers more information about the

[37] Potential effects include better integration or cohesion into society if consumers find it easier to interact and exchange views, especially with individuals they would not meet in person. By facilitating interactions, online platforms can provide individuals with the means to enhance existing relationships or build new ones.
[38] This would be the case if platforms enable individuals to actively learn and gain knowledge they would not otherwise have. This can have positive implications for both the individual and the economy more widely. For example, the spread of educational material as well as increased transparency of labour markets on online platforms could lead to better outcomes in terms of worker productivity or social engagement.
[39] For example, 75% of recruitment through an online platform were passive recruits, indicating that companies can now expand their pool of potential candidates beyond those workers who are actively searching for employment. See McKinsey Global Institute (2015), 'A labor market that works: connecting talent with opportunity in the digital age'.
[40] A survey of HR industry professionals found that 34% of respondents believed platforms reduced time-to-hire. See Jobvite (2014), '2014 Social Recruiting Survey', http://www.jobvite.com/blog/2014-social-recruiting-survey-infographic/, accessed 24 September 2015. McKinsey also found that online platforms can reduce the search costs of employers by 75% compared with commissioning external recruiters, based on projections. See McKinsey Global Institute (2015), 'A labor market that works: connecting talent with opportunity in the digital age – Appendix: Technical notes', p. 23. A UK survey of HR professionals found that 27% believed the Internet enabled them to save costs for their businesses. See Verhoeven, H. and Williams, S. (2008), 'Advantages and disadvantages of Internet recruitment', *International Review of Business Research Papers*, **4**:1, January, pp. 364–73.
[41] Based on a literature review of studies on E-marketplaces. See Stockdale, R. and Standing, C. (2004), 'Benefits and barriers of electronic marketplace participation: an SME perspective', *Journal of Enterprise Information Management*, **17**:4, pp. 301–11.
[42] Ibid.
[43] A study on projects from a Dutch crowdfunding platform found that online platforms increased the spatial distance between entrepreneurs and investors, indicating that online platforms may have expanded the potential pool of investors. See Agrawal, A.K., Catalini, C. and Goldfarb, A. (2011), 'The geography of crowdfunding', NBER working paper 16820, February.

vendor/product quality, thereby improving customer engagement with the brand.[44]

- Cooperation through repeated interaction—similar to signalling, if buyers cannot be sure of product quality, the experience of other buyers can help inform them. Comparison websites or websites with reviews may play a central role in delivering those benefits.
- Price discrimination—the structure of online platforms like e-commerce platforms in facilitating sales transactions may allow businesses to target discounts at specific customers who would not participate in the market at normal prices.

2.3.2 The economic functions of platforms

On the basis of the benefits highlighted in the literature, the OECD defined the economic role of online platforms as follows:[45]

- **providing infrastructure**—this is experienced by consumers and businesses as an improvement in the convenience and lower cost of transactions;
- **collecting, organising, evaluating information**—this is experienced by both businesses and consumers as a reduction in search costs;
- **facilitating social communication and information exchange**—this is experienced by businesses as improved customer feedback and by consumers as social benefits;
- **aggregating supply and demand**—this is experienced by consumers as both a greater variety of availability products, but also more relevant products, and by businesses as an expansion of the available market;
- **facilitating market processes**—this is experienced by customers as improved competition among product offerings through greater choice, more relevance, or lower price;
- **providing trust**—this is experienced through the benefits of improved customer engagement;
- **taking into account the needs of buyers/sellers/users/customers**—this is experienced by customers as greater variety of available products, more relevant products, and by businesses as an improvement in the collection and incorporation of information contained in customer feedback.

These functions may be representative of the impact of online platforms on the market at an aggregate level, and may be different and more specific to the particular relationship of the party to the platform, as evidenced in sections 3 and 4.

As highlighted by the European Commission and the OECD, the Internet economy is becoming more and more central to both consumers' and firms' daily activities. At the heart of this ecosystem, online platforms play a central

[44] Based on survey data that found customers who were engaged with online platforms were more likely to choose a company or brand if they had seen positive customer care experiences expressed online. See Karakaya, F. and Barnes, N.G. (2012), 'Impact of online reviews of customer care experience on brand or company selection', *SSRN Electronic Journal*, February.
[45] OECD (2010), 'The economic and social role of Internet intermediaries', April, p. 15.

role in delivering benefits to consumers and firms: they bring together consumers and producers, allowing trades that would otherwise not happen.

3 Value of platforms to consumers and consumer choice

This section presents analysis of an online survey of 1,500 consumers in each of France, Germany, Poland and Spain. This survey provides new empirical evidence on consumers' behaviour on, and perceptions of, online platforms.

Below, we present our survey analysis as well as related findings from the literature in relation to three main questions:

- what do consumers do on online platforms?
- do consumers use multiple platforms for the same activity and, if so, why (if not, why not)?
- what effects do platforms have on consumers?

The survey confirms existing evidence that consumers undertake a range of activities using online platforms. The most popular platforms are those used to look up information or to communicate with friends, family and others. Although the extent and frequency of use vary across platform types, the patterns are very similar across countries.

The survey also tests the extent to which consumers perceive barriers to multi-homing, which could indicate some degree of 'lock-in'. The results show that most consumers use multiple websites or apps to perform specific tasks online, indicating that many consumers consider multi-homing attractive. What is more, the large majority of both multi- and single-homing consumers do not perceive significant barriers to multi-homing for the tasks considered in the analysis. This suggests that, even with more time, at lower prices, with higher awareness of alternatives and increased compatibility across platforms, a large majority of consumers who single-home would continue to do so.

Almost all consumers think there are benefits from different types of online platform; a view that is consistent across countries. The most widely cited benefits relate to improved convenience, greater choice and increased transparency. Some types of online platform have more specific benefits. The survey also highlights that consumers have some concerns about online platforms, although those concerns do not prevent them from using the platforms.

These results highlight that online platforms of different types are popular with consumers, who often use them multiple times a day. Consumers across the four countries surveyed appear to make active choices over the platforms they use, indicating that potential lock-in through barriers to multi-homing is not an actual issue perceived by consumers. Consumers also have a positive perception of online platforms, balanced with certain concerns. In particular, they experience, in addition to convenience, choice and transparency, benefits in the form of time and money saved as well as contacts made. Overall, consumers are more likely to perceive benefits than raise concerns about online platforms.

In this part of the analysis, we applied the four criteria developed by the Commission to determine country-specific lists of platforms (see section 2.1.1). In addition, the focus is on platforms that are intermediaries in a narrow

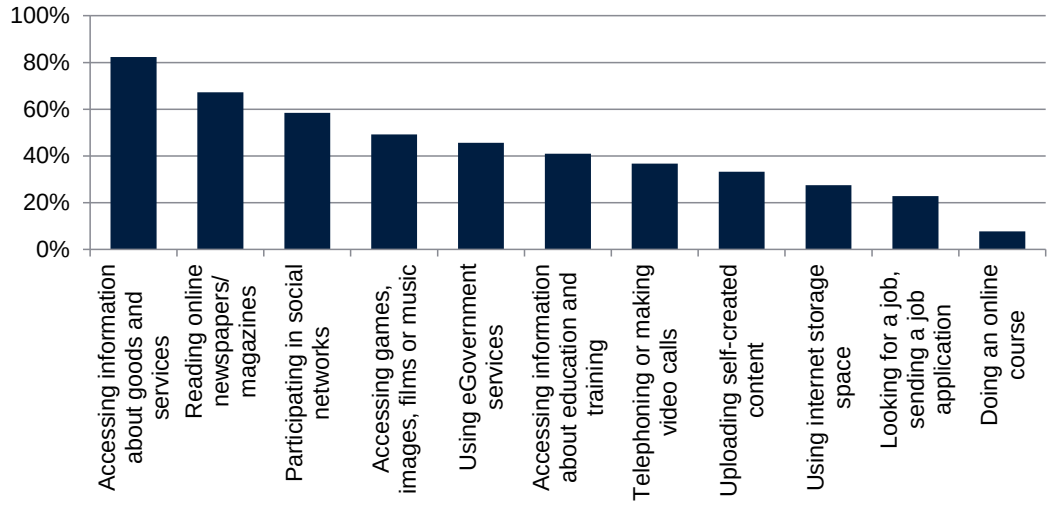
sense—i.e. those that take limited control over the transaction (see 2.1.2).[46] This makes our estimates of usage and, notably, benefits conservative, compared with an analysis based on a wider application of these criteria.

The analysis distinguishes between different platform types based on the key activities that consumers perform, as shown in Figure 2.3.

3.1 Consumers use platforms for a variety of purposes

The Internet has changed the way people across Europe go about their daily lives. Figure 3.1 shows the types of task that are most popular among EU Internet users. For example, many consumers use the Internet to access different types of information, be it about goods and services, about education and training, or media content such as news. Common tasks also include the use of eGovernment services as well as online courses.

Figure 3.1 Tasks performed by EU Internet users in the previous three months, 2014



Source: Eurostat, 'Community survey on ICT usage in Households and by Individuals'.

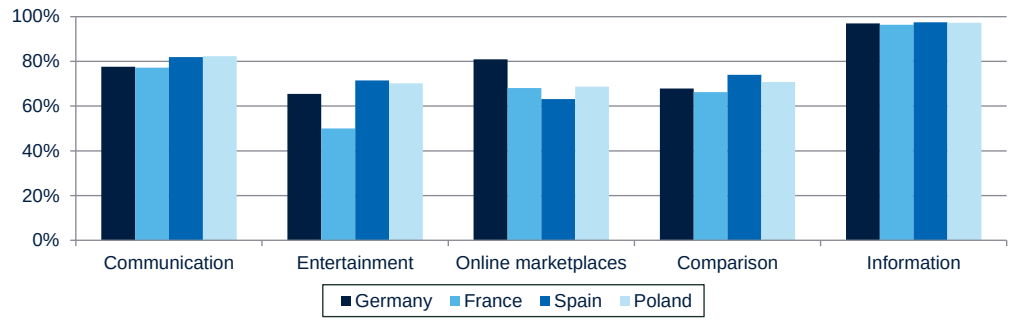
The survey confirms existing evidence that consumers undertake a range of activities using online platforms. Information and communications platforms are used most widely. While the patterns vary between different platform types, in terms of both how many and how often consumers use platforms, they are very similar across countries.

Nearly all Internet users across countries (96–97% of respondents) use information platforms such as Bing, Wikipedia and Google,[47] as shown in Figure 3.2. A significant majority (77% in France and 82% in Spain and Poland) also use communications platforms such as Facebook, Snapchat and Twitter. Comparison platforms, including for example Kayak and Skyscanner, have been used by between 66% of Internet users in France and 74% in Spain in the past month.

[46] For example, for the category of travel comparison platforms, we have focused on meta-search sites that do not provide booking facilities (such as Skyscanner and Kayak) and have not included online travel agents (such as Expedia and Opodo).
[47] The platforms included in the survey are specific to each country and listed in the technical appendix. We cite examples that appear in the lists of the four countries surveyed.

More than half of respondents say that they use online marketplaces and entertainment platforms; however, their popularity varies across countries. Internet users in Germany are most likely to have used online marketplaces (e.g. eBay and app stores) in the past month, with 81% of them having done so, compared with 63% in Spain. Entertainment platforms such as Instagram and Tumblr are most widely used in Spain by 72% of Internet users, compared with 50% in France.

Figure 3.2 Types of platform used by consumers in the past month

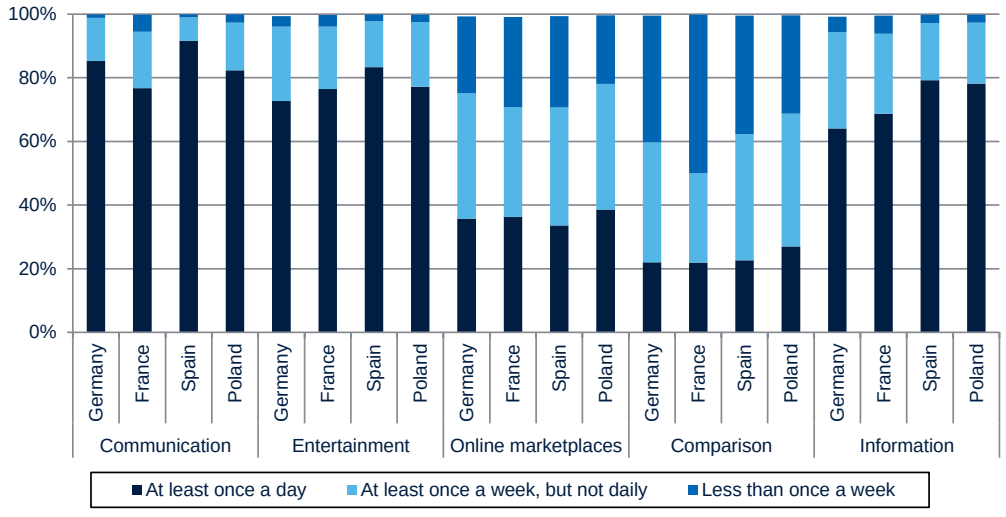


Question: For which of the following activities did you use the Internet in the past month? Base: Total survey respondents (6,010, of which Germany 1,501; France: 1,505; Spain: 1,502; Poland: 1,502).

Source: Oxera analysis.

Consumers access some platform types more often than others, as presented in Figure 3.3. Communications, entertainment and information platforms are most often used. The share of communications platform users who use them at least once a day ranges from 77% in France to 92% in Spain. For entertainment platforms, between 73% (Germany) and 83% (Spain) use them at least once a day. Information platforms are used at least once a day by between 64% (Germany) and 79% (Spain). Consumers use online marketplaces and comparison platforms less often. This may reflect that certain activities, such as buying, selling or comparing goods, are done less often than other activities, such as communication.

Figure 3.3 Usage frequency by platform type and by country



Question: How often do you use the following websites/apps within platform types? Base: Total survey respondents (6,010).

Source: Oxera analysis.

Older consumers tend to use platforms less than younger consumers, with the exception of information platforms. There are also some gender-specific patterns: 81% of female respondents use platforms to communicate and stay in touch compared with 73% of male respondents.

3.2 Do consumers use multiple platforms for the same purpose and, if so why (if not, why not)?

Consumers can use one or more websites/apps to undertake the same task. The single- or multi-homing behaviour ('multi-homing' in the following) of consumers can lead to different market outcomes, depending on market characteristics such as the strength of network effects or the degree of differentiation between platforms and user preferences. The survey tests how many platforms consumers use, for the different platform types and specific tasks.[48] Following this, it asks consumers about their reasons to single- and multi-home, respectively, in order to assess whether they perceive any barriers to multi-homing.

3.2.1 Most consumers use multiple platforms for the same purpose

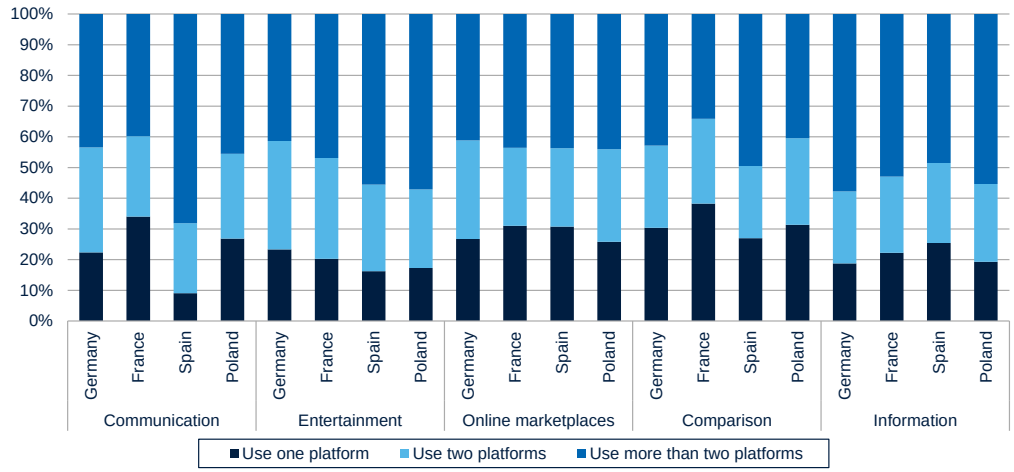
The survey evidence shows that the majority of consumers use multiple platforms of each platform type and for specific tasks, indicating that multi-homing appears feasible to most consumers, and desirable to many, but not all consumers.

On average, consumers use between two and three platforms of each type. This pattern is consistent across countries and platform types. Depending on the platform type, only 19% (entertainment) to 31% (comparison) of consumers single-home, while most consumers use more than two platforms (between 42% of users of comparison platforms and 54% of users of information platforms), see Figure 3.4.

The results differ across countries in only a few cases: users of comparison platforms in France (such as Kayak and Achetez facile) have the highest degree of single-homing (38%), whereas 9% of users of communications platforms in Spain single-home on, for example, Facebook, Instagram or YouTube.

[48] The analysis is conservative as the survey design and the list of platforms provided are likely to have led respondents to focus on these platforms and not think about all other platforms, non-platform websites/apps or even offline alternatives they may use. To mitigate this effect we asked respondents to include other websites/apps they use to perform specific tasks before assessing task-specific multi-homing. By potentially failing to consider all relevant platforms, other websites/apps or even offline alternatives, the single-homing group may be bigger than if all relevant alternatives had been included.

Figure 3.4 Multi-homing per platform type



Question: Which of the following websites/apps have you used in the past month to (broad activity of each platform type)? Base: respondents who stated that they perform tasks of each type.

Source: Oxera analysis.

The results also show that while the majority of consumers use more than two platforms to look up information, they often stick to a preferred platform for a specific type of information. Between 15% of consumers in France and 32% in Germany use multiple platforms to look up information relating to their hobbies and interests. More than 80% of consumers in all four countries use one platform to look up recipes and weather information.

Multi-homing for selected tasks

We also provide a more in-depth view on multi-homing by analysing the number of platforms used for specific tasks. For example, a consumer may use two online marketplaces, but only buy on one and sell on the other. In this case, the consumer would be multi-homing with regard to the type of platform, but not with regard to the specific task.

The survey provides evidence on multi-homing for four tasks:

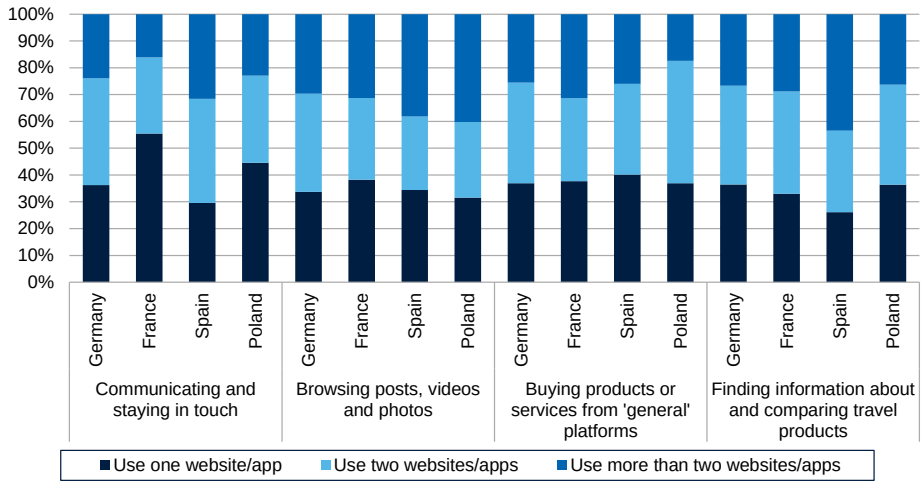
- to communicate and stay in touch with friends, family and others;
- to browse posts, videos and photos;
- to buy products from ‘general’ marketplaces (those offering non-specialist products);
- to find information about and compare products and services from platforms with travel products.

Figure 3.5 shows that almost two-thirds of consumers use two or more websites/apps for communicating and staying in touch, browsing posts, videos and photos, buying and comparing products and services, and finding information.

While largely similar across countries, multi-homing varies most for consumers who use online platforms to communicate and stay in touch (using WhatsApp, Skype or Google +, for example). The share of single-homing users for this task ranges from 30% in Spain to 55% in France. For browsing posts, videos and photos and buying from ‘general’ platforms, the share of single-homing

users is between 32% and 38% across countries, with a similar share using more than two websites/apps. Consumers in Spain are less likely to use only one platform for comparison of travel products (26%) compared with their counterparts in Germany and Poland (both 36%) and in France (33%).

Figure 3.5 Multi-homing with regard to selected tasks



Question: Which of the following websites/apps have you used in the past month to (task)?
Base: respondents who stated that they perform tasks of each type.

Source: Oxera analysis.

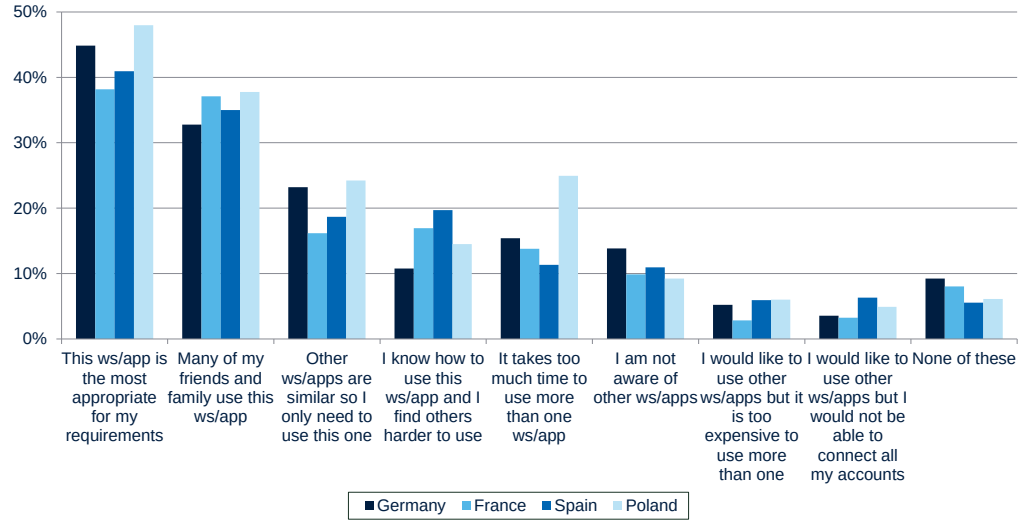
3.2.2 Most consumers find it feasible to use multiple platforms

From a theoretical perspective, concentrated markets with single-homing on one side can emerge under certain market conditions. These conditions include that there is no differentiation between platforms; that users on both sides have homogeneous preferences; and that multi-homing users do not have any bargaining power. Users may then be reluctant to switch away from the platform they currently use, because of strong network effects. This is often described as 'lock-in' of existing users on one or both sides of the platform. Any such lock-in would be driven by the desire not to lose access to an existing network, or, where the network could be accessed in a different way, by any difficulties in the process of moving those interactions to a competing platform. However, if platforms can differentiate and preferences are heterogeneous, market outcomes with multi-homing on both sides can emerge.

The survey tests to what extent consumers perceive barriers to multi-homing, which could indicate some degree of lock-in. It shows that the majority of both multi- and single-homing consumers do not perceive significant barriers to multi-homing for the tasks considered in the analysis. Instead, the main reason why single-homing consumers do not use more than one platform is because they feel that the website/app they use is the most appropriate for their requirements.

Across platform types and countries, single-homing consumers indicate that they consider their chosen platform to be most appropriate and/or do not want to use multiple platforms, see Figure 3.6.

Figure 3.6 Reasons for single-homing across selected tasks



Question: You indicated that you only use (applicable website/app) to (task). Why do you use this particular website/app? Base: Respondents who indicated that they single-home with regard to tasks considered (3,378, of which Germany: 845; France: 922; Spain: 777; Poland: 834).

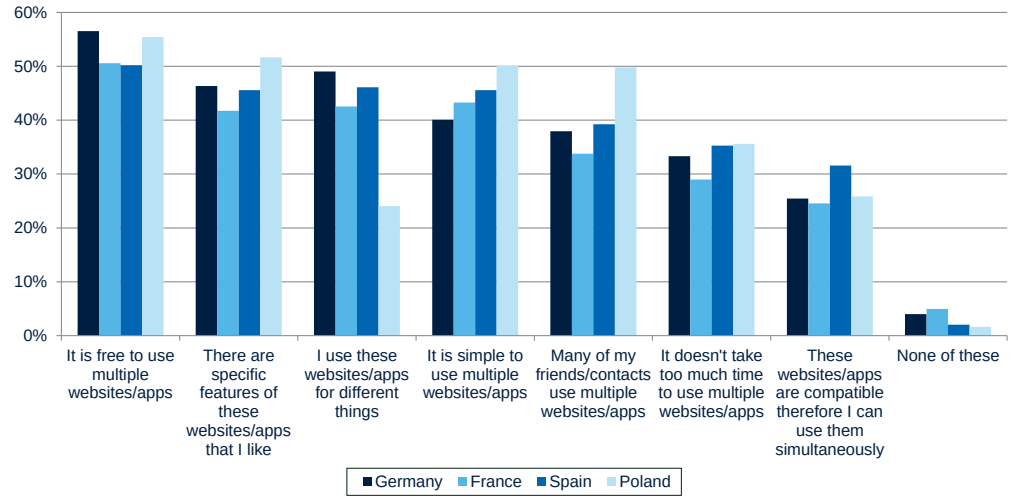
Source: Oxera analysis.

Between 38% (France) and 48% (Poland) consider the platform to be most appropriate, while between 16% (France) and 24% (Poland) of respondents indicate that limited differentiation between platforms makes it unnecessary for them to use multiple platforms. The platforms that friends and family use also play a role for 33% (Germany) to 38% (Poland) of consumers, indicating that direct network effects are strong. Between 11% (Germany) and 20% (Spain) choose one platform over others because of familiarity and ease of use.

Relatively few consumers cite time, cost, lack of awareness or incompatibility as reasons to single-home; each option is generally chosen by no more than 15% of consumers. A notable exception is the time it takes to use more than one platform for consumers in Poland, which 25% of consumers consider a constraint. The share of consumers who do not cite any of these four reasons is highest in Spain, at 73%, followed by 72% in France, 68% in Germany and 61% in Poland. This suggests that, even with more time, at lower prices, with higher awareness of alternatives and increased compatibility across platforms, a large majority of consumers who single-home would continue to do so.

Consumers were also asked why they used multiple platforms to communicate and stay in touch with contacts, see Figure 3.7. Many respondents cite multiple reasons; between 70% (France) and 79% (Poland) of consumers said that they perceive no barriers to using multiple websites/apps in terms of at least one of time, cost, ease of use and compatibility.

Figure 3.7 Reasons for multi-homing across selected tasks



Question: You indicated that you only use these websites (list below question) to (task). Why do you use multiple websites/apps to do this? Base: Respondents who indicated that they multi-home with regard to tasks considered (5,898; Germany: 1,552; France: 1,246; Spain: 1,672; Poland: 1,428).

Source: Oxera analysis.

In summary, the survey results suggest that lock-in into single platforms for the tasks tested does not appear to be an issue for a large majority of consumers. First, most consumers use two or even more websites or apps for those tasks and cite the ease of multi-homing as a reason for doing so. Second, of those consumers who use one platform for a specific task, the majority report that they have a certain preference for their chosen platform, and do not perceive any barriers to multi-homing in terms of time, cost, lack of awareness or incompatibility.

These results indicate that lock-in through barriers to multi-homing, which platforms could aim to implement to improve or exploit their market position, is not an actual issue perceived by consumers.

3.3 What effects do platforms have on consumers?

Various studies examine consumer benefits from the Internet and online platforms. Some studies estimate considerable consumer benefits of up to several thousand euros per person; others demonstrate that many consumers find platforms useful to save money. However, these studies do not provide more in-depth insight into the wide range of benefits that different types of platform create, or the concerns that consumers may have.

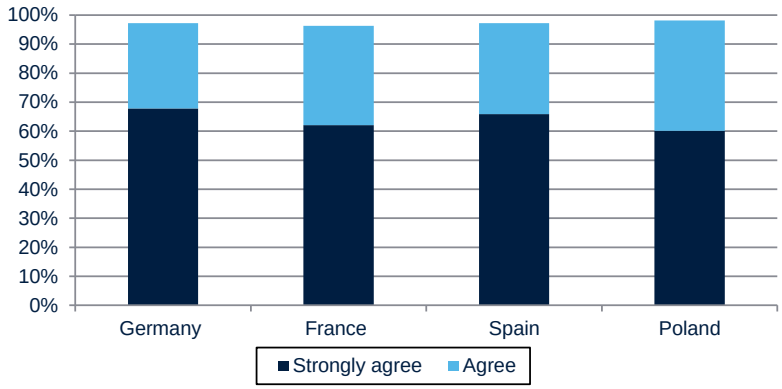
3.3.3 Consumers perceive a variety of benefits from online platforms

Almost all consumers think there are benefits from different types of online platform; a view that is consistent across countries. Our results support the predictions of economic theory; namely, that the benefits most widely cited by consumers relate to improved convenience, greater choice and increased transparency. Some types of online platform have more specific benefits; for example, users of communications platforms say that these platforms provide the means for social integration or online marketplaces, and comparison platforms have monetary benefits. The survey also highlights that consumers have some concerns about online platforms; however, the strength of these

concerns is lower than the strength of support for the benefits, and consumers say that these concerns do not prevent them from using the platforms.

On average, 97% of Internet users perceive at least one benefit from online platforms, across the four countries, as shown in Figure 3.8. Of these respondents, over 60% strongly agree that these benefits exist. Across all types of platform, consumers in Poland tend to have a more positive view of platforms than consumers in the other countries surveyed.

Figure 3.8 Consumer perceptions of benefits



Question: Thinking about the websites/apps shown below (list below consisting of platforms selected previously), to what extent do you agree or disagree with each of the following statements? Base: Total survey respondents (6,010).

Source: Oxera analysis.

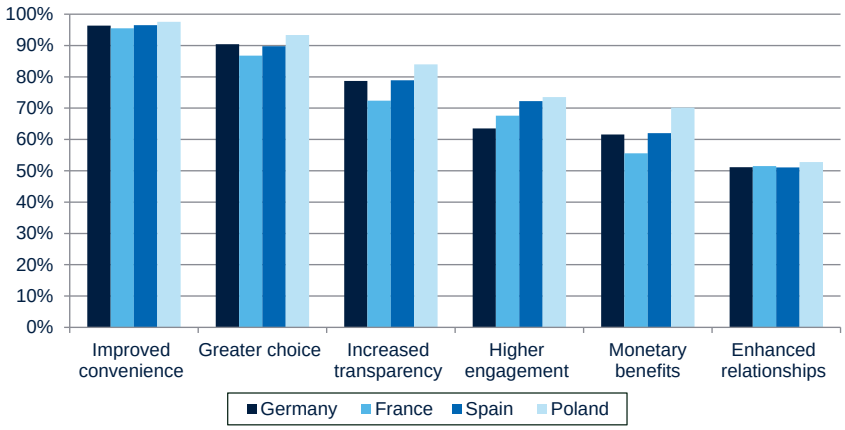
Economic theory suggests that consumers benefit where platforms reduce costs or improve competition, described in more detail below. Studies have made positive and significant estimates of consumer surplus[49] from online platforms and other free Internet services at both global and country level, with some variation across countries.[50]

These survey results show that most consumers perceive benefits relating to improved convenience (95% in France to 98% in Poland), greater choice (87% in France to 93% in Poland) and increased transparency (72% in France to 84% in Poland), as indicated in Figure 3.9.

Most respondents strongly agreed with statements about improved convenience (55% in France and Poland to 60% in Germany) and greater choice (40% in France to 46% in Germany).

[49] The consumer valuation minus the cost incurred to obtain the service.
[50] For example, Boston Consulting Group (2012), 'The Internet economy in the G-20: The $4.2 Trillion Growth Opportunity'; and McKinsey Quarterly (2011), 'The Web's €100 billion surplus', January. More details can be found in section A4.2.2 in the appendices.

Figure 3.9 Consumer perceptions of benefits



Question: Thinking about the websites/apps shown below (list below consisting of platforms selected previously), to what extent do you agree or disagree with each of the following statements? Base: Total survey respondents (6,010).
Source: Oxera analysis.

Specifically, platforms improve the convenience of transactions by **reducing search and transaction costs**, for example:

- an online marketplace can reduce the time taken or inconvenience required for an individual to find the product, service or content they are looking for;
- communications platforms may reduce the search and transaction costs of building or enhancing relationships.

The survey results show that, on average, 96% of people who use online platforms think they have simple processes and allow transactions to occur quickly or flexibly—i.e. at any time, or on the go. Consumers estimate that, in the past month, comparison websites have saved them between 8 (France and Spain) and 15 minutes (Poland) and information platforms between 50 (France and Germany) and 100 minutes (Poland).[51]

Consumers may also benefit where the presence of platforms leads to more potential participants in the interaction. Where platforms facilitate the presence of more suppliers of products, services and content, this can lead to **more variety** in the market, which benefits consumers. The survey results show that 87% (France) to 93% (Poland) of all platform users think that there is a greater choice and variety of products, services and content available to them because of online platforms.

Furthermore, where online platforms enable more suppliers to participate in the market, competition may increase. This can lead to **lower prices or higher quality** for consumers. The majority of consumers perceive that online platforms lead to lower prices or revenue opportunities (56% in France to 70% in Poland). Furthermore, 66% (France) to 88% (Poland) say that they are likely to find cheaper products through a comparison platform. Consumers estimate that comparison platforms have saved them €12[52] (Poland) to €117 (Germany) over the past year. Online platforms might also create opportunities to earn revenue. The average (mean) amount earned in the past month by consumers

[51] Unless otherwise stated, the average indicates the median value.
[52] Equivalent to 51 zloty.

who sold on online marketplaces such as eBay was €12[53] in Poland to €72 in Spain.

Platforms might also benefit consumers by **improving their awareness** of available goods, services or digital content. 72% (France) to 84% (Poland) think that online platforms allow consumers to access more information so that they are better informed about or matched with the product, service or content they are looking for.

Social benefits may also arise because of online platforms, which make it easier for individuals to interact and exchange views. The average (mean) number of people with whom individuals are connected on communications platforms such as Facebook, LinkedIn and Twitter ranges from 81 in France to 156 in Germany. 48% (France) to 68% (Poland) say they have at least one contact with whom they actively interact on these platforms. 32% (France) to 57% (Poland) of consumers say they have met in person at least one person whom they first interacted with on a communications platform; on average (mean) they got to know 1 person (France) to 5 people (Poland) in this way.

Platforms can also lead to **better social integration or cohesion**. In the survey, the majority of consumers express support for statements relating to social engagement. Between 63% of consumers in Germany to 74% in Poland say they are able to keep up to date with events and current affairs, or to easily engage in discussions on online platforms.

Online platforms may generate **wider economic benefits** if they enable individuals to actively learn and gain knowledge, which may also have positive implications for the economy more widely—for example, through increased productivity or greater transparency of the labour market. Media pluralism might be another example of a wider benefit to consumers. The survey results show that, on average across all countries, consumers use between two and three online platforms to look up diverse types of information (see Figure 3.2). The most-searched information relates to employment opportunities, but other popular searches include hobbies and interests, and news or current affairs.

The survey data also shows that consumers who perceive one benefit from platforms were also more likely to perceive others. Specifically, consumers who find that online platforms improve access to information or products, services and content are likely to find they also benefit from lower prices or increased revenue opportunities. This may demonstrate the effects of increased competition. Improved convenience is likely to be perceived by consumers who also think that online platforms increase choice.[54]

3.3.4 Consumers also have concerns but these do not prevent them from using platforms

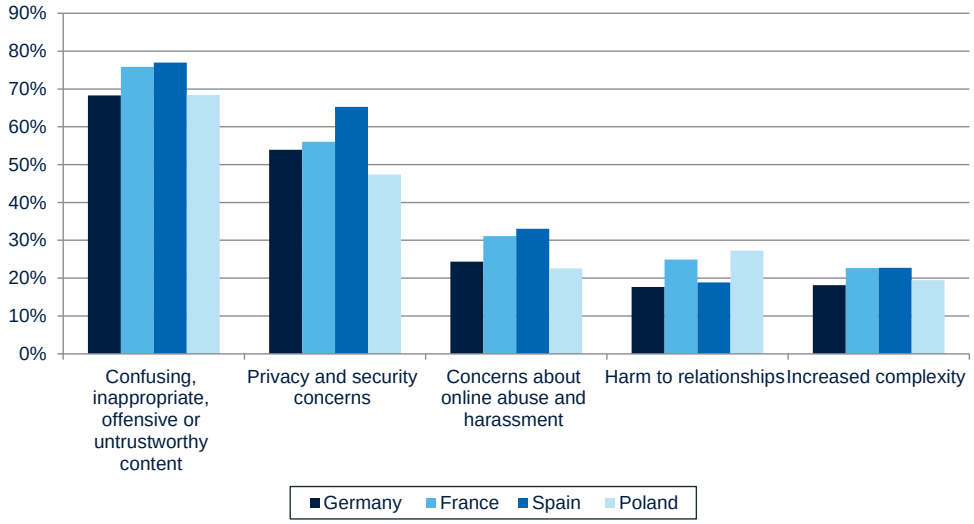
Consumers have various concerns with regard to the different platform types covered in the survey. 83% (Poland) to 89% (Spain) of those surveyed raised at least one concern in their responses. However, not many consumers cite concerns as reasons not to use platforms: only 20% (France) to 30% (Spain) of responses to the reasons for not using certain platform types make reference to concerns about the content on platforms or about privacy and data security.

[53] Equivalent to 50 zloty.
[54] The correlation coefficient between variables that encompass respondents who selected ‘agree’ or ‘strongly agree’ for choice and convenience statements is 0.5. The equivalent correlation coefficients are 0.52 for transparency and monetary benefits and 0.45 for transparency and choice. Correlation coefficients take a value between 0 and 1; higher correlation coefficients indicate higher correlation.

Compared with the agreement with positive statements, few respondents strongly agree with the concerns.

Across different types of platform, consumers in Spain tend to be more concerned about platforms, while consumers in Poland are less concerned, as shown in Figure 3.10.

Figure 3.10 Consumer concerns



Question: Thinking about the websites/apps shown below (list below consisting of platforms selected previously), to what extent do you agree or disagree with each of the following statements? Base: Total survey respondents (6,010).

Source: Oxera analysis.

Consumers might be concerned about **intrusions into privacy** where users are required or choose to upload personal information in order to participate. 47% (Poland) to 65% (Spain) of consumers have some concern about their data privacy and security on online platforms.

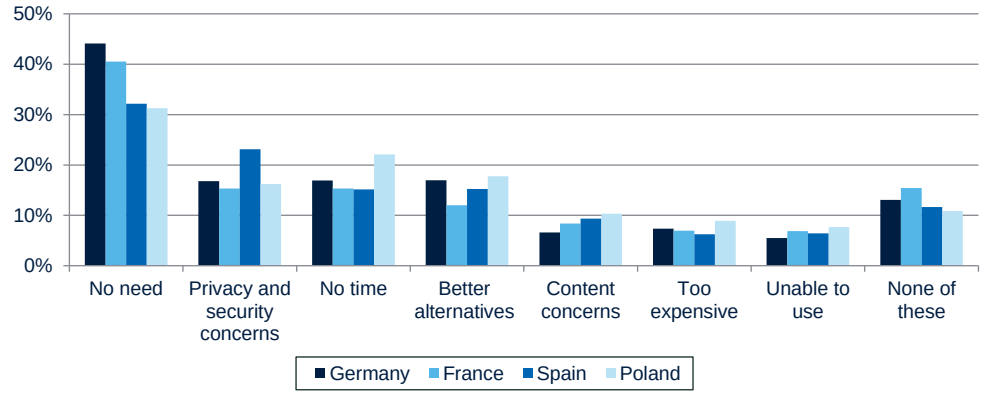
Furthermore, consumers may find it **difficult to evaluate information** provided on platforms because of information overload or uncertainty about the source and independence of a specific piece of information. Between 68% (Poland and Germany) and 77% (Spain) of respondents express concerns about potentially confusing, inappropriate, offensive or untrustworthy material.

Consumers may be unwilling to use online platforms if they think it will lead to less **trust and personal interaction**. Concerns about online abuse or harassment are most widespread in Spain (33%) and least in Poland (23%).

Between 31% in Poland and 44% in Germany of responses indicate that consumers do not use certain platform types because they do not need them.

Fewer consumers specifically identify concerns as reasons not to use platforms, see Figure 3.11. Data privacy and security play a role in 15% (France) to 23% (Spain) of responses citing reasons for not using platforms; and irrelevant, inappropriate or offensive content matters in 7% (Germany) to 10% (Poland) of consumers. 15% (France and Spain) to 22% (Poland) of responses make reference to a lack of time and 12% (France) to 18% (Poland) indicate that there are better alternatives.

Figure 3.11 Reasons why consumers do not use certain platform types



Question: You indicated that you have not used any websites/apps to (task). Why do you not use these websites/apps? Base: Respondents who do not use at least one platform type.

Source: Oxera analysis.

4 Benefits of platform use to businesses

4.1 Overview of approach and results

As outlined in section 2, there are a number of mechanisms through which businesses can derive benefits from online platforms. This section seeks to test for these benefits using:

- **case studies**—having identified discrete business processes that use online platforms, we undertook interviews with EU businesses to discover how, specifically, they have benefited from the adoption of online platforms;
- **a review of the academic literature**—we identified the theoretical drivers of benefits through specific economic mechanisms. We also reviewed how these benefits have been quantified in previous studies.

The case studies and literature review identified several themes:

- **online platforms reduce the impacts of geographic barriers**—interviews in all four business processes indicated instances of online platforms allowing the business to conduct activity across traditional geographic borders, to varying degrees. Therefore, the market that businesses are able to access is increased. This was also supported by evidence from the literature;
- **online platforms can support new and different types of businesses**—online platforms allow some projects to access a market of investors who are motivated by a variety of returns funding. Also, and closely related to the reduced impact of geographic barriers, online platforms make niche businesses more viable by expanding the potential customer base;
- **online platforms change the cost structures of businesses**—our case studies indicated that platforms can reduce costs. These cost reductions could come from several different channels including search costs (for customers or staff), gathering customer feedback, or reducing marketing spend/improving its effectiveness. A caveat indicated in some of our case studies is that when online platforms are used for other benefits (brand value, or expanding the customer base), they often have associated time and monetary costs.

4.2 Selection of case studies

Following the discussion in section 2 of what defines an online platform, platforms must meet the requirements of being on the Internet, act as an intermediary,[55] allow for interaction between multiple parties, and contain some element of interdependence between groups of users. In addition, we selected platforms that tend to exhibit characteristics of a pure intermediary as defined in section 2.1.2. This results in a conservative estimate of the benefits that online platforms bring to businesses.

Following on from the analysis of Porter's value chain in section 2.2.4, we identify the following processes as primary activities:

- **funding**—from idea generation to project inception;
- **e-commerce**—from making products and services available to customers, to the after-sales follow-up;

[55] As far as possible, we selected platforms that tend to showing characteristics of pure intermediaries.

- **marketing**—product/service development to the start of the marketing campaign;
- **building reputation and trust**—from product/service development to processing customer feedback.

We also identify processes that form part of secondary business activities:

- **recruitment**—from the identification of a staff requirement up to the offer and acceptance of new staff;
- **internal management**—supply chain management, customer information management, and management information systems.

While building reputation and trust with customers is important to many businesses, the process itself is intangible, and the effects of online platforms are difficult to separate from other activities.

It is likely that many businesses find 'thin-client'[56] cloud-based systems to be valuable. Such systems host processes that would otherwise be managed internally. In this sense, they do not allow for interaction between multiple parties, and the platforms that host these functions are not intermediaries. As such, we exclude these tools from our analysis. As a result, four processes (recruitment, funding, marketing and e-commerce) remain of interest as the focus of a case study.

One of the main aims of the interviews was to test whether the businesses we spoke to could verify the existence of these benefits. To ensure that the benefits could be tested, we mapped the different benefits against different tasks within the four business processes. Our case study design was shaped by a review of the functions provided by Internet intermediaries, as presented in a report issued by the OECD.[57] The framework offers a way of thinking about how online platforms affect the larger network of consumers and businesses.

The results of this are presented in Appendix A6.

4.3 Business case studies

We spoke to 14 professionals at different businesses, each of whom had experience using online platforms in the context of the business processes identified above. Below is a summary of the interviews featured as part of the business case studies in this report. More detailed information on the interviews is presented in Appendices A7–A9.

[56] This is where a computer system (either a physical computer or a programme) depends on an external system for computational tasks, as is becoming increasingly common for enterprise management systems.
[57] OECD (2010), 'The economic and social role of internet intermediaries', April.

4.4 E-commerce

Summary of e-commerce benefits

The key benefit of e-commerce platforms is enabling businesses to reach a wider market. According to the interviewees, this ranged from an incremental increase in sales (perhaps 5–10%); in other cases it was essential to the business. This is supported by the consumer survey.

Platforms also provide a low-cost channel for gathering customer feedback. This benefit was cited by a number of interviewees, some of whom use this for product development or marketing.

The impact on operating costs is varied. Some users of e-commerce platforms would prefer to sell directly in order to avoid the fees and margin charged by the platform. However, platforms are much cheaper than bricks-and-mortar stores.

Oxera has conducted four interviews (with one other case study participant citing use of an e-commerce platform): Adam Jankowiak of Chocolissimo, Paweł Kozak of Ola & Olo, Isabell Kiefhaber of Geschmeide unter Teck, Christian Larger/Julien Akita of Studio Pango, and Abi Weeds of Odylique/Essential Care Organics. These businesses were located in Poland, Germany, France and the UK.

4.4.1 Platforms used for selling products and processing payments, with some use of customer feedback platforms and social media

Interviewees reported using a range of e-commerce platforms. Both Ola & Olo and Studio Pango used online app stores including the Apple App Store, Google Play and the Amazon app store. The app stores were also used for marketing activities by the two app developers. Paweł reported that around 30% of Ola & Olo's operating budget was spent on marketing via Google Play. Other businesses selling physical products used a range of marketplace platforms including Amazon, Allegro, DaWanda, and Etsy.

In addition to the marketplace platforms, Chocolissimo and Studio Pango made use of social media platforms, while Ola & Olo and Odylique also made use of a platform for customer feedback and payment platforms such as PayPal, Sagepay and PayU. Odylique also used a platform for customer feedback.

4.4.2 Online platforms allow businesses to reach potential customers in various ways and represent a net benefit

Platforms, to varying degrees, improved the ability of business to make products available to customers

One of the key themes that emerged from several interviewees was that e-commerce platforms help businesses to **reach a wider customer base**. Chocolissimo indicated that the relative sales through these platforms are low (approximately 5% of all sales), although the use of platforms had allowed it to expand into Germany, and then to other EU countries. Abi reported that 5–10% of its sales are generated from third-party retailers, suggesting that the larger customer base it is able to access is a key reason for using these platforms. Isabell had similar views about Geschmeide unter Teck.

App developer, Ola & Olo, uses app stores as its only sales channel, and Paweł doubted that Ola & Olo would exist without this form of distribution.

Using online app stores had allowed it to reach users in Saudi Arabia (5% of users), Indonesia (10% of users), the USA (8% of users) and Brazil (5% of users). Christian and Julien said that app stores had allowed Studio Pango to reach customers in 120 countries.

Platforms provide consumers with an assurance of data security, which is a benefit to small businesses

Adam suggested that Chocolissimo's use of e-commerce platforms provided greater data security, as well as facilitating the handling of orders and returns. This sentiment was echoed by Paweł, who cited the transparent payment system as an advantage of online app stores. He also thought there was a **signalling** benefit, since platforms assured potential customers that the product did not contain viruses.

Platforms allow businesses to obtain information on customer preferences

Some of the interviewees reported **benefits from information gathering.** Chocolissimo uses Opineo to track feedback across the platforms it sells through; on some occasions, the use of feedback has allowed Chocolissimo to better develop future products. Julien described how the feedback process offered by Google Play has been directly incorporated into the development of Ola & Olo products. Odylique's use of a platform for customer feedback has helped to obtain a customer testimonial, which was later used in a national magazine article.

Platforms are not without cost to businesses

The interview respondents had mixed experiences regarding the **cost of transactions** through e-commerce platforms. Adam suggested that the main downside of using e-commerce platforms for Chocolissimo is the fee charged (around 10% of sales revenues), meaning that it was more profitable for the company to sell directly via its own website. However, this was not an experience shared across all e-commerce platforms. Isabell suggested that both DaWanda and Etsy charge a small per-item fee to display Geschmeide unter Teck's products, with a 3.5–5% sales commission. This was much cheaper than a local gallery, which charged a 40% commission on sales.

4.4.3 Literature on e-commerce platforms finds benefits from expanding markets, signalling product quality, and reducing transaction costs

Many of the benefits of e-commerce platforms to businesses identified by Oxera are supported by literature. Stockdale and Standing (2004)[58] review a wide range of studies, and identify customer feedback, access to a wider customer base, and reduced transaction costs among a range of benefits for SME participation in online marketplaces. It is worth noting that the authors appear to conduct their analysis against a counterfactual of offline sales, as opposed to other forms on online participation.

[58] Stockdale, R. and Standing, C. (2004), 'Benefits and barriers of electronic marketplace participation: an SME perspective', *Journal of Enterprise Information Management*, **17**:4, pp. 301–11.

Oxera's analysis from survey data suggests that consumers find more businesses and products when using platforms

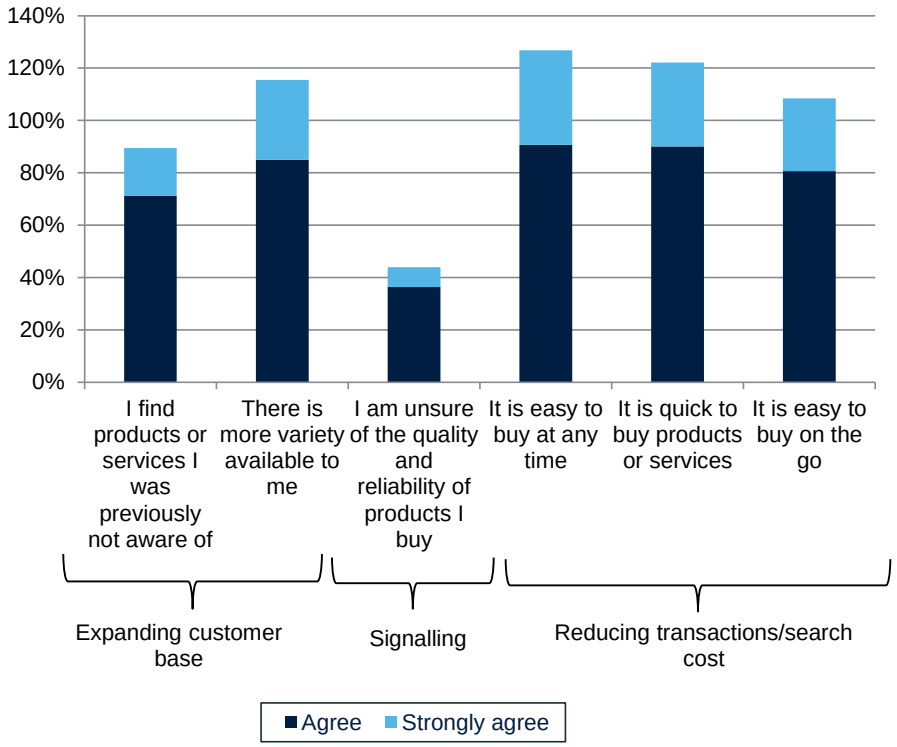
Evidence of the benefits hypothesised in the literature is limited, particularly with respect to e-commerce platforms.[59] However, Oxera's consumer survey provides some evidence to support several of these benefits. A majority of respondents (85%) agree that when using platforms to make purchases, there was a larger range of products available, and, in most cases, producers that the users were not aware of. From the perspective of the seller, this translates into a wider customer base.

There was support for the idea that e-commerce platforms reduced transaction costs (at least for consumers). Around 90% of respondents suggested that it was quick to purchase, and a similar proportion reported that it was easy to purchase. While this would not necessarily translate into reduced transaction costs for businesses, it could potentially increase sales.

Oxera's analysis from survey data suggests platforms provide some signalling benefits

The minority of consumers suggested that they were unsure about the quality/reliability of products on e-commerce platforms. 36% agreed with this statement, with 8% strongly agreeing. This provides some evidence that platforms could be providing a signalling benefit.

Figure 4.1 E-commerce platform benefit



Question: Thinking about the websites/apps you use to buy products and services, to what extent do you agree or disagree with each of the following statements? Base: Respondents who buy through online marketplaces (2,771).

Source: Oxera analysis.

[59] As opposed to e-commerce and ICT more generally.

4.5 Marketing

Summary of marketing benefits

Reaching a wider audience is a common theme among interviewees; niche products might not exist without marketing through platforms.

Greater targeting of advertising spend increases sales—Jeremy reported a doubling of the conversion rate for targeted adverts for iCasque.

Interviewees whose businesses used marketing analytics tools mentioned measurement of marketing effectiveness as a key benefit.

Feedback from social media can itself have an impact on sales. Using anecdotal evidence from our interviews and empirical estimates from the literature suggests that a new article could increase sales by 0.5%.

Oxera interviewed six businesses about their use of online platforms in the marketing process: Jeremy Pasquetti of iCasque, Sicko Winters of Fotofabriek, Angeles Castell Marcos of Barcelona Alternativa, Alberto Perez of Desperta Ferro, Grzegorz Berezowski of NapoleonCat, and Julien Akita and Christian Larger of Studio Pango. These case studies covered Spain, France, Poland and the Netherlands.

4.5.1 Participants used targeted advertising to reach customers, and social media to build their customer base

Social media was used largely to market products directly to customers (e.g. Barcelona Alternativa, NapoleonCat and Desperta Ferro) or to engage with existing customers (Fotofabriek, iCasque, Studio Pango). Several respondents noted that Facebook was the focus of much of their social media activity due to its larger user base.[60]

Many of the participants also used direct advertising. In some cases, these were users of Google Adwords referred to Oxera by Google directly, although Angeles indicated that this was as a form of income generation rather than as a marketing expense for Barcelona Alternativa. Studio Pango also made use of a sales-tracking platform to monitor sales of its products across several app stores.

Alternative forms of marketing tended to focus on print and media advertising, and event sponsorship

While platforms were significant marketing channels for our respondents, most of them used offline channels as well. The interviewees cited a number of alternative marketing tools, such as advertising in magazines, radio, flyers or direct mail. Some companies indicated they have attended events and conventions to market products in person.

Another common theme mentioned by respondents, including iCasque, Desperta Ferro and Fotofabriek, was the high cost of some offline media such as TV advertising, which would be prohibitive as an alternative to online channels.

[60] At least at the time the accounts were set up.

4.5.2 Online platforms reduce the cost of marketing and expand the size of the market

Online platforms provide statistics on the effectiveness of marketing efforts, allowing for more successful targeting of customers

Several respondents, including iCasque and Fotofabriek, suggested that online platforms permitted much more effective **information gathering** on the effectiveness of advertising, while Studio Pango made use of a separate platform for tracking sales which served the same purpose.

Three of the businesses interviewed also mentioned that they were able to target their advertising more effectively by directing their marketing activities at individuals most likely to purchase from them, reducing the cost of **customer acquisition**. Jeremy provided more detail on this, reporting that the typical conversion rate for iCasque (the share of visitors to the site who make a purchase) falls within a range of 1–1.25%.[61] However, using the analytical tools provided by its advertising partners, the company was able to monitor visits from Adwords, and noted that the conversion through that site is double the rate of other website traffic. Jeremy suggested that these tools accounted for a significant share of iCasque's customer base: 40–50%.

Market expansion from online platforms is critical to the success of some businesses

Some of Oxera's interviewees also suggested that marketing their products using online platforms had **increased their potential customer base**. Alberto cited Desperta Ferro's expansion into other Spanish-speaking countries, and was doubtful that its niche product could exist without online marketing. Sicko estimated that 50% of the growth of Fotofabriek could be attributed to online marketing. Grzegorz suggested that NapoleonCat would be unable to market its services outside its native Poland without social media.

Social media offers brand benefits, but with maintenance costs

While, in most cases, the experience of platforms was positive, many of the respondents suggested that the use of social media created administrative burdens due to the need to respond to customer issues quickly and to generate regular updates on their social media accounts.

4.5.3 Literature suggests that online marketing and social media have positive impact on sales

The literature supports the idea that online marketing can increase sales. Srinivasan, Rutz and Pauwels (2015) provide an empirical analysis of the use of online marketing compared with more traditional media such as TV advertising. The results suggest that TV advertising explains only 5% of the change in sales volume, whereas online marketing explains 15%. Direct advertising via click-through adverts was found to be more effective than social media, although a doubling of new 'likes' on Facebook was found to increase sales by 15.7% in the long term on the basis of the authors' estimates. This is evidence of platforms **signalling product quality** or **reducing search costs for consumers**.

[61] That is, for every 10,000 site visits, the company would expect 100–125 sales.

Social media increases sales indirectly by increasing business exposure

Oxera asked our interviewees whether there was a mechanism through which they could generate Facebook 'likes'. Alberto suggested that an interesting new article or post on the Desperta Ferro Facebook page could increase followers by perhaps 300, or around 3% on their current 10,000 followers. On this basis, a new post might increase sales by 0.5% in the long term through its effect on the social media following.

The use of social media to engage with existing customers was reported by our interviewees to create administrative costs for the businesses. However, there is also evidence to suggest that this activity could be important to consumers' decisions on brand/company selection, particularly for consumers who are most Internet-literate. Analysis of survey data carried out by Karakaya and Barnes (2010) finds a strong positive relationship between consumer engagement in online activity and consumers' decision to choose companies based on the consumer care experience shared online.

Other survey evidence supports the findings of Oxera's business case studies about the role of social media. In a survey of 3,700 marketers, Stelzner (2015) found that the key benefits of social media marketing are increased exposure and traffic.[62] Of those surveyed, 90% said that their social media efforts had generated more exposure for their businesses, with 77% stating that they had increased traffic. 68% of respondents said that their advertising provided market insight; 65% said it generated leads, while 51% said it improved sales.

4.6 Recruiting staff

Summary of benefits of online platforms for recruitment

The case studies and literature support the notion that online platforms result in reduced candidate search costs (search and transaction) and an expanded pool of candidates (market expansion).

Professional networks are now standard tools of the recruitment profession. These platforms increase the pool of candidates, bringing in candidates from a wider area and those not actively looking for a job.

The cost of search through advertising is much lower on online platforms and more flexible than printed media.

Oxera interviewed two businesses about their use of online platforms in the recruitment process: Karin Turner at PwC and Sarah Magnell at Saxton Bampfylde. Our participants were both involved in recruiting staff but PwC manages its own recruitment processes, while Saxton Bampfylde is commissioned by clients to find candidates.

4.6.4 Online platforms are now an integral part of candidate search and contact

To find candidates, both interviewees used online platforms to research candidates, mentioning LinkedIn in particular. Both interviewees advertised vacancies online (one used targeted ads through LinkedIn), and offline through

[62] Stelzner, M.A. (2015), '2015 Social Media Marketing Industry Report: How Marketers are using Social Media to Grow their Businesses', Social Media Examiner.

papers such as *The Sunday Times* or *The Guardian*. Sarah reported using various other online services for candidate search such as Bluesteps, a dedicated directory for executives.

Initial contact was typically made with candidates through LinkedIn. Karin and Sarah said that communications platforms (e.g. Skype) were occasionally used for early-stage interviews, although final interviews are conducted in person.

Participants indicated that platforms can expand the pool of candidates geographically

Karin indicated that online platforms for search **expanded the pool of candidates** beyond local or national boundaries (market expansion); for many clients, the suitable candidate may be located overseas. Karin stated that currently, approximately 80% of PwC's experienced hires are sourced through LinkedIn.

While there was a preference for face-to-face interviews, online platforms for communication have provided a useful way to conduct preliminary interviews at lower cost; Karin recalled a candidate from the USA being interviewed virtually before being flown to the UK for a final interview. The use of online platforms to conduct initial assessments **expanded the pool of candidates geographically**; potential candidates who would not be able to participate in a face-to-face interview could still be considered for a role, at least in the initial stages.

Case studies also suggested that the costs of posting vacancies and time to reach candidates were reduced

Interviewees suggested that LinkedIn has **increased the speed and lowered the cost** of searching for candidates. The alternative for participants was newspaper advertising. A print advert in a national paper costs between £3,000 and £18,000 and requires long time periods (and sometimes repeat posting). Alternatively, a recruitment consultant would typically charge 20–25% of the candidate's salary. By comparison a LinkedIn advert costs around £500 and is targeted at candidates with relevant work history. Karin estimated that PwC hired 2,603 new staff last year. A firm recruiting for this number of roles could save around £2.6m by advertising on a professional network compared with printed adverts.

Sarah indicated that, as a recruiter, it can be difficult to gain access to senior executives, so direct messaging via LinkedIn provides **an easier and faster way to reach a candidate**.

4.6.5 Literature on online platforms in recruitment supports findings of improved quality and size of the candidate pool

The literature supports many of the views put forward by our interviewees. A study noted that, from the employer perspective, social media platforms improved the process of recruiting new employees.[63] Another study suggests that better information on demand for certain kinds of workers will reduce the amount of matching friction in the market, providing workers with better signals of the skills/education they should be acquiring. In a projection to 2025 using six stylised 'model businesses', online recruitment platforms improve tertiary

[63] European Commission (2013), 'Joint Research Centre Technical report: Assessing the Benefits of Social Networks for Organizations', Report EUR 25928 EN.

education choices by $89 billion.[64] This could be due to less workplace training, more productive employees, and the lower costs of searching for employees. The reduction in HR costs is expected to be particularly significant in industries where labour is scarce.

Online recruitment platforms may expand the hiring pool by including employees who are not actively seeking a position; 75% of hires made through LinkedIn were passive recruits.[65] Jobvite's survey of 1,855 recruiting and HR professionals found that 44% of respondents believed that recruitment platforms improved both the quality and quantity of their candidates.[66]

Estimates suggest the reduction in search costs is significant

The literature also suggested that search costs were reduced with the use of online recruitment platforms; the McKinsey report estimates that online platforms could reduce search costs for employers by 75% compared with commissioning an external recruiter.[67] We should note that the study used data from Germany, the UK, the USA, India, Brazil, China and Japan, and may not be representative of Europe. The report indicates that online platforms may reduce HR costs associated with recruitment by 7%. A UK-based survey of 83 HR professionals found that 27% of respondents reported higher efficiency and significant cost savings for their businesses from online activities.[68]

Search time was also reduced; Jobvite found that 34% of respondents believed platforms led to a reduction in time-to-hire.[69]

In the recruitment process, brand promotion of a company is also an important factor in determining the success of recruitment efforts. The European Commission found that 61% of employers surveyed found professional platforms to be the most effective tool in brand promotion.[70]

[64] McKinsey Global Institute, McKinsey & Company (2015), 'A labor market that works: connecting talent with opportunity in the digital age'.
[65] Ibid.
[66] Jobvite (2014), '2014 Social Recruiting Survey', http://www.jobvite.com/blog/2014-social-recruiting-survey-infographic/, accessed 24 September 2015.
[67] McKinsey Global Institute, McKinsey & Company (2015), 'A labor market that works: connecting talent with opportunity in the digital age – Appendix: Technical notes', p. 23.
[68] Verhoeven H. and Williams, S. (2008), 'Advantages and disadvantages of internet recruitment', *International Review of Business Research Papers*, **4**:1, pp. 364–73.
[69] Jobvite (2014), '2014 Social Recruiting Survey', http://www.jobvite.com/blog/2014-social-recruiting-survey-infographic/, accessed 24 September 2015.
[70] European Commission (2013), 'Joint Research Centre Technical report: Assessing the Benefits of Social Networks for Organizations', Report EUR 25928 EN.

4.7 Funding

Summary of funding benefits

Crowdfunding can enable projects without traditional financial returns on investment, such as projects of primarily artistic or cultural benefit, to obtain funding. As a result, projects which may not have been candidates for traditional funding mechanisms may become more viable. This was the case for one of our interviewees and is supported by the literature.

The literature suggests that crowdfunding platforms increase the pool of potential investors for projects.

Our interviewees reported that their existing networks of customers/investors were critical, although fundraising through the platform could reduce administrative burdens. One interviewee estimated that the funding for their business would have taken about three times longer through other channels.

Oxera interviewed two businesses about their use of online platforms in the funding process: Rob Robinson of Notes, and Johannes Pramsohler of Audax Records. The case studies covered France and the UK. Both participants indicated that they used online platforms to fund their respective projects; Notes used Crowdcube, a UK-based crowdfunding platform, and Audax Records used Kickstarter (US-based) and Startnext (based in Germany) for different projects.

4.7.1 Online platform use in funding is supplemented by, and interchangeable with other funding options

In both cases, crowdfunding was a funding option that was used after another initial form of funding, and is also followed by another form. To supplement funding obtained from online platforms, Audax Records used private donations from concert attendees, including an informal loan from a patron, in addition to personal savings. It has plans to use revenue from the sale of existing albums and a pre-sale listed on the website to fund future projects. Notes had sought initial funding through private investors, and has plans to seek a bank loan for future expansion projects.

4.7.2 Benefits and costs of online platforms in funding varied, depending on the nature of the funding request

Case studies were inconclusive about certainty of funding, and expansion of the potential pool of investors through platforms

There was disagreement between our participants about the level of certainty in funding provided by online crowdfunding platforms. Johannes indicated that such platforms provided certainty of investment as donations came in, whereas Rob stated that it was uncertain what level of investment would be achieved until the campaign was over. These differences may be attributed to their very different business models and types of funding sought; Kickstarter, with its focus on creative/artistic projects, generates donations, as opposed to the equity-based Crowdcube.

Our participants agreed that crowdfunding platforms had a limited expansion effect on their pool of investors. Most of Audax's donors were connections that Johannes had already made from concerts and other events; for its first crowdfunded project, roughly 6% of donations were made by complete strangers. For Rob, many of Notes' Crowdcube investors were one-time users

of the site. He thought many of these investors were already regular customers because there was in-store promotion of the Crowdcube campaign.

Even if donors were already existing connections, platforms provided infrastructure to handle 'investments' from a large number of donors, but not without costs

There may have been benefit from crowdfunding platforms offering the required infrastructure to **receive, manage, and track donations/investment from many parties**; Notes received funding from 368 investors, and Audax had between 80 and 120 donors for each funding round. For Notes, Rob thought it would have been possible to raise funds offline, but this would cost a considerable amount of administrative cost.

Both participants agreed that there was a **significant cost due to interaction with potential donors** through the crowdfunding sites. Because they had different experiences in obtaining funding outside of the use of a crowdfunding platform, Audax indicated that there was little change in the amount of time spent interacting with potential donors since it would otherwise have sought small donations from a large group of people. For Notes, having previously obtained funding from a small number of investors, there was an increase in time spent interacting with many small investors through Crowdcube (the minimum investment was set at £10).

Other benefits include conveying information, capturing higher investor willingness to pay

Rob indicated there was a benefit from **signalling** the potential success of the business to other potential investors; the original investors contributed 20% of the Crowdcube target in order to make the business 'appear successful'. The initial investment might have led to the success of Notes on Crowdcube, which overreached its target of £850,000 by an additional £50,000. Johannes's experience suggests there may be an element of **price discrimination**; he mentioned that participants were willing to fund projects that were not yet completed in exchange for the promise of a CD in the future. The platform may be capturing the higher willingness to pay among existing fans, as well as friends and family, compared with 'regular' customers who would purchase the product after its release.

4.7.3 Literature on funding platforms finds evidence of geographic expansion, price discrimination, and signalling benefits

There is evidence of a geographic widening of the investor base when using platforms

In a study on music-focused crowdfunding projects featured on a Dutch platform, Agrawal, Catalini and Goldfarb (2011) find that online crowdfunding platforms reduce the need for spatial proximity, with entrepreneurs and investors being an average of 3,000 miles apart when funded via crowdfunding.[71] While the role of geography as a limiting factor was reduced overall, the authors noted that initial investments tended to be made from the local area, and it is likely that this came from family and friends.

The literature suggests that platforms allow projects to capture a willingness-to-pay for benefits apart from financial returns

[71] Agrawal, A.K., Catalini, C. and Goldfarb, A. (2011), 'The geography of crowdfunding', NBER working paper 16820, February.

Bellflamme, Lambert and Schwienbacher (2013) examine the rewards offered by various projects featured on different crowdfunding platforms, and find that financial reward is often a secondary concern.[72] Only 77% of projects promise a reward of any kind in exchange for investment, and of these, 67% offer the right to a product instead of equity or a direct cash payment (51% of the total projects studied expected a product in return for investment). The paper suggests one reason for the success of crowdfunding is that such investors derive private benefit from participation in a project unrelated to a potential financial reward; this crowdfunding is capturing the segment of a market willing to pay more for the product.

Crowdfunding platforms can generate additional investment by signalling project quality

Additionally, Bellflamme, Lambert and Schwienbacher (2013) used a theoretical model to conclude that equity-based crowdfunding, as opposed to the use of products as payment, can act as a signal of project quality for potential investors.[73]

Agrawal et al. (2011) also found that more distant investors were likely to invest in a project as the amount of funding accumulated increases. This suggests that there is some support for the signalling effect identified by Notes as the need for initial investment to make this project appear successful on Crowdcube.

[72] Bellflamme, P., Lambert, T., and Schwienbacher, A. (2013), 'Individual crowdfunding practices', *Venture Capital: An International Journal of Entrepreneurial Finance,* **15**:4, pp. 313–33.
[73] Bellflamme, P., Lambert, T. and Schwienbacher, A. (2013), 'Crowdfunding: tapping the right crowd', *Journal of Business Venturing*, **29**:5, pp. 585–609.

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