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***Case No COMP/M.6314 – Telefónica UK/  
Vodafone UK/ Everything Everywhere/ JV***

Only the EN text is authentic.

**REGULATION (EC) No 139/2004  
MERGER PROCEDURE**

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Article 8 (1)  
Date: 4/09/2012



EUROPEAN COMMISSION

Brussels, 4.9.2012  
C(2012) 6063 final

PUBLIC VERSION

## **COMMISSION DECISION**

**of 4.9.2012**

**addressed to:**

- Telefónica UK**
- Vodafone Group**

**- Everything Everywhere**

**declaring a concentration to be compatible with the internal market  
and the functioning of the EEA Agreement**

**(Case No COMP/M.6314 – Telefónica UK / Vodafone UK / Everything Everywhere / JV)**

(Only the EN version is authentic)

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- Telefónica UK

- Vodafone Group

- Everything Everywhere

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(Case No COMP/M.6314 – Telefónica UK / Vodafone UK / Everything Everywhere / JV)

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THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to the Agreement on the European Economic Area, and in particular Article 57 thereof,

Having regard to Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings<sup>1</sup>, and in particular Article 8(1) thereof,

Having regard to the Commission's decision of 13 April 2012 to initiate proceedings in this case,

Having regard to the opinion of the Advisory Committee on Concentrations<sup>2</sup>,

Having regard to the final report of the Hearing Officer in this case<sup>3</sup>,

Whereas:

## 1. NOTIFICATION

- (1) On 6 March 2012, the Commission received a notification of a proposed concentration pursuant to Article 4 of Regulation (EC) No 139/2004 (the "Merger Regulation") by which the undertakings Everything Everywhere Limited ("Everything Everywhere"), Telefónica UK Limited ("Telefónica UK") and Vodafone Group Plc ("Vodafone Group") (together "the Notifying Parties"), would acquire, within the meaning of Article 3(1)(b) of the Merger Regulation, joint control of a newly created company constituting a joint venture (the "JV Co"), which will

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<sup>1</sup> OJ L 24, 29.1.2004, p. 1 ("the Merger Regulation"). With effect from 1 December 2009, the Treaty on the Functioning of the European Union ("TFEU") has introduced certain changes, such as the replacement of "Community" by "Union" and "common market" by "internal market". The terminology of the TFEU is used throughout this Decision.

<sup>2</sup> OJ C .....200. , p....

<sup>3</sup> OJ C .....200. , p....

offer various mobile commerce ("mCommerce") services to businesses in the United Kingdom (the "operation").

## 2. THE NOTIFYING PARTIES

- (2) **Everything Everywhere** is a joint venture created by the merger of T-Mobile UK and Orange UK that was declared compatible with the internal market by the Commission decision of 01 March 2010 in Case No COMP/M.6560 – T-Mobile/Orange<sup>4</sup>. Everything Everywhere is ultimately owned by France Télécom and Deutsche Telekom, which are involved in fixed and mobile telephony services in a number of EU Member States and worldwide.
- (3) **Telefónica UK** is a wholly-owned subsidiary of Telefónica S.A. and belongs to the Telefónica Group, which mainly offers fixed and mobile telephony services in a number of EU Member States as well as in a number of countries outside Europe, in particular in Latin America.
- (4) **Vodafone Group** is the holding company of a group of companies that is involved in the operation of mobile telecommunications networks and the provision of related telecommunications services. Vodafone Group has equity interests in 30 mobile operators globally. Vodafone Group is active elsewhere in the European Union through its wholly owned or controlled subsidiaries, and also has relationships with partner networks in over 40 further countries, including countries within the European Union. Vodafone UK Limited ("Vodafone UK"), a wholly owned and controlled subsidiary of Vodafone Group, is active in particular in the mobile telephony retail market in the United Kingdom.
- (5) The JV Co would offer various services directed at business customers in the United Kingdom. None of the JV Co's activities would be directly provided to consumers. The JV Co would provide services to the Notifying Parties as well as to third party mobile operators (the "Service Users"). In particular the JV Co plans to offer the following services:
  - (a) The provision of a platform enabling the supply of (for example payment or ticketing) transaction services accessible offline through a Near Field Communication ("NFC") enabled mobile handset as well as online via the internet (the "Wallet Platform")<sup>5</sup>. The Wallet Platform would support the supply of various related NFC services including payment in shops, ticketing,

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<sup>4</sup> Paragraph 239.

<sup>5</sup> There are two approaches to what is commonly described as a mobile wallet: (i) a container wallet: the container wallet at a minimum provides the consumer with an overview of all applications that are loaded into the secure element (see Recital (53)) and allows him or her to select which payment cards are switched on and off and to set priorities between them. This mobile wallet serves as a container for all the consumer's virtual payment cards (the graphical user interface component) and allows the configuration of the secure element (the technical component) even from different card issuers, in a similar fashion to a consumer having several payment cards physically on his or her leather wallet; (ii) an app-centric wallet: it contains only one application which can include several cards, but from the same issuer. Each individual card stored on the secure element (for example a payment card) is represented by a corresponding (graphical user interface) application on the mobile handset. A card belonging to an individual Service Provider therefore shows up as an individual application on the mobile handset. In the physical word, it would be equivalent to a plastic card.

and access services as well as voucher and loyalty services, enabling the provision of digital vouchers to consumers (the "Transactions"). These services would be provided to commercial entities including banks, other payment card issuers (credit, debit card, stored value etc.), loyalty card issuers, ticket issuers and other retailers (the "Service Providers");

- (b) The provision and sourcing of mobile advertising platform services so as to provide a single point of contact for advertisers and media agencies who wish to develop advertising campaigns targeted at customers of Mobile Network Operators ("MNOs") and Mobile Virtual Network Operators ("MVNOs") (together "mobile operators" or M(V)NOs) whether through push messages, coupons and vouchers, or through the sale of advertising space;
  - (c) The provision of data analytics services to the JV Co's Transactions and advertising customers in respect of data collected from both its Transaction services and advertising services<sup>6</sup>.
- (6) Customers of the JV Co, both Service Providers and advertisers, will still be able to negotiate with the Notifying Parties individually. For example, if a card issuer prefers to offer a service to the subscribers of one Notifying Party only, it remains free to negotiate a price with that Notifying Party. The Notifying Party would then have to use the services operated by the JV Co (for example to load the issuer's application (a mobile application ("app") is a software application designed to run on smartphones, tablet computers and other mobile devices. They are available through apps distribution platforms, which are typically operated by the owner of the mobile operating system, such as the Apple App Store, Google Play, Windows Phone Marketplace or BlackBerry App World) onto its mobile wallet, at a price charged to the Notifying Party)<sup>7</sup>.

### 3. THE OPERATION AND THE CONCENTRATION

- (7) The operation consists of the creation of the JV Co between Everything Everywhere, Telefónica UK and Vodafone UK. Each of the shareholders will have a 33.3% shareholding in the JV Co and the possibility of exercising decisive influence over it through the ability to veto decisions that are essential for the strategic commercial behaviour of the JV Co: appointment of senior management and determination of the budget, adoption of and amendments to the Business Plan, and market-specific rights<sup>8</sup>.

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<sup>6</sup> The JV Co would also act as a virtual transaction processor, enabling retailers to analyse consumers' retail activity. The JV Co would not actually process any transactions itself. Instead, the JV Co would partner with existing third party transaction processors, acting as an intermediary in order to capture basic information on online and physical purchases made by users of the mobile wallet, together with certain details about the user. The JV Co could then pass this information back to the relevant merchant as a value-added service. Although not a relevant product market (as the JV Co's virtual transaction processor services are not being offered as a distinct product), such services are linked to the advertising and data analytics elements of the JV Co.

<sup>7</sup> Response from the Notifying Parties to the Commission's Request for Information of 24 April 2012, page 1, paragraph 1.

<sup>8</sup> The Notifying Parties explain that [...]\*

\*Parts of this text have been edited to ensure that confidential information is not disclosed; those parts are enclosed in square brackets and marked with an asterisk.



- (8) The board of the JV Co will consist of at least seven directors. Unanimous shareholder approval will be required for the appointment of the Chief Executive Officer, who will be the only executive director on the board. In addition, each Shareholder will appoint two non-executive directors to the board. Unanimous board approval will be required for any decision to employ or engage any senior employee and unanimous shareholder approval will be required for any decision to dismiss an executive director, officer or senior employee in circumstances in which the JV Co incurs or agrees to bear redundancy or other costs that exceed given thresholds. Unanimous board consent will be required for approval of the annual budget. Accordingly, Everything Everywhere, Telefónica UK and Vodafone Group will exercise joint control over the JV Co.
- (9) The JV Co will employ management responsible for its day-to-day operations and will have access to sufficient resources, including finance, staff and assets (tangible and intangible) that will enable it to conduct its business activities on a lasting basis. The JV Co will be active on the market as an autonomous economic entity and all relationships with its parent companies will be at arm's length.
- (10) Accordingly, the JV Co is a full-function joint venture performing on a lasting basis all the functions of an autonomous economic entity.
- (11) The operation therefore constitutes a concentration within the meaning of Article 3(1)(b) of the Merger Regulation<sup>9</sup>.

#### **4. UNION DIMENSION**

- (12) The undertakings concerned have a combined aggregate worldwide turnover for the year 2010 of more than EUR 5 000 million<sup>10</sup> (Everything Everywhere (France Télécom: EUR [...]\*, Deutsche Telekom: EUR [...]\*), Telefónica UK: EUR [...]\*, Vodafone Group: EUR [...]\*). Each of the undertakings concerned has a Union-wide turnover for the year 2010 in excess of EUR 250 million (Everything Everywhere (France Télécom: EUR [...]\*, Deutsche Telekom: EUR [...]\*), Telefónica UK: EUR [...]\*, Vodafone Group: EUR [...]\*), without achieving more than two-thirds of their aggregate Union-wide turnover within one and the same Member State.
- (13) The operation therefore has a Union dimension within the meaning of Article 1(2) of the Merger Regulation.

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[...]\* (Annex 4 to Form CO: Note on Jurisdiction, point 2.8).

<sup>9</sup> Therefore, the argument put forward by Three UK, considering that the JV Co would be "*akin to a joint selling agreement*" is irrelevant (response from Three UK to Questionnaire Q1 of 7 March 2012, question 105; agreed minutes of telephone conference call of 13 February 2012 with Three UK).

<sup>10</sup> Turnover calculated in accordance with Article 5(1) of the Merger Regulation and the Commission Consolidated Jurisdictional Notice (OJ C 95, 16.4.2008, p. 1).

## **5. PROCEDURE**

- (14) The operation was notified to the Commission on 6 March 2012.
- (15) On 13 April 2012, the Commission raised serious doubts as to the compatibility of the operation with the internal market and initiated proceedings pursuant to Article 6(1)(c) of the Merger Regulation ("the Article 6(1)(c) Decision").
- (16) On 20 April 2012, the Notifying Parties requested access to key documents necessary for the preparation of the Article 6(1)(c) Decision. On 23 April 2012, a non-confidential version of certain key statements of third parties collected during the Commission's first phase investigation was provided to the Notifying Parties after the Article 6(1)(c) Decision.
- (17) Following the initiation of proceedings, the Notifying Parties provided several separated submissions replying to specific aspects raised in the Article 6(1)(c) Decision.
- (18) On 2 May 2012, the Notifying Parties requested an extension of the time period for the second phase investigation by 17 working days pursuant to the second subparagraph of Article 10(3) of the Merger Regulation.

## **6. INVESTIGATION OF THE OPERATION**

- (19) Given the complexity of the case, considering in particular the complex nascent markets at stake, the Commission has sought to make use of all available means of investigation pursuant to Article 11 of the Merger Regulation.
- (20) The Commission took a number of investigative steps in order to ascertain the most likely outcome of the operation<sup>11</sup>. The Commission analysed questionnaires which were sent, inter alia, to competing M(V)NOs, handset manufacturers (or Original Equipment Manufacturers, ("OEMs")), mobile operating system ("OS") providers, financial institutions, retailers, advertising agencies, data analytics providers, and bulk Short Message Service ("SMS") aggregators.<sup>12</sup> The Commission also undertook other written and oral contacts with these market participants and other third parties such as the telecommunication regulator in the United Kingdom Ofcom, the GSM Association ("GSMA")<sup>13</sup>, and consumer associations. In addition, the Commission

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<sup>11</sup> Paragraph 21 of the non-horizontal merger guidelines: "The Commission examines the various chains of cause and effect with a view to ascertain which of them is the most likely".

<sup>12</sup> The market investigation included four questionnaires in first phase: Q1 – "Questionnaire to MNOs and MVNOs", Q2 – "Questionnaire to providers of mobile payment, advertising and data analytics services", Q3 – "Questionnaire to customers of mobile payment, advertising and data analytics services" and Q4 – "Questionnaire to handset manufacturers. Seven questionnaires were launched in second phase, including to additional addressees: R1 – "Questionnaire to financial services providers", R2 – "Questionnaire to handset manufacturers and/or mobile OS developers", R3 – "Questionnaire to mobile advertising customers/competitors", R4 – "Questionnaire to Independent Distributors and Resellers", R5 – "Questionnaire to Bulks SMS Aggregators and Customers", R6 – "Questionnaire to data analytics providers" and R7 – "Questionnaire to MNOs and MVNOs".

<sup>13</sup> The GSM Association (GSMA) is an association of mobile operators and related companies devoted to supporting the standardisation, deployment and promotion of the GSM mobile telephone system. The GSMA was formed in 1995 (see more information at <http://gsma.com>).

analysed a substantial amount of internal documents belonging to the Notifying Parties, and to several third parties. Given the nascent state of the markets under consideration, there is limited data available and therefore no extensive empirical analysis could be undertaken. On the other hand, the Commission considered and assessed a numerical analysis of foreclosure incentives submitted by the Notifying Parties.

- (21) In its assessment, the Commission also took into account as general background information the facts described in the Green Paper "Towards an integrated European markets for card, internet, and mobile payments"<sup>14</sup>.
- (22) Against this background, it is important to stress that the assessment of the competitive impact of the operation involves a complex legal and economic analysis, the results of which are based on the totality of the available evidence<sup>15</sup>.
- (23) In particular regarding the questionnaires, it is important to note that the market investigation is by no means an opinion poll. For instance, the fact that the majority of third parties provide a similar opinion in reply to a specific question, can only be an indication for the Commission's own investigation, not a foregone conclusion. Likewise, it would not be appropriate to assume that the answers to the questionnaires can always be considered as being thought-through objectively. The specific level of knowledge of third parties may vary (this is in particular relevant in this Decision, considering the fact that relevant markets are nascent), the questions may have been misunderstood, the replies may be more or less representative, and the opinion provided might be biased to influence the Commission's decision-making process in a certain way<sup>16</sup>.
- (24) As in any other merger investigation, the Commission has therefore carefully analysed, interpreted and weighed all views expressed during the market investigation. However, the Commission considers that the relevant statements had to be weighed against all available evidence. It is also important to stress that the market investigation is an on-going process, in the course of which the Commission usually refines and narrows the issues analysed and clarifies unclear and contradictory opinions with third parties.
- (25) As a result, not only were various written questionnaires sent, but detailed interviews were carried out, to tackle potential omissions in some responses, to clarify unclear opinions from the written responses and to learn more about some key factual aspects of the case. The minutes of these interviews were sent to the interviewees for correction

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<sup>14</sup> The Green Paper, published in January 2012 can be found at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0941:FIN:EN:PDF> The 310 non confidential answers and a feedback statement (June 2012) can be found at: [http://ec.europa.eu/internal\\_market/payments/cim/index\\_en.htm](http://ec.europa.eu/internal_market/payments/cim/index_en.htm)

<sup>15</sup> See Commission decision of 27 June 2007, Case No COMP/M.4439 - Ryanair/Aer Lingus, paragraphs 35 and following. According to this Decision, the fact that single pieces of evidence may not support a certain conclusion, cannot as such call into question the Commission's assessment, since the Commission cannot base its decision on one single piece of evidence, but must collect as much evidence as possible, analyse all available facts and opinions and weigh all the available evidence when deciding on the compatibility of a transaction with the internal market.

<sup>16</sup> In particular, the Commission analyses opinions by (potential) competitors very carefully, since these might have an interest in making the transaction of their competitors more difficult.

(and to suggest deletion of confidential business information) before they were added to the case file<sup>17</sup>.

## **7. BACKGROUND INFORMATION**

### **7.1. Introduction to mCommerce**

- (26) The operation takes place in the new but fast growing mCommerce sector, which encompasses mobile payments, mobile advertising and data analytics.

#### *7.1.1. The rise of smartphones and tablets*

- (27) The development of mCommerce has been made possible by the rapid market penetration of smartphones (such as Apple's iPhone, handsets supporting Google's Android mobile OS, Research in Motion's Blackberry, and Nokia's future mobile handsets supporting Microsoft's Windows Phone platform) in the United Kingdom, and the consequent supply of new services for mobile handsets<sup>18</sup>.
- (28) The functionalities available through mobile handsets<sup>19</sup> has been gradually increasing for many years. However, this has increased exponentially since the introduction of smartphones, with consumers increasingly expecting their mobile handsets to perform more functions.
- (29) The uptake of smartphones in the United Kingdom has also been remarkably rapid, as illustrated in Table 1 below<sup>20</sup>. This growth is expected to continue, with shipments predicted to double by 2015. Most industry commentators believe that smartphones will dominate the future market for mobile phones, with the potential impact that internet use may quickly become the primary use of mobile handsets<sup>21</sup>.

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<sup>17</sup> Where answers were unclear or contradictory, the Commission generally attached greater weight to the interview held after the written reply and aimed at clarifying the written answers.

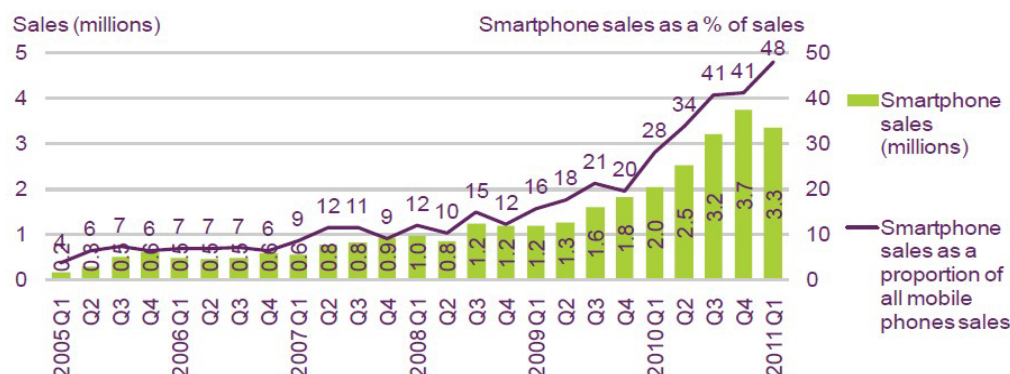
<sup>18</sup> For the purpose of this decision, mobile handsets are defined as any device which can make or receive voice calls or SMS/Multimedia Messaging Service ("MMS") messages over the mobile networks.

<sup>19</sup> For the purpose of this Decision, smartphones are mobile handsets operated through an advanced OS and have for example access to the internet.

<sup>20</sup> Ofcom Communications Market Report 2011, figure 5.20.

<sup>21</sup> The International Data Corporation European Mobile Phone Tracker research, March 2011 found that smartphones accounted for 44% of all new mobile handsets shipped in Western Europe in the fourth quarter of 2010, an increase of 99.4% on the same period in 2009. The International Data Corporation predicts that, by 2015, the number of smartphones being shipped will have doubled compared to 2011; this is compared with overall mobile handset market growth of only 3.2% between 2010 and 2011.

**Table 1: Market penetration of smartphones in the United Kingdom**



Source: GfK Retail and Technology Ltd, based on factual point-of-sale information

(1) Smartphones are defined as any handset running an open operating system, including Symbian (6.1 and above), Android, BlackBerry, iPhone, Palm, Windows Mobile or Linux operating systems;

(2) England, Scotland and Wales only (excludes Northern Ireland);

(3) Based on GfK's coverage of 95% of the market – data have been extrapolated to represent whole market;

(4) Only represents sales through consumer channels, i.e. most business connections are excluded

- (30) This rapid uptake has resulted in smartphones comprising a significant - and fast-growing - segment of mobile handsets. According to the Notifying Parties, around [70-80]% of all mobile users in the United Kingdom are expected to have a smartphone by 2015. Recent industry reports have stated that the number of smartphones sold exceeded the number of Personal Computers ("PCs") sold over the course of 2011<sup>22</sup>.
- (31) Smartphones can be differentiated from traditional mobile phones because they are operated through an advanced OS (such as Apple iOS or Google Android<sup>23</sup>) that enables various features that are similar to PCs, including easier internet connectivity by enabling the use of open browsers that are similar to those used on PCs and not restricted to the websites they can browse, the ability to download and install a very wide variety of apps, multiple communication options including emails, internet protocol ("IP") based notifications through apps ("IP-based push notifications"), greater processing power, and larger screens. These attributes enable consumers to use their mobile phones for a variety of tasks that could previously only be performed on static PCs<sup>24</sup> in an even more convenient manner because most consumers carry their smartphone with them at all times and, because the device is always powered on, it makes it much simpler to use for everyday tasks such as checking emails than using a PC (which requires booting up etc.). This also includes carrying out functions that, until recently, would have been seen as involving information too sensitive to be sent by or kept on a mobile handset (for example,

<sup>22</sup> <http://www.canalys.com/newsroom/smart-phones-overtake-client-pcs-2011>.

<sup>23</sup> See, for example, Figure 5.7 of Ofcom's International Communications Market Report 2011.

<sup>24</sup> The Ofcom Communications Market Report 2011, section 1.7.9, notes that 32% of households in the United Kingdom now use their mobile handset to access data services (internet, emails, web-enabled apps etc.) and such use also takes place in the home, not just when away from a traditional PC. The Ofcom Communications Market Report 2011, section 1.5.6, also notes that 33% of adult smartphone users in the United Kingdom stated that their mobile handset is the most important device for accessing the internet. Smartphones are also configured to run through Wi-Fi networks (Wi-Fi is a popular technology that allows an electronic device to exchange data [wirelessly](#) (using [radio waves](#)) over a [computer network](#), including [high-speed Internet](#) connections).

mobile banking, which is now offered by most high street banks in the United Kingdom, allows consumers to receive account information via SMS)<sup>25</sup>.

- (32) A recent study shows that consumers in the United Kingdom are increasingly using their mobile handsets to access the internet<sup>26</sup>. Nearly 8.8 million mobile owners in the United Kingdom used an app that connected to the internet during April 2011, with Google Maps ranking as the most accessed app with 6.4 million unique users, followed by Yahoo's Weather app with 3.6 million users and Facebook's app with 3.5 million unique visitors.
- (33) Parallel to the increased uptake of smartphones, tablets are also becoming increasingly popular with consumers. The mobility, and therefore convenience, of tablets, together with functionality which is near-identical to most PCs, has resulted in consumers choosing to purchase a tablet rather than a PC. A recent report by Gartner has shown that European sales of PCs have fallen 11% as a result of increased switching to tablets<sup>27</sup>.
- (34) One of the features of smartphones is the presence of an OS. The OS owners enter into agreements with both OEMs and M(V)NOs. Generally, each MNO is likely to enter into a variety of contractual arrangements with OS providers. These typically include licence agreements, app development agreements (developer agreements on standard OS provider terms to develop and supply apps to end users using the relevant OS platform); and commercial agreements for the provision of services [...]\*.
- (35) Fuller contractual arrangements are more commonly entered into between the OS provider and the OEM, rather than the MNO. For example, an MNO may purchase a mobile handset from a particular OEM (such as Samsung) which happens to run on Android OS. The MNO may wish to specify a certain amount of customisation on that handset, such as including particular apps on the mobile handset's homescreen. However, the ensuing licence agreement will be between the OS provider and the OEM, rather than with the MNO (except where the OEM and the OS provider are the same entity: [...]\*.
- (36) MNOs also have contractual agreements with OEMs regarding the supply of mobile handsets that are sold via the MNOs' retail channels. The type of purchasing agreements entered into (in terms of geographical scope of purchasing contracts, or the selection criteria for mobile handsets) varies between the different Notifying Parties. As part of these purchasing agreements, [...]\* can be negotiated<sup>28</sup>.

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<sup>25</sup> Similarly, an increasing number of airlines offer the option of a "mobile ticket", sent to the consumer's mobile handset and used, without printing, to access airports and board flights.

<sup>26</sup> Data from the GSMA Mobile Media Metrics (MMM) application key measurements report, published on 22 June 2011.

<sup>27</sup> [http://digitalmedia.strategyeye.com/article/IOUifDi698Y/2011/11/14/european\\_pc\\_sales\\_fall\\_11\\_as\\_consumers\\_switch\\_to\\_tablets/?nsl=uCIQwUvu825k](http://digitalmedia.strategyeye.com/article/IOUifDi698Y/2011/11/14/european_pc_sales_fall_11_as_consumers_switch_to_tablets/?nsl=uCIQwUvu825k)

<sup>28</sup> See Annex 37 of the Form CO: handset procurement policies of the shareholders.

- (37) Kantar Worldpanel find that the Android OS now makes up the largest proportion of smartphones, with a share in the big five countries (Germany, the United Kingdom, France, Italy and Spain) growing from 38.8% in May 2011 to 60% in May 2012. Android also retained its leading position in the United Kingdom in the 12 weeks of sales preceding 13 May 2012 with 52.5% share, increased from 48.3% a year ago. Samsung took 56% of these sales and HTC holds 29%. iOS, the mobile OS of Apple increased its share of the smartphone market in the United Kingdom in the 12 weeks of sales preceding 13 May 2012 from 21.4% a year before to 30.9%<sup>29</sup>.
- (38) As a further background element, the Commission, considering the replies to the market investigation, is of the view that since, as will be discussed in section 7.1.3, the technology used is based on NFC which does not depend on a mobile signal such as 3G or 4G (3rd and 4th generation of mobile telecommunications technology), and the main difference between 3G and 4G will be speed and capacity of connection, which are not relevant parameters for the assessment of this operation, the introduction of 4G/LTE (Long Term Evolution) will not affect the conditions of competition for mobile wallet services or advertising and data analytics to any material extent.

#### 7.1.2. *Retail mobile telephony in the United Kingdom*

- (39) The Notifying Parties are the three biggest MNOs in the United Kingdom. There is a fourth MNO in the United Kingdom, Three UK, which is not party to the JV Co<sup>30</sup>.
- (40) According to Ofcom's Communications Market Report from August 2011, the Notifying Parties account for 90.5% of retail mobile revenues (including revenues derived from MVNOs)<sup>31</sup> in the United Kingdom. Three UK market share is 9.5% in 2010, 0.8% higher than the year previously. Three UK is however the fastest growing of the four MNOs and has an estimated market share of [10-20]% when considering smartphones only (smartphones are required for customers to obtain mobile wallet services, making smartphone market shares a relevant element for the

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<sup>29</sup> <http://www.kantarworldpanel.com/#/News/news-list/Android-now-holds-60-percent-of-the-European-market>.

<sup>30</sup> [...]\*.

<sup>31</sup> These market shares include the sales of MVNOs made by the MNOs, page 288 of the Ofcom report. These market shares are computed using revenues. Using connection numbers instead of revenues, the market share of Three UK is slightly lower, at 7% in 2010 and the Notifying Parties (including connections derived from MVNOs) account for 93% (page 15 of the Ofcom report). The total market share of parties outside of the JV Co (including MVNOs and Three UK) in the retail mobile market had risen to over [10-20]% during the first half of 2011 considering revenues, and were around [10-20]% considering subscriber numbers (see Annex 40 to Form CO, page 3).

competition analyses)<sup>32</sup>. The penetration rate<sup>33</sup> of the mobile communication market is more than 136% in October 2011 the United Kingdom<sup>34</sup>.

- (41) The Notifying Parties submit that around 100 MVNOs are operating in the United Kingdom. These include retailers in other sectors with established brands and distribution networks such as Virgin Mobile, or the retailers Tesco and Asda. Others such as Lebara Mobile and Lyca Mobile serve niche markets (for example migrant communities). The Notifying Parties submit that there seems to have been an entry wave in 2010/2011. For 2010 it was estimated that the total market share of MVNOs in terms of revenues was around [5-10]%<sup>35</sup>. The Commission notes that this figure submitted by the Notifying Parties constitutes a conservative estimate in comparison to the market share figures estimated by Ofcom.
- (42) In the United Kingdom, mobile handsets are sold directly in the shops of the Notifying Parties. However, the indirect channels, such as Carphone Warehouse<sup>36</sup> and Phones 4U, account for a significant proportion of the retail mobile handset supply market. Data submitted by the Notifying Parties indicate that independent retailers would have a market share of at least around [40-50]% for mobile handsets<sup>37</sup>. [...],an independent consultancy, estimates that on a sales value basis, Carphone Warehouse and Phones 4U jointly have a market share of [40-50]%<sup>38</sup>. In addition, end- customers can turn to generalist stores, such as Comet, Tesco and Argos, as well as internet-only retailers.
- (43) The Notifying Parties explain that [...]\*, but note that [30-40]% of Android smartphones are sold by independent retailers in the United Kingdom<sup>39</sup>.
- (44) Post-pay mobile subscriptions rose to 48.7% of United Kingdom subscribers in 2010 from 34.4% in 2005 (from 22.6 to 39.5 million subscriptions). For post-pay subscriptions the majority of mobile handsets are subsidised. Subsidies for pre-pay

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<sup>32</sup> Response to the Commission's Request for Information of 24 May 2012, question 2, [...]\* study, table 4 "Share of smartphone sales sold with MNO SIMs 2011".

<sup>33</sup> The mobile penetration rate describes the number of active mobile subscriptions (expressed as a percentage) within a specific population. In many Member States of the European Union, the mobile penetration rate is over 100%. This reflects a trend of many users buying second or third subscriptions.

<sup>34</sup> Source: DAE Scoreboard Report on Electronic Communications Market indicators ([http://ec.europa.eu/information\\_society/digital-agenda/scoreboard/docs/pillar/electronic\\_communications\\_2012.pdf](http://ec.europa.eu/information_society/digital-agenda/scoreboard/docs/pillar/electronic_communications_2012.pdf)).

<sup>35</sup> Form CO paragraph 890 and response to the Commission's Request for Information of 31 May 2012, updated response to Annex 1. The Commission understands that Three UK does not derive revenues from MVNOs.

<sup>36</sup> Carphone Warehouse is the largest independent retailer of mobile phones (based on value). A [...]\* report estimates that Carphone Warehouse's share of sales is [30-40]%. According to the report Carphone Warehouse's sales are much more heavily geared towards post-pay contract customers, than pre-pay customers. The report states that there are three key factors to The Carphone Warehouse's success: "a broad range of phones and networks to choose from, impartial advice(...), and excellent service (...)". Source: [...]\*, January 2011, page 61.

<sup>37</sup> Response of the Notifying Parties to the Commission's Request for Information of 24 May 2012, pages 14-15.

<sup>38</sup> [...]\* January 2011.

<sup>39</sup> Agreed minutes of meeting of 29 May 2012 with the Notifying Parties.



subscriptions have largely been phased-out since May 2011<sup>40</sup>. The contract duration of post-pay contracts in the United Kingdom has increased in recent years (2-year contracts accounted for 70% of new subscriptions in 2010 whereas in 2005 88% of new subscriptions were only 12 months contracts). Post-pay contract subscribers spend three times as much per user as pre-paid users, and make 73.9% of all calls in the United Kingdom.

- (45) The smartphones needed to run mobile payments and mCommerce apps are mostly (77%) sold subject to a post-pay contract. Smartphones now account for over 48% of mobile handset sales in the United Kingdom<sup>41</sup>.

### 7.1.3. Mobile Transactions

- (46) Accompanying the rise of smartphones has been the growth of mobile transactions: allowing consumers to carry out financial and other transactions using their mobile handsets online via the internet. Consumers in the United Kingdom are increasingly using mobile phones to carry out transactions of all types. The recent [...] mCommerce survey<sup>42</sup> indicates that mobile online transactions have already become widely used in the United Kingdom, with 51% of consumers (around 23 million people) using their mobile handset to make payments, redeem coupons or research products and services. Whilst mobile payments currently account for only a tiny fraction of all payments, the Notifying Parties submit that a high uptake is forecast for both online payments and physical transactions using NFC technology.

#### 7.1.3.1. Online payments

- (47) A number of internet companies (or over the top ("OTT") players - companies with no traditional mobile networking capability but with the ability to provide services using data connectivity over mobile handsets) and financial services entities have announced plans to become active in providing mobile and online payments platforms:
- (a) **Google** has integrated its Google Checkout service into Google Wallet<sup>43</sup>. Google Wallet will also be integrated within the Android Market, YouTube and Google+.<sup>44</sup> This means, according to the Notifying Parties, that users of Google Checkout in the United Kingdom (which primarily operates in the same way as PayPal, by providing an online payment facility), can now be sent coupons and vouchers, whether to their mobile handset or registered PC;
  - (b) **PayPal** is already offering consumers in the United Kingdom the capability to link their credit or debit card to a mobile handset number in the United Kingdom and then use this to make purchases. This is in addition to PayPal's

<sup>40</sup> <http://www.mobilenewscwp.co.uk/2011/05/prepay-price-increase-as-subsidies-removed/>. In October 2011, the share of contract-based mobile subscriptions was 50% (DAE Scoreboard Report on Electronic Communications Market indicators ([http://ec.europa.eu/information\\_society/digital-agenda/scoreboard/docs/pillar/electronic\\_communications\\_2012.pdf](http://ec.europa.eu/information_society/digital-agenda/scoreboard/docs/pillar/electronic_communications_2012.pdf))).

<sup>41</sup> Ofcom report from August 2011, page 264, figure 5.20.

<sup>42</sup> [...] Ad Spend Study 2010.

<sup>43</sup> Reported on 17 November 2011.

<sup>44</sup> <http://www.engadget.com/2011/11/17/google-checkout-merges-with-google-wallet-completing-the-inevit/>.

existing online commerce activities, which are accessible through mobile handsets. PayPal also unveiled in May 2012 a new app called 'inStore' that will allow customers to pay in store by generating a barcode on the screen of the handset that the shop will scan to take the money from the customer's account<sup>45</sup>;

- (c) **Apple's** consumers in the United Kingdom registered with its iTunes service - which is included as a pre-loaded app on all iPhones - can register their card details in iTunes, and use that to purchase a wide range of goods through their iPhone or iPad in the Apple app store. Apple announced on 11 June 2012 that it would be launching Passbook, as part of its next generation of mobile OS, iOS6. Passbook is an application that will include event tickets, travel passes, coupons and merchant loyalty cards. Initially it will be limited to pre-paid cards. The Notifying Parties speculate that since Apple has consumer's credit cards registered through iTunes, it could develop payment functions on this basis. The Notifying Parties further consider that although it is possible that Apple might not launch an NFC wallet in the iPhone 5 – some have speculated that it might wait to see how the mobile wallet market develops first – it can be regarded as highly likely that they would follow up within one year, or at the very latest two years. If Apple were to leave it longer than 2-3 years before entering the market, it would run a significant risk of losing market share in mobile handsets, as consumers would seek out mobile handset alternatives with mobile wallet capability<sup>46</sup>;
- (d) **Visa** announced in April 2012 the launch of V.me<sup>47</sup>. By end 2012 V.me will allow customers in the United Kingdom to store one or more of their Visa, MasterCard, American Express or Discovery cards on a V.me account. When ready to pay at a merchant website, customers will be able to access the card they want to use by entering their V.me email address and password during the checkout process, rather than their credit card details. V.me is expected to offer mobile payment and discount facility in the future, similar to the JV Co facility.
- (e) **MasterCard** also announced one week later than the launch of V.me the launch of its PayPass Wallet Services<sup>48</sup>. The PayPass Wallet is an extension of MasterCard's already existing PayPass brand, which offers tap-and-go, NFC-enabled payments that work via PayPass-enabled (NFC) phones, cards, key fobs, or mobile tags. Like V.me, MasterCard's PayPass Wallet will allow consumers to add their Visa, American Express and Discover cards, whether credit, debit or prepaid to the Paypass Wallet;

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<sup>45</sup> <http://www.dailymail.co.uk/sciencetech/article-2152118/Paypal-unveils-new-app-lets-pay-shops-direct-smartphone--queuing-till.html>.

<sup>46</sup> Response from the Notifying Parties to the Commission's Request for Information of 24 May 2012, page 13, question 35.

<sup>47</sup> See <https://www.ve.me/> and <http://www.zdnet.com/blog/london/visa-to-launch-vme-digital-wallet-by-late-2012/4470>.

<sup>48</sup> [https://paypass.com/tap\\_and\\_go/index.html](https://paypass.com/tap_and_go/index.html).

- (f) **The Mobile Money Network**<sup>49</sup> ("MMN") recently launched a mobile online checkout service in the United Kingdom called "Simply Tap"<sup>50</sup>;
- (g) **Microsoft** announced at its Windows Phone Summit on 20 June 2012 that every new Windows Phone 8 will include a "Google Wallet-like", NFC-enabled contactless payment feature called Wallet Hub<sup>51</sup>. Microsoft sees its future mobile wallet as a hub which could integrate several financial and payment instruments and additional services such as loyalty points, coupons and vouchers<sup>52</sup>. From a technical perspective, the Microsoft wallet would not be an app, but rather an ecosystem in which the financial instruments (such as credit cards) are itself apps. Microsoft states that the Microsoft wallet will be preloaded on all windows phones. Every version of a Windows Phone will come with a version of the wallet but not all of them will necessarily be used for payment instruments<sup>53</sup>.
- (48) In addition, there are a number of other mobile payment ("mPayment") solutions on the market which, although they are not contactless in the NFC sense, enable transactions to be processed "on the move" without the typical point of sale ("PoS") terminal. Examples include one dimension barcode or double dimension quick response. These are payments taken by scanning a barcode on the handset screen<sup>54</sup>. PayPal also offers the ability to pay in store, for example Pizza Express restaurants in the United Kingdom, with a PayPal account<sup>55</sup>.

#### 7.1.3.2. NFC technology

- (49) The technology used for undertaking contactless physical transactions on mobile phones is anticipated to be principally based on NFC technology. NFC is essentially a technology standard<sup>56</sup>, which enables secure short range communication between any handset with the relevant chipset in it and another similarly enabled handset (typically a reader), when it is placed within a short distance (typically 3-5mm). The Notifying Parties submit that NFC-based transactions are already becoming

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<sup>49</sup> The Mobile Money Network is a joint venture between Best Buy Europe and Monitise plc. It also has the personal backing of Charles Dunstone, founder of The Carphone Warehouse. Best Buy Europe is a joint venture between Carphone Warehouse Group plc and Best Buy Co Inc. Monitise plc offers mobile banking services and its services are available to customers of various banks such as the Royal Bank of Scotland, Natwest and Lloyds TSB – Form CO page 173.

<sup>50</sup> With Simply Tap, participating retailers sign up and provide product codes for their products. Consumers register with MMN by downloading the MMN app and then by storing their profile and card details. After initial registration, when a consumer views an advert or sees a product online or in-store, they can type the product code into the app or send the product code via SMS to purchase the product without having to re-enter their details. The Simply Tap service is available on any handset with any MNO, can be linked with any payment card and has the potential to be used in any United Kingdom merchant's store. It was launched in November 2011 and has signed up with retailers including The Carphone Warehouse.

<sup>51</sup> <http://www.mobilepaymentstoday.com/article/196195/Microsoft-gets-in-the-NFC-wallet-game>.

<sup>52</sup> Agreed minutes of telephone conference call of 02 May 2012 with Microsoft.

<sup>53</sup> Agreed minutes of telephone conference call of 2 May 2012 with Microsoft.

<sup>54</sup> <http://www.inc.com/news/articles/201109/paypal-to-offer-mobile-payments.html>.

<sup>55</sup> <https://www.paypal-press.co.uk/Latest-News/PizzaExpress-PayPal-lead-the-way-by-launching-an-innovative-in-restaurant-mobile-payment-system-that-makes-waiting-to-pay-the-bill-a-thing-of-the-past-f8.aspx>.

<sup>56</sup> Originally released as ISO 18092 in October 2003.

widespread in a variety of contexts, such as building access, transport and payments<sup>57</sup>.

- (50) An NFC device can communicate in active or passive mode. An NFC passive tag, displayed on a poster or embedded in a plastic card can be read by an active NFC handset. In this case the initiator (the mobile handset) generates a radio signal and the target is powered by an electromagnetic field.
- (51) As a consequence of this active/passive mode, there are three possibilities of interaction which have been chosen by the industry (NFC forum):
  - (a) The Reader/Writer mode: the NFC handset read the passive tag. This situation is similar to the barcode or Quick Response communication method.
  - (b) The Card Emulation Mode: the handset is working in passive mode and the reader in active mode. This is the classic situation of contactless card or transport ticketing.
  - (c) The Peer-to-Peer ("P2P") mode: the two devices are in active mode and can exchange information. This mode could be used for person to person exchange of data (business card) or cloud<sup>58</sup>-based payments.
- (52) For NFC-based mobile payments to be made, the mobile handset should in particular contain an NFC antenna, and a Secure Element ("SE").
- (53) The SE is a piece of hardware and software capable of securely hosting apps and their confidential and cryptographic data in accordance with the rules and security requirements set out in a set of well identified trusted authorities.
- (54) There are several possible locations for an SE in the case of a payment transaction performed via a mobile handset:
  - (a) On the Subscriber Identification Module ("SIM") card<sup>59</sup>;
  - (b) On a (micro)Secure Digital ("SD") card which can be integrated in some mobile handsets, including at the same time the NFC technology;
  - (c) On an external device such a Universal Serial Bus ("USB") key;

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<sup>57</sup> Aside from NFC, there are a number of other contactless technologies on the market, including blue-tooth and Radio frequency identification (RFID).

<sup>58</sup> Cloud computing is a technology that uses the internet and central remote servers to maintain data and applications. Cloud computing allows consumers and businesses to use apps without installation and access their personal files at any computer with internet access. This technology is said to allow for much more efficient computing by centralizing storage, memory, processing and bandwidth.

<sup>59</sup> A Universal Integrated Circuit Card ("UICC") is used in the mobile communications industry, as defined in ETSI TS 102 221. UICC is a new generation SIM card included in mobile phones or laptops used in some high speed wireless 3G networks. The UICC can store contacts and enables a secure and reliable voice and multi-media data connection, global roaming and remotely adds new apps and services. Smaller in size than a full card, it contains a computer, or microprocessor, its own data storage and software. It is an evolution of the SIM used to identify subscribers in GSM networks. As UICC is still often referred to as a SIM card in the industry, the term SIM card will be used throughout the present Decision for the sake of ease of reference.

- (d) In the chip which is embedded in the mobile handset's hardware ("embedded SE");
  - (e) In the cloud.
- (55) The SE is provided by an issuer. The SE issuer is a trusted party responsible for the issuance and maintenance of an SE. Typically it will be the MNO for SIM-based SEs, the OEM or OS provider for embedded SEs, and the SE supplier for external SEs. The issuer has control over access to the SE.
  - (56) The cost of an embedded SE or of a SIM-based SE is low, in particular in comparison with the price of a smartphone. Moreover, with mass production, the SE cost is likely to diminish.
  - (57) SPs are banks, other payment card (credit, debit, stored value etc.) issuers, loyalty card issuers, ticket issuers, etc. that will be able to offer their mobile services (mobile payment, mobile ticketing, mobile couponing, etc.) to customers via the JV Co.
  - (58) SPs need to have their mobile services apps installed in the mobile handset. For security reasons some of these apps can be hosted only on a SE.
  - (59) To personalise the mobile app and load it on the SE, one or more Trusted Service Managers ("TSMs") are used.
  - (60) TSMs ensure the technical connections between SPs and SEs and provide end-to-end security between them.
  - (61) The services provided by TSMs include the provisioning of virtual (payment) cards in the mobile wallet, the personalising of these cards, and the lifecycle management of these cards. A TSM combines data delivery with security. Once a TSM has provisioned a payment app, it is not involved in the payment process itself. In practice, different TSMs are often used on the SP side and SE issuer side.
  - (62) In the case of the JV Co, the interconnection between the SE issuer, the mobile wallet provider and the app provider is managed by the mobile wallet platform. The platform will provide and manage the services infrastructure, as well as enabling the mobile wallet provider and the app provider to have their product stored on the SE.
  - (63) The JV Co would procure TSM services from third parties to enable them to be offered as part of the mobile wallet platform. The JV Co would not be active in supplying TSM services as a standalone service as these services constitute an integral element of the mobile wallet platform. The market for the provision of TSM services currently comprises a small number of international suppliers (such as Gemalto, Oberthur and Giesecke & Devrient). It appears that some IT companies would be entering in this new market, and Visa and MasterCard would have recently offered their clients (the banks) a package composed of both a mobile wallet itself and TSM services for V.me and PayPass wallet<sup>60</sup>.

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<sup>60</sup> Agreed minutes of meeting with the Notifying Parties of 11 May 2012.

- (64) There are between 1 million and 1.5 million PoS payment terminals in the United Kingdom. Around 250,000 of these are NFC-enabled but not active yet<sup>61</sup>. By the end of September 2011, 73,000 outlets in the United Kingdom were ready to accept NFC-based payments<sup>62</sup>. It is expected that the number of NFC terminals would reach 120,000 by the 2012 London Olympics, and that over the next few years the PoS terminal replacement cycle will most likely lead to all PoS terminals becoming NFC-enabled<sup>63</sup>.
- (65) Following banks' interest, many major retailers with a high number of low-value transactions – such as McDonalds, EAT, Pret à Manger - have started rolling out NFC PoS terminals as well. It is also estimated that 80% of London transit journeys are currently made via the Oyster contactless card<sup>64</sup> and Transport for London is planning to introduce contactless payments across its network by the end of 2012 (starting with equipping all London buses with NFC capability for the 2012 Olympic Games)<sup>65</sup>.
- (66) NFC can be provided in a number of formats, such as payment cards, tablets, stickers, key fobs<sup>66</sup> and tags. Banks are currently leading the roll out of NFC technology in the transactions field by implementing NFC in their credit and debit cards. It is estimated that there are currently 19.6 million contactless payment cards in circulation in the United Kingdom (in September 2011)<sup>67</sup>.
- (67) Furthermore, the limit for a single contactless card transaction (without entering a PIN) will increase from GBP 15 to GBP 20 during summer 2012. The Notifying Parties submit that many retailers with transaction values within the range currently allowed for contactless card payments are evaluating installing new PoS terminals and are either changing PoS terminals at the moment or have plans to do so as part of their regular replacement cycle<sup>68</sup>.
- (68) Loyalty cards are also expected to provide an opportunity for rapid mass adoption of the mobile transaction technology, as it would represent a significant cost saving opportunity for retailers that would no longer have to issue plastic loyalty cards.
- (69) For these reasons, it is expected that some level of early adoption of mobile transaction or payment technology will take place in 2012, even though mass adoption of mobile payment technology is not expected to happen within 3-4 years, as customers will need to upgrade their mobile handsets (which they do on average

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<sup>61</sup> See for instance agreed minutes of telephone conference call of 25 May 2012 with Ingenico.

<sup>62</sup> UK Cards Association, Annual report 2012, page 21.

<sup>63</sup> See for instance agreed minutes of telephone conference call of 3 May 2012 with First Data.

<sup>64</sup> <http://www.tfl.gov.uk/assets/downloads/corporate/oyster-factsheet.pdf>

<sup>65</sup> TfL press release from 24 February 2011, "Contactless payment comes to London's transport system", <http://www.tfl.gov.uk/corporate/media/newscentre/metro/19234.aspx>

<sup>66</sup> A key fob is a small security hardware device with built-in authentication used to control and secure access to network services and data. The key fob displays a randomly generated access code, which changes periodically, usually every 30 to 60 seconds. A user first authenticates themselves on the key fob with a personal identification number (PIN), followed by the current code displayed on the device.

<sup>67</sup> Form CO, point 622.

<sup>68</sup> For example, the Notifying Parties are aware that Boots and WH Smith are running trials of contactless payment terminals in certain London shops at present and that Costa Coffee would be interesting to do so in the imminent future.

every two years), PoS terminals will need to be updated or replaced, and mobile wallets will need to be introduced to customers.

- (70) As far as the introduction of mobile wallets is concerned, a number of initiatives have already been introduced in the United Kingdom and several additional plans have been announced to increase the use of mobile wallets. In particular, Everything Everywhere's Orange/Barclaycard QuickTap product has been available for some months in the United Kingdom, and on 27 February 2012 Vodafone announced its intention to develop a mobile wallet with Visa, and Telefónica launched its O2 wallet in the United Kingdom at the end of April 2012<sup>69</sup>.
- (71) The JV Co would develop a new offer to customers in the United Kingdom in terms of mobile payment and other transactions. The JV Co would offer services to business customers: on the one hand, it would contract with card issuers (bank card issuers, retailers) that would wish to include their cards in the mobile wallet to be offered to customers by retail providers of mobile wallets; on the other hand, the JV Co would contract with MNOs and MVNOs.
- (72) MNOs (and MVNOs) would then offer a mobile wallet to their customers, allowing them to make contactless offline payments using NFC, redeem electronic vouchers and register loyalty points at brick and mortar merchants by tapping their mobile phones against a NFC-enabled terminal, and to carry out online payments.

#### 7.1.4. *Other mPayments initiatives across the world*

- (73) Reflecting the growth in popularity of mobile transactions, there are a number of initiatives currently underway across the world in respect of NFC mobile wallets<sup>70</sup>, which appear to have some similarities to the JV Co's services.

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<sup>69</sup> The Notifying Parties submit that [...]\*

<sup>70</sup> There are also a wide range of initiatives in relation to online payment wallets. For example, Atos Worldline, Bouygues Telecom, Orange and SFR have launched a common service "Buyster" which aims to develop, operate and sell an innovative online payment service based on mobile technology. The commercial service was launched in September 2011. For completeness, Telefónica O2 Czech Republic, Vodafone Czech Republic a.s. and T-Mobile a.s are also shareholders in the Mopet CZ a., the "Mobile Cash – the Real Time Transaction Centre" ("RTTC"), a co-operation between banks and MNOs for the creation of a countrywide mobile payments solution. The banks are responsible for linking their existing customers' accounts to the RTTC. The participating MNOs facilitate the use of m-payments applications. The RTTC itself is responsible for the acquisition of merchants, the operation of the centre and the development of the mPayments application. The RTTC mobile cash and related mobile wallet application can be used for remote payments for goods and services, in-store payments for goods and services, P2P payments between users, and mobile top-ups. [...]\*

- (74) Japanese consumers have had mobile wallets, offering functionality similar to that proposed by JV Co, for approximately 6 years. These are based on an embedded card, enabling the mobile handset to be used for many forms of mCommerce, including train tickets, mobile payments, vending machines, membership services and identification for building entry. These mobile payments are based on Felica, a predecessor of NFC. However, in December 2011, a new joint venture between NTT Docomo, KDDI and Softbank Mobile was set up with a view to coordinating the switch from non-NFC mPayments to NFC technology. It is expected that the switch would be made in 2012<sup>71</sup>.
- (75) In the United States of America, AT&T, T-Mobile and Verizon are planning to create their own NFC payment platform, called ISIS, which will offer a mobile wallet, membership and loyalty programme, and personalised coupons and rewards. The platform will target the MNOs' large customer base. ISIS has so far signed agreements with all four American payment networks and is expected to be launched by summer 2012, with pilots in Salt Lake City, Utah, and Austin, Texas<sup>72</sup>.
- (76) A number of initiatives have also been announced *inter alia* in Germany<sup>73</sup>, the Netherlands<sup>74</sup>, Sweden<sup>75</sup>, Denmark<sup>76</sup>, France<sup>77</sup>, and Spain<sup>78</sup>.
- (77) Overall, the mCommerce sector is nascent and dynamic. There are numerous different mCommerce initiatives being developed in the United Kingdom at the moment which are at different stages of maturity and adoption (for example Orange/Barclaycard QuickTap, PayPal "In Store").
- (78) Currently, it is unclear which technologies will ultimately be adopted by consumers and merchants alike. At this stage, therefore, there seems to be inter-technology competition (for example NFC-based payments with SIM-based SE, with embedded SE, with SEs added to micro SD cards or sleeves or stickers, payments with secure information stored in the cloud, payment with check-in method, payment using

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<sup>71</sup> <http://www.nfcworld.com/2011/12/22/312121/japanese-carriers-form-nfc-consortium/>

<sup>72</sup> <http://www.nfcworld.com/2011/06/22/38202/isis-picks-austin-texas-for-second-nfc-pilot/>

<sup>73</sup> In Germany, Telefónica Germany, Deutsche Telekom and Vodafone D2 are expanding their existing co-operation limited to online transaction services 'mpass' into a company providing mobile payments, including NFC-based contactless mobile payments

<sup>74</sup> On 9 September 2010, KPN, T-Mobile Netherlands, Vodafone Netherlands, ABN Amro, ING and Rabobank announced their intention to jointly introduce NFC-based payments in the Netherlands. Since, T-Mobile Netherlands withdrew from the project. It is expected that the corresponding joint venture would be launched in 2013.

<sup>75</sup> Swedish operators Telia, Tele2, Telenor and Three announced their intention to form a mobile payments joint venture on 18 November 2011, to be available by summer 2012. <http://www.totaltele.com/view.aspx?ID=470534>. The service is available since 01 July 2012: <http://www.mynewsdesk.com/se/pressroom/accumulate/news/view/wywallet-officially-launched-mobile-payment-for-all-swedes-42539>.

<sup>76</sup> Danish operators TDC, Telenor, Telia Sonera and Three are cooperating on the launch of a mobile wallet service, based on NFC, which will involve a common platform and brand for NFC mobile payments, loyalty, ticketing and wallet services. The roll-out is intended to start in 2012.

<sup>77</sup> In France, France Télécom's Orange, SFR, Bouygues Télécom and NRJ Mobile launched a pilot mobile payment test in the cities of Nice and Strasbourg, called Cityzi. See <http://www.cityzi.fr/>.

<sup>78</sup> In Spain, Telefónica Spain, Vodafone Spain and Orange signed an agreement relating to NFC services on 1 October 2010. [...]\*

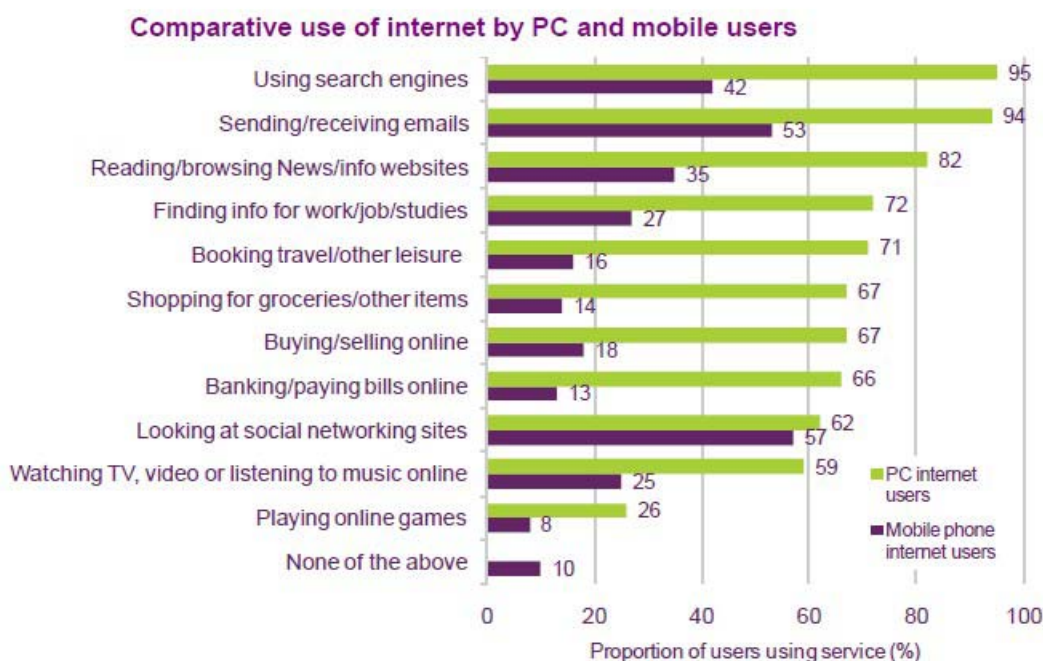


barcodes on smartphone screens, with reading of Quick Response ("QR") codes) within the mCommerce sector.

## 7.2. Mobile Advertising

- (79) Currently, consumers typically use their mobile phones to access the same types of internet services as they do on their PC (such as Google and Facebook) as illustrated in Figure 1 below.

**Figure 1— websites and internet services accessed by smartphone and PC<sup>79</sup>**



- (80) According to the Notifying Parties, advertisers and advertising agencies currently view mobile advertising (including all forms of mobile advertising – messaging, non-search and search advertising) as merely a part of their digital advertising strategy. This reflects the fact that most existing providers of digital advertising services are focused on online advertising, and simply offer mobile advertising campaigns as an extension of their existing services. Advertisers have not yet been willing or able to make use of the mobile channel to reach consumers in a substantive manner (most have at best only allocated small experimental budgets for mobile advertising).
- (81) The Notifying Parties submit that advertisers have been struggling to engage in mobile advertising. Rather, advertisers have preferred to remain with tried and tested methods of advertising, such as traditional media (television, newspapers, outdoor advertising), static internet advertising and email advertising campaigns. In contrast to mobile advertising, these methods of advertising all have recognised market structures and relatively understandable returns on investment. Further, the established advertising channels have a key factor in their favour: the ability to reach a large audience easily, without the need to obtain prior consumer consent, access to

<sup>79</sup>

Source: Ofcom Communications Market Report 2011, figure 4.6, page 198.

the mobile handset OS or the MNO consumer base. Similarly, due to the fragmented nature of mobile advertising at present, tracking and reporting the performance of mobile campaigns is significantly more complex than doing so for online campaigns.

- (82) In 2010, advertising on mobile handsets accounted for only 2% of the overall internet advertising market in the United Kingdom<sup>80</sup>. The Notifying Parties submit that while the revenue generated from mobile advertising [...] during the course of 2010, [...] relation to search-based advertising on mobile handsets.
- (83) Indeed, expenditure on mobile advertising is currently growing strongly. It appears from Table 2<sup>81</sup> below that advertising expenditure on mobile search advertising as well as mobile display advertising have grown strongly from 2010 to 2011 and together reached 5.5% of total online advertising expenditure in 2011. Strong growth is forecasted to continue with the total share of mobile advertising expenditure on online advertising reaching 9.5% in 2012.

**Table 2 Mobile and PC advertising**

	2009	2010	2011	2012f
Mobile search (£m)	20	55	134	276
Mobile display (£m)	17	28	69	138
<b>Mobile total (£m)</b>	<b>38</b>	<b>83</b>	<b>203</b>	<b>414</b>
PC search (£m)	2,036	2,243	2,475	2,738
PC display (£m)	724	918	1,040	1,197
<b>PC total (£m)</b>	<b>2,760</b>	<b>3,161</b>	<b>3,515</b>	<b>3,935</b>
Mobile share of online search (%)	1.0	2.4	5.1	9.2
Mobile share of online display (%)	2.3	3.0	6.2	10.3
<b>Mobile share of online total (%)</b>	<b>1.4</b>	<b>2.6</b>	<b>5.5</b>	<b>9.5</b>

Excludes classified advertising

[Source: Enders Analysis based on IABUK data]

- (84) The rapid adoption of smartphones and the even faster increase in mobile internet usage is increasingly enabling advertisers to deliver advertisements to consumers in a way which does not impair their user experience<sup>82</sup> of the mobile handset and which promotes numerous features for delivering targeted advertising which are built into smart-devices. A number of notable retailers are beginning to explore the area, the

<sup>80</sup> Ofcom Communications Market Report 2011, section 4.1.2.

<sup>81</sup> Enders Analysis, "UK mobile advertising begins to take off".

<sup>82</sup> User experience or consumer experience; Customers receive some kind of experience, ranging from positive to negative, during the course of buying goods and services. Customer experience is the sum of all experiences a customer has with a supplier of goods or services, over the duration of their relationship with that supplier. From awareness, discovery, attraction, interaction, purchase, use, cultivation and advocacy. See [http://en.wikipedia.org/wiki/Customer\\_experience](http://en.wikipedia.org/wiki/Customer_experience).

first steps being to establish mobile friendly versions of their websites<sup>83</sup>, or to launch apps for download and use on smartphones<sup>84</sup>.

- (85) The increasing reach of mobile advertising has led companies to start offering advertising intermediation services and coupon and voucher services to advertisers that are specific to mobile advertising, making it easier for advertisers to use this channel of advertising.

## 8. THE RELEVANT MARKETS

- (86) According to the Commission Notice on the definition of relevant market for the purposes of Community competition law ("the Relevant Market Notice")<sup>85</sup>, the main purpose of market definition is to identify in a systematic way the competitive constraints faced by the merging parties. In doing so, the Commission takes into account a range of evidence enabling it to assess the extent to which substitution would take place. The Commission considers the characteristics and specificity of the industry and products or services analysed<sup>86</sup>.
- (87) According to the Relevant Market Notice *"differences in product characteristics are not in themselves sufficient to exclude demand substitutability, since this will depend to a large extent on how customers value different characteristics"*<sup>87</sup>. Thus, the fact that products are differentiated does not indicate whether or not they belong to separate product markets. What matters is the effect of those product characteristics on substitution patterns.
- (88) In the present case, the operation takes place in the new but fast growing sector of mCommerce, which essentially encompasses mobile payments, mobile advertising and mobile data analytics. The fact that these sectors are nascent and evolving or simply not existing yet in the United Kingdom has rendered the Commission's investigation quite complex. In particular, the different level of knowledge by market participants of the technologies currently used or the lack of certainty as to the ones that will need to be developed, and the difference of understanding of definitions of terms (for example what an online mobile payment is compared to an offline mobile payment) has required the Commission to invest a significant amount of time in following up first and second phase questionnaires with a large number of telephone conference calls with relevant market participants.
- (89) The relevant geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be

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<sup>83</sup> For example, Marks & Spencer: <http://m.marksandspencer.com>. Enders Analysis, UK mobile advertising begins to take off.

<sup>84</sup> For example, B&Q and Sainsbury's both have apps through which various functions can be carried out, including obtaining special discount offers.

<sup>85</sup> OJ C 372, 9.12.1997, p. 5, point 2.

<sup>86</sup> OJ C 372, 9.12.1997, p. 5, point 25. Points 13 to 24 of the Relevant Market Notice sets the relevant analytical framework in this regard.

<sup>87</sup> OJ C 372, 9.12.1997, p. 5, point 36..

distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas<sup>88</sup>.

## **8.1. Relevant Product Markets**

### *8.1.1. Market for wholesale supply of mobile wallet platforms*

#### 8.1.1.1. The View of the Notifying Parties

- (90) The Notifying Parties submit that the JV Co would be active in a new market for the wholesale supply of mobile wallet platform services in the United Kingdom. This market would combine the attributes of the two following existing sets of services: contactless physical transactions services such as services already offered by banks through NFC-enabled debit and credit cards (such as for instance Visa, MasterCard, or Barclays), and online transaction services such as those already offered by PayPal, Google Checkout, etc. On this market, the Notifying Parties submit that the JV Co services would compete with the services offered by companies already active in either or both of these existing markets, as well as from alternative mobile wallet platforms offered by OTT players such as PayPal and Google.

#### 8.1.1.2. The Commission's assessment

- (91) Essentially, the JV Co is developing a platform, upon which all participating Service Users will develop their own mobile wallet offered to end users<sup>89</sup>. Whilst being built on the same technical platform, Service Users can differentiate their mobile wallets through different branding and design, as long as that design works with JV Co's platform. With regard to design, although the way in which the mobile wallet works will be the same (i.e. the same screens carrying the same key content will appear when using the mobile wallet), each Service User can differentiate their mobile wallets by tailoring its look and feel and by adding in their own specific services and functionality<sup>90</sup>. With regard to branding, any Service User (including the Notifying Parties) is free to enter into a specific deal with a Service Provider for the provision of a unique service, such as a co-branded credit or debit card, loyalty cards which could be combined with unique offers and vouchers not available through other Service Users mobile wallets and the delivery of marketing campaigns to be sent to end users by that Service User<sup>91</sup>.

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<sup>88</sup> Relevant Market Notice, point 8.

<sup>89</sup> Form CO paragraph 274. [...]\*

<sup>90</sup> Form CO paragraph 670.

<sup>91</sup> Form CO paragraph 196, 274, 306, and 672. [...]\*

- (92) Most respondents to the market investigation<sup>92</sup>, even if some qualify their answers, agree that a wholesale level for the supply of mobile wallet platform services can be distinguished as a separate market or, at least, as a separate activity, from other activities or products, in particular offering a (branded) user interface through which mobile wallet services are provided to final consumers. These mobile wallet services would provide third parties with the capability to offer a mobile wallet to final consumers, without having to develop a full platform with the accompanying infrastructure, such as the JV Co platform.
- (93) The market for the wholesale supply of mobile wallet platforms could operate both on a SIM-based SE as well as an embedded SE. Indeed, on the basis of the market investigation, the Commission has found that while each technology may have certain advantages over the other, both technologies are regarded as equally secure (see Recital (112)). During the market investigation, the Commission has found that several companies will offer or are already offering what is commonly referred to as white label wallets. These companies sought to provide market participants, like smaller M(V)NO, with the IT infrastructure for facilitating transactions, voucher redemption and data analytics and services, such as TSM services, to launch a branded mobile wallet, that is to say solutions enabling the making of a mobile wallet that could be offered to customer.
- (94) Ericsson provides a software platform for electronic wallets and the handling of mobile financial services<sup>93</sup>. The platform is built on Ericsson's billing service. The functionalities of its services for mobile wallets include: payment cards, voucher redemption, payment of bills, and bank transfers. They also offer a product called mCommerce interconnect, which is a hub service to connect different wallet systems and value added services providers to enable interoperability and P2P real money interactions using mobile wallets. Ericsson can also provide related services, such as TSM services.
- (95) Intelligent Environments offers digital banking services (secure on-line and mobile banking) to MNOs and retailers seeking to launch financial services, amongst others. It is also a software and app developer for the mobile wallet software located on the mobile handset. Intelligent Environments launched, together with O2, an O2 branded mobile wallet. It features *inter alia* a pre-loaded card for shopping. Intelligent Environments is also involved in the Orange branded credit card. Barclays bank acts in this case as the card provider<sup>94</sup>.
- (96) Alcatel/Lucent offers solutions that allow a mobile wallet on the mobile handset to interact with PoS equipment including interaction via NFC technology, using cloud stored customer credentials and in which coupons, vouchers and other non-monetary content such as loyalty points can be stored<sup>95</sup>. Alcatel/Lucent has had discussions with payment schemes that want to provide a comprehensive solution with advertising services, prepaid types of payments and classic payments. Alcatel/Lucent is a solution provider and sells its solution to MNOs.

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<sup>92</sup> Responses to Questionnaires R1 and R4 of 7 May 2012, question 1.

<sup>93</sup> Agreed minutes of telephone conference call of 26 April 2012 with Ericsson.

<sup>94</sup> Agreed minutes of telephone conference call of 2 May 2012 with Intelligent Environment.

<sup>95</sup> Agreed minutes of telephone conference call of 30 May 2012 with Alcatel/Lucent.

- (97) Similarly, Microsoft is reported<sup>96</sup> to have prepared the launch (date as yet unknown) of a wallet application. Reportedly, the Windows Phone 8 will be NFC-enabled<sup>97</sup> and have a wallet application allowing payments to be made by tapping the mobile handset on a credit card reader, and allowing storage of credit card and membership details securely. Indeed, the market investigation confirmed that Microsoft<sup>98</sup> intends to launch its own mobile wallet that will integrate several financial and payment instruments and additional services such as loyalty points, coupons and vouchers. User customisation will be possible with regard to graphical user interface, instruments involved and ways of interaction with third parties. Microsoft wants to offer an open platform that would both encourage app developer adoption and consumer adoption. To encourage developers to develop apps on Microsoft's hub, a standard set of Application Programming Interface ("API"s) would be provided to them. The Microsoft wallet will be preloaded on all Windows Phones. Microsoft would offer its platform independently of the services offered by the JV Co. Microsoft is reportedly working with several MNOs on integrating its wallet program with them<sup>99</sup>.
- (98) The provision of these white label mobile wallets resembles strongly the mobile wallet platform that the JV Co itself wants to offer to third party M(V)NOs. Even if it cannot always be said that a full mobile wallet solution is provided, the companies that offer 'white label' mobile wallet services at least partly overlap with the service offered by the JV Co. Moreover, these companies offer these services without themselves offering a mobile wallet to end-consumers that is to say they would also only be present at the wholesale level like the JV Co.
- (99) This supports the finding that a market for wholesale supply of mobile wallet platform services exists as several companies, including the JV Co, seek to provide these services to third parties on a stand-alone basis. Moreover, as these companies, like the JV Co, are not vertically integrated into the provision of retail distribution of mobile wallet services to customers, the supply side of such a market would be materially different from the provision of retail distribution of mobile wallet services to customers.
- (100) One respondent<sup>100</sup>, even though it acknowledged that a market for the wholesale supply of mobile wallet platform services and a retail market for the retail distribution of mobile wallet services to customers can be distinguished, noted that uncertainty existed as to precisely where the boundary between these markets would be set. In particular, because the JV Co's wholesale services may provide constraints to users to shape their retail services, this may blur the distinction between retail and wholesale level. Another respondent<sup>101</sup>, whilst recognising that the JV Co's activities would clearly have a wholesale dimension, stressed that the retail level would not remain unaffected as the JV Co would leave very little, if any, scope for competition at retail level.

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<sup>96</sup> <http://www.techradar.com/news/phone-and-communications/mobile-phones/windows-phone-8-unveiled-with-raft-of-next-gen-features-1086240>.

<sup>97</sup> <http://www.androidcentral.com/microsoft-rolls-its-own-wallet-solution-windows-phone-does-google-wallet-one-better>.

<sup>98</sup> Revised agreed minutes of telephone conference call of 2 May 2012 with Microsoft.

<sup>99</sup> <http://www.bgr.com/2012/06/20/microsoft-windows-phone-8-will-come-equipped-with-wallet-hub>.

<sup>100</sup> Response of HSBC to Questionnaire R1 of 7 May 2012, question 1.

<sup>101</sup> Response of PayPal to Questionnaire R1 of 7 May 2012, question 1.

- (101) The Commission agrees that some uncertainties as to the precise boundary between the wholesale supply of mobile wallet platform services and retail distribution of mobile wallet services may exist. The Commission equally recognises that vertical links between these markets exist. Indeed, the foreclosure risk that may result from these vertical links is investigated in-depth in the present Decision (see below in section 9.2). However, the mere fact that the boundaries between these markets may not be defined precisely or that vertical relationships between them may exist cannot contradict the finding of a relevant market for the wholesale supply of mobile wallet platform services distinct from a market for the retail distribution of mobile wallet services to customers.
- (102) The Commission takes the view that a relevant market could be defined for wholesale supply of mobile wallet platforms, distinct from the market for the retail distribution of mobile wallet services to customers. However, for the purpose of this Decision, this can be left open as the operation would not significantly impede effective competition under any alternative product market definition.

#### 8.1.2. *Market for secure storage*

##### 8.1.2.1. The View of the Notifying Parties

- (103) The Notifying Parties, in the Form CO, did not consider a market for secure storage.

##### 8.1.2.2. The Commission's assessment

- (104) One respondent to the market investigation<sup>102</sup>, whilst agreeing that a wholesale level for the supply of mobile wallet platform services can be distinguished, considered that in addition, a market for access to SIM-based SEs would exist. This distinction corresponds to the alternative mobile wallets that may be offered by third parties to end users. For example, a retail mobile wallet supplier may either seek to supply a branded mobile wallet using the JV Co's platform, requiring the supply by the JV Co of the integrated wholesale mobile wallet service provided by the JV Co, or offer a mobile wallet based on an alternative platform than that of the JV Co, only requiring access to the JV Co controlled SIM-based SE to store, for instance, payment credentials.
- (105) A mobile wallet requires secure storage of information, in particular payment credentials. As was already explained in Recital (54), such storage can, in principle, be provided by a variety of means such as storage in the cloud and storage on an SE which can be located in various places in or on the mobile handset.
- (106) Irrespective of where the SE is located (in the SIM card or embedded in the hardware of the mobile handset), control over the access to the SE is attributed to the issuer of the SE (for example the M(V)NOs for SIM-based SEs). Each of these issuers can thus be seen as a supplier on a market for secure storage. The demand side of such a market would consist of retail and wholesale suppliers of wallet solutions<sup>103</sup> (and possibly other suppliers of mobile handset-based apps requiring secure storage).

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<sup>102</sup> Response of Lloyds Banking Group to Questionnaire R1 of 7 May 2012, question 1.

<sup>103</sup> Depending on who contracts for secure storage.

- (107) The market investigation revealed that the renting of space on SEs for providers of apps that want to store sensitive information required for the functioning of their apps could be a source of revenue to those parties controlling access to the SE, regardless of where the SE is located (for example on the SIM or embedded). [...] <sup>104</sup>.
- (108) It is pertinent to the present case that control over SIM-based SEs is exercised by their issuers: the M(V)NOs <sup>105</sup>, including the Notifying Parties. In order to assess to what extent competitive pressure is exercised on the Notifying Parties in a market for the provision of SE space, it is necessary to establish whether means for secure storage exist that constitute a viable substitute for SIM-based secure storage, that is to say whether the relevant product market for the provision of space on SEs comprises SEs located elsewhere as well as other means of secure storage such as cloud-based secure storage.
- (109) The Notifying Parties explain that, while it is possible that security can be provided via software and cloud storage rather than hardware on or in the mobile handset, they are not aware of any specific examples that are under development <sup>106</sup>. The market investigation showed that, although it is in principle possible that transactions made from a mobile handset could be completed via solutions which would not use an SE, that is to say through software secure solutions where the payment credentials would be stored in the cloud, such solutions are generally considered less secure or too slow to be used at the point of sale as they require entering usernames and passwords <sup>107</sup>. On this point, one competitor <sup>108</sup> explained that it *"is possible for customers to complete transactions from a mobile phone via means other than through a SE. This is the case for so-called card-not-present transactions. However, such transactions are generally considered less secure, and therefore will typically incur a greater cost for merchants (e.g., 2% fee without a SE compared to a 1% fee for a transaction completed through a SE). Card-not-present transactions may also require users to input their payment information (card number, expiry date, etc.) for each individual transaction, which may render this option less attractive to users seeking the speed and convenience of card-present transactions"*.
- (110) It was also found in the market investigation that using additional hardware that contains an SE attached to the mobile handset is considered a somewhat less attractive alternative because it would be expensive, the costs would be unlikely to be borne by consumers, consumers would have to be convinced to attach additional hardware to their mobile handset, and no standards seem to exist for the interfaces between such additional hardware and mobile handsets <sup>109</sup>. The market investigation among potential customers of the JV Co confirmed that the possibility of attaching additional hardware to the mobile handset would not be seen as an attractive option <sup>110</sup>.

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<sup>104</sup> Form CO, paragraph 239.

<sup>105</sup> Most MVNOs issue their own SIM cards and thus would be able to supply secure storage.

<sup>106</sup> Form CO, paragraph 717.

<sup>107</sup> Responses to Questionnaire Q1 and Q2 of 7 March 2012 question 57.

<sup>108</sup> Response of Google to Questionnaire 2 of 7 March 2012 question 58.

<sup>109</sup> Responses to Questionnaire Q1 and Q2 of 7 March 2012, question 57.

<sup>110</sup> Responses to Questionnaire Q3 of 7 March 2012 question 58.



- (111) It appears therefore that cloud-based secure storage and additional hardware containing SEs attached to the mobile handset are not perfect substitutes for SIM-based SEs.
- (112) However, SEs embedded in a mobile handset have shown to be a close substitute for a SIM-based SE. Whereas using a SIM-based SE may confer some advantages for payment related application, such as portability between different mobile handsets or the ability to block a wallet if a mobile handset is lost or stolen, embedded SEs may be suited better for other types of apps, such as access control<sup>111</sup>. However, this cannot distract from the fact that both types of SEs are suited to provide secure storage for mobile wallets and other apps. Indeed, security requirements are the same for both a SIM-SE as well as for an embedded SE<sup>112</sup> and both types of SEs are generally also perceived as equally secure<sup>113</sup>. The choice between the two types of SEs is therefore not based on technical advantages of one type over another.
- (113) It appears that the use of SIM-based SEs is for the time being technically more standardized than the use of embedded and external SEs. However, this standardization was merely more necessary for SIM-based SEs in order to ensure portability of SIM-based SE between different mobile handsets (that may have different technical characteristics). This same issue of portability of SIM-based SEs does not exist with an embedded SE as it is part of the hardware of the mobile handset but hence cannot be moved between different mobile handsets<sup>114</sup>.
- (114) A SIM-based SE as well as an embedded SE can co-exist on a mobile handset and a significant number of mobile handsets contain both an embedded and SIM-based SE<sup>115</sup> (See also Recital (267)). This increases the degree of substitutability between SIM-based and embedded SEs as it implies that retail suppliers of mobile wallet services to customers can reach similar groups of users regardless of whether they contract with a suppliers of secure storage on a SIM-based SE or an embedded SE.
- (115) As regards the user experience / end-users' ease-of-use of mobile wallets, current technology allows for several methods of coexistence of SIM-based and embedded based secure storage on a single mobile handset. One example is through user selection of the default SE whereby the user could be presented with the option to switch the default SE. Another option, referred to as Technology Routing, would allow certain types of NFC traffic to be automatically routed to either the embedded SE or the SIM-based SE without impact to user experience<sup>116</sup>. These options further illustrate that embedded and SIM-based SEs provide essentially the same functionality for a mobile handset user and provider of wallet services alike. Moreover, it appears that an end-user could even be unaware as to what type of secure storage is actually used by the wallet application on its mobile handset.
- (116) On the basis of the above, the Commission does not exclude that a distinction could be made between a market for wholesale supply of mobile wallet platform services

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<sup>111</sup> Agreed minutes of telephone conference call of 8 May 2012 with RIM.

<sup>112</sup> Agreed minutes of technical meeting with the Notifying Parties.

<sup>113</sup> Responses to Questionnaires Q1, Q2 and Q3 of 7 March 2012 question 57 and Q4 of 7 March 2012, question 11.

<sup>114</sup> Agreed minutes of technical meeting with the Notifying Parties.

<sup>115</sup> Agreed minutes of technical meeting with the Notifying Parties

<sup>116</sup> Agreed minutes of technical meeting with the Notifying Parties.

and a market for the provision of secure storage only. However, a market for the provision of secure storage would not only comprise the provision of secure storage on SIM cards but at least also include secure storage provided on embedded SEs and, possibly, on SEs on devices attached to the mobile handset and cloud-based solutions.

- (117) In any event, for the purpose of the present Decision it can be left open whether a market for secure storage comprises also secure storage on SEs on devices attached to the handset or cloud-based solutions since the operation would not significantly impede effective competition under any alternative product market definition.

#### 8.1.3. *Market for retail distribution of mobile wallets services to customers*

##### 8.1.3.1. The View of the Notifying Parties

- (118) The Notifying Parties<sup>117</sup> consider that a downstream market for the retail distribution of mobile wallets services to customers exists. The JV Co itself will not be present in this market. Instead, the JV Co's offer of a wholesale supply of mobile wallet platforms will enable the Notifying Parties, other participating M(V)NOs and other participating Service Users to offer an individualised mobile wallet for retail on the basis of the underlying mobile wallet platform provided by the JV Co.
- (119) All Service Users will be able to differentiate their mobile wallets offered at the retail level through branding and the design of the mobile wallets, as long as that design works with the JV Co's platform. The Notifying Parties consider that they will remain in competition at the retail level for the provision of mobile wallet services to consumers.
- (120) From a consumer's perspective, the key feature of any mobile wallet will be the availability of a variety of payment and other transactions services, which are accepted in a large number of PoS. The Notifying Parties consider that the mobile wallets offered at retail level, using the JV Co's platform, will be viable substitutes for the following:
- (a) Physical, off-line payment services and other transactions services; and
  - (b) Online payment services and other transactions services.
- (121) All Service Users would compete with each other at the retail level in relation to these services and with companies that are already established in the provision of physical offline or online payments. With regard to physical transactions, the Notifying Parties consider that vertically integrated international players such as Google and PayPal, banks, and other companies offering forms of contactless transactions constitute competitive constraints. With regard to online transactions, all Service Users are considered to compete with each other and with established online payment players, including PayPal, Google, Amazon, and Apple (iTunes).
- (122) Hence, the Notifying Parties consider that the market for retail distribution of mobile wallets to consumers is part of a wider market including physical and online

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<sup>117</sup> Form CO, pages 70 to 72.

transaction services. The physical transaction services would comprise mobile contactless payments as well as other means of settling payment offline including NFC-enabled credit and debit cards and traditional means of payment, such as cash. The online transaction services would comprise both online payments made using mobile handsets as well as other forms of online payments made on static devices (such as desktop PCs).

- (123) With regard to physical transactions, the Notifying Parties consider that the narrowest plausible relevant market is the market for mobile contactless or off-line payments<sup>118</sup>. With regard to online transactions, the Notifying Parties consider that the narrowest plausible relevant market is the market for online payments made using mobile handsets<sup>119</sup>.

#### 8.1.3.2. The Commission's assessment

- (124) During the market investigation, the Commission assessed in particular the following:
- (a) Whether the retail market for the provision of mobile wallet services (including both offline and online mobile payments) would constitute a separate market from existing online payment services (through credit/debit cards/ PayPal etc, via the internet on a static PC, tablet, or on a mobile handset);
  - (b) Whether the retail market for the provision of mobile wallet services (including both offline and online mobile payments) would constitute a separate market from existing offline payment (NFC-enabled credit and debit cards, and traditional means of payment such as credit, debit cards and cash);
  - (c) Whether the retail market for the provision of mobile wallet services should be further subdivided between offline and online mobile payments.

#### Mobile payments versus existing online payments

- (125) Regarding the substitution of mobile-based payment systems with existing online payment systems, overall, a majority of respondents considered that mobile payments are not (yet) substitutable with existing online payment systems.<sup>120</sup>
- (126) For instance, according to one respondent, "*[a]t present there are few, if any, examples of these two payment types substituting for each other in the UK at the point of sale. In future however this may be possible*"<sup>121</sup>. Another respondent<sup>122</sup> considered such substitution to be unlikely because an online transaction is still a lengthy process which significantly increases the transaction time. This was attributed to the lengthy process of data entry and authentication processes which are unlikely to be practical, reliable in operation and unlikely to reach a level of uniformity to constitute a proper replacement. Furthermore, an Internet (3G or Wi-

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<sup>118</sup> Form CO, paragraph 277.

<sup>119</sup> Form CO, paragraph 279.

<sup>120</sup> Responses to Questionnaire Q1, questions 6.4 and 8.4; Questionnaire Q2, question 6.4, 7.4 and 8.4; Questionnaire Q3, question 7.4 and 8.4; and Questionnaire R4 questions 2.1 and 3.1.

<sup>121</sup> Response of Visa to Questionnaire Q2 of 7 March 2012 question 6.4.1.

<sup>122</sup> Response of DSG international to Questionnaire Q3 of 7 March 2012 question 7.4.1.

Fi) connection which is required for an online transaction is not available to everybody and at all locations yet.

- (127) The Commission considers that currently existing methods of online payments and mobile payments may belong to different relevant product markets. However, for the purpose of the present Decision it can be left open whether currently existing methods of online payment are part of the same market as methods of mobile payment as the operation would not significantly impede effective competition under any alternative product market definition.

### **Mobile payments versus existing offline payment**

- (128) When asked about the substitutability of mobile based payment systems with currently existing NFC-based offline payment systems (for example NFC-based credit cards), some respondents stated that, although the primary functions of NFC-enabled cards and NFC m-payments are the same (transaction processing)<sup>123</sup>, some additional features would be different. In particular, NFC-based mobile technology would be more convenient, offer the advantage of consolidating the credit and debit credentials into a single contact device with the security and convenience inherent in the single-mobile handset. This would result in a different user experience (in terms of convenience and ease of use) for end-users<sup>124</sup> and offline NFC-based mobile technology would offer important ancillary services such as voucher redemption, which would enhance the consumer experience (in terms of additional services being offered to end-users)<sup>125</sup>.
- (129) One market participant took the view that there would not be "*a significant difference in how payments are processed from either the mobile phone or currently existing NFC enabled models, since both methods are backed by the same credit/debit credentials with the primary difference being the method by which those credentials are transferred at the Point of Sale. Once the transaction is initiated at the point of sale, the processing of the payments through the card issuers and banks can proceed along the existing "rails" of the payment networks*"<sup>126</sup>.
- (130) Mobile payments and NFC-enabled cards appear comparable for the time being to the traditional ways of payment only insofar as they concern transaction processing for smaller payment amounts<sup>127</sup>. The offline credit and debit cards are a convenient method of payment, which is widely used and accepted in the United Kingdom. However they lack a number of the benefits of mobile payments such as voucher redemption possibilities.
- (131) Some respondents stated that different means of making payments (credit and debit cards and cash) will continue to co-exist and are complementary rather than interchangeable. Indeed, according to one financial institution<sup>128</sup>, studies have shown that customers would like both mobile payment methods and existing off-line

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<sup>123</sup> Agreed minutes of telephone conference call of 4 May 2012 with HSBC.

<sup>124</sup> Agreed minutes of telephone conference call of 4 May 2012 with HSBC.

<sup>125</sup> Responses to Questionnaire Q2 of 7 March 2012 question 6.2.

<sup>126</sup> Response of IBM Corporation to Questionnaire Q2 of 7 March 2012 question 7.2.

<sup>127</sup> Responses to Questionnaire Q3 of 7 March 2012 question 7.3.1.

<sup>128</sup> Agreed minutes of telephone conference call of 4 May 2012 with HSBC.

payment in the foreseeable future. It clarified that, even if the trend is clearly going to be towards increased consumer demand to execute payments via mobile handsets, consumers nonetheless expect and demand to be able to pick and choose from a range of different payment mechanisms (cash, card, mobile, online, offline, etc.).

- (132) Payment card issuers stressed that, because consumers expect and demand to be able to pick and choose from a range of different payment mechanisms payment card issuers will also want to offer a variety of types of payment services in order to win, retain and satisfy customers<sup>129</sup>.
- (133) Regarding the substitution between mobile handset based systems with currently existing offline payment systems (cash, credit and debit cards), the market investigation pointed at different orientations<sup>130</sup>. On one hand, the view was taken that high costs for payments through NFC-enabled mobile handsets would mean that their introduction would be hampered or even that it would cause their replacement by different payment systems (including cash, credit/debit cards and NFC-enabled cards) by both retailers and customers<sup>131</sup>. This suggests that existing form of payments may exert competitive pressure on mobile wallets. Some big retailers replied that they *"could revert to currently existing offline payments if mPayments became more costly to use but this decision would ultimately be customer driven. If customers want to use mPayments and our competitors are offering them then we would be at a competitive disadvantage if we did not offer mPayments to our customers"*<sup>132</sup>. Another response stated however that the proportion of consumers still preferring to use offline payments will be more demographic and age-driven<sup>133</sup>.
- (134) One respondent<sup>134</sup>, whereas it stressed that NFC payment will be the simplest, speediest and most secure mode of mobile payment, considered that the market for mobile payment is technologically much broader than what is typically understood by NFC and online payments and would include the PayPal dongle (a device that turns a smartphone into a credit card terminal) and Barclay's PayTag (stick-on credit card), which may help educate customers about mobile payments. At this moment, it is not yet possible to predict which innovation will become the common form of payment of the future.
- (135) Therefore, the Commission considers that mobile payments are likely to continue to coexist in the foreseeable future with non-mobile means of payment including NFC and non NFC-enabled credit and debit cards. Consumers will want to continue using several means of payment and suppliers of means of payment and retailers have an incentive to continue to supply and accept means of payment used by their customers. Even if these means of payments have characteristics that distinguish them from mobile payments, a certain degree of substitutability is most likely to exist, most notably between mobile payments and NFC-enabled credit and debit cards, implying that currently existing means of off-line payment may exert

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<sup>129</sup> Agreed minutes of telephone conference call of 4 May 2012 with HSBC.

<sup>130</sup> Responses to Questionnaire Q1 questions 6.3, 7.3 and 8.3; Questionnaire Q2 questions 6.3 and 7.3; and Questionnaire Q3 questions 7.3 and 8.3.

<sup>131</sup> Responses to Questionnaire R4 of 10 May 2012 questions 2.3 and 3.2.

<sup>132</sup> For instance, response of Next to Questionnaire Q3 of 7 March 2012 question 7.3.1.

<sup>133</sup> Response of Intelligent Environments to Questionnaire Q2 of 7 March 2012 question 6.3.

<sup>134</sup> Agreed minutes of telephone conference call of 2 May 2012 with Intelligent Environments.

competitive pressure on retail suppliers of mobile payment services. This will in turn create an indirect competitive constraint on wholesale suppliers of mobile wallet platforms. However, for the purpose of the present Decision, it can be left open whether currently offline payments are part of the same market as mobile payments since the operation would not significantly impede effective competition under any alternative product market definition.

### Online and offline mobile payments

- (136) The market investigation highlighted that there is the potential that online mobile payment would be different from NFC-based offline mobile payment from a user experience perspective<sup>135</sup>. A majority of respondents<sup>136</sup> did not consider them to be interchangeable for consumers, at least not at present. The main differentiating factors were: limited 3G coverage, different user experience, security conditions, infrastructure requirements and functionalities<sup>137</sup>. For instance, one respondent<sup>138</sup> stressed that off-line NFC payments and online payments with a mobile handset have different purposes at present as well as most likely in the future and that the customer journey is different.
- (137) In terms of acceptance by merchants, one respondent specified that "*[a]t present, mobile contactless and online payments via a phone data connection are not interchangeable for UK merchants, in that there is little or no overlap in the acceptance of contactless and the acceptance of mobile payments via 3g/wifi. In future, these payments may become more interchangeable in environments where transaction speed is not critical, for example paying a restaurant bill. By contrast, where payment speed is important offline contactless mobile payments will continue to have a significant advantage*"<sup>139</sup>.
- (138) As regards supply side substitutability for card issuers (whether banks, transport operators or others) the majority of respondents<sup>140</sup> consider that the two mobile payment services are not substitutable, but rather complementary, at least for the moment.
- (139) Therefore, the Commission considers that online and offline mobile payments are not likely to be part of the same relevant product market at least at present. While the evolution in the short to medium term is not entirely clear<sup>141</sup>, for the present Decision it can however be left open whether online and offline mobile payments are part of

<sup>135</sup> Agreed minutes of telephone conference call of 2 May 2012 with Intelligent Environments.

<sup>136</sup> Responses to Questionnaire Q1 of 7 March 2012, questions 6.1 and 7.1; responses to Questionnaire Q2 of 7 March 2012, question 6.1. and 7.1 ; responses to Questionnaire Q3 of 7 March 2012 question 7.1.

<sup>137</sup> Responses to Questionnaires Q1 and Q2 of 7 March 2012, questions 6.1, Questionnaires Q1, Q2, Q3 of 7 March 2012 question 7.1, and Questionnaires Q1, Q2, Q3 of 7 March 2012 question 8.1.

<sup>138</sup> Response of Carphone Warehouse, to Questionnaire R4 of 10 May 2012 question 3.1.

<sup>139</sup> Response of Visa to Questionnaire Q2 of 7 March 2012 question 6.1.1.

<sup>140</sup> A large majority of customer of mobile payment services answered no to questionnaire Q3 question 8.1. IBM took the view however that card issuers and banks will not distinguish between an online and an offline mobile transaction. (See agreed minutes of telephone conference call of 9 May 2012 with IBM).

<sup>141</sup> This is consistent with the Commission's GREEN PAPER "Towards an integrated European market for card, internet and mobile payments" which state that that the line between e-payments and m-payments is blurred, and may become even more so in the future. See point 2.4 of the Green Paper at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011DC0941:EN:NOT>.

the same market since the operation would not significantly impede effective competition under any alternative product market definition.

#### 8.1.4. *Market for advertising services*

- (140) The JV Co would act as an intermediary for the sale of digital advertising inventory: it would offer advertisers, agencies and others a one stop shop for the delivery of coupons and offers or brand advertising campaigns onto the mobile handsets of the opted-in customers of all participating M(V)NOs with a single campaign.
- (141) In particular, the JV Co would offer the following services:
- (a) push SMS: the JV Co would send SMS messages to participating M(V)NOs' customers opted in for advertising offers or messages;
  - (b) intelligent bulk SMS: the JV Co would send SMS messages to an advertiser's own opted-in customers with the overlay of additional data/features to enhance the effectiveness of the campaign. The JV Co would provide, as an ancillary activity only, bulk SMS services, that is to say without intelligent overlay;
  - (c) pull offers: the JV Co would provide access for advertisers and agencies to platforms such as M(V)NOs' apps or the JV Co's wallet to place offers or information in a location which consumers would be encouraged to visit to find such services, rather than offers or information being sent out to them by push SMS/MMS or in a display ad;
  - (d) display advertising on M(V)NOs' assets: the JV Co would provide advertisers with advertising options including display ads, banners, pop-ups etc. across all the participating M(V)NO-owned mobile real-estate, that is to say in wallet, mobile portals and apps;
  - (e) coupons and vouchers: the JV Co would provide the capability to both issue coupons and vouchers through messaging and other means, redeem them both online and at retail locations through the JV Co's wallet or other mobile apps and track such redemption where required.
- (142) The JV Co would not be active in other types of mobile advertising (such as for example supply of intermediation services for search advertising), which are therefore not discussed in the present Decision.

##### 8.1.4.1. Market for mobile advertising intermediation services

#### **The View of the Notifying Parties**

- (143) According to the Notifying Parties the relevant product market for the assessment of the formation of the JV Co is the market for the supply of intermediation services for digital advertising in the United Kingdom, including all forms of digital advertising (whether marketing messaging via email, SMS or push notification; or search and non-search online advertising), delivered both through static internet connections and through mobile communications devices (and indeed through intermediate devices such as laptops and tablet computers).

- (144) The Notifying Parties consider that from the demand-side perspective, there is substitutability between mobile advertising and digital advertising generally, between targeted marketing messaging and web-based advertising and between targeted SMS messaging and other forms of targeted marketing messaging<sup>142</sup>.
- (145) The Notifying Parties submit that there are no unique attributes of advertising through mobile handsets which would prevent advertisers from quickly and easily switching their campaigns back to traditional online formats. Very few websites currently distinguish between viewing through a mobile handset as opposed to a static PC. For example, as location information is already widely available (and will become even more so with the adoption of the new HTML5 standard<sup>143</sup>), the Notifying Parties consider that location-based information is simply one input into the ever-increasing targeting capability of advertising, which does not in and of itself add a unique attribute to any given advertising service.
- (146) Furthermore, the Notifying Parties submit that it would be appropriate to consider targeted marketing messaging services (whether SMS, MMS, email or IP push notifications) in the same way as search and display advertising: namely as a format for advertisers to utilise in order to reach their desired consumer audience<sup>144</sup>. Although messaging has some distinct features from online display advertising in terms of the way that the advert is delivered, both forms of advertising have similar targeting capabilities, and both are based on data collected on their interests through consumers' previous behaviours. This targeting capability now rivals the information revealed about a consumer's interests in a search advertising context<sup>145</sup>. Furthermore, all forms of advertising services offered by the JV Co may serve the same purposes, for example a direct response advertisement or a brand awareness advertisement. The increased ability to target non-search advertising now allows direct response advertisements to be presented as display ads (whether online, in-app or through messaging) to the consumers most likely to take action<sup>146</sup>. Also, due to the format of mobile handsets, the distinguishing features of the different forms of advertising are less pronounced than in the static online world<sup>147</sup>.
- (147) The Notifying Parties also submit that the JV Co would send targeted marketing messages to mobile subscribers that have opted in to receive such messages. A distinction could be made between push SMS (opted-in customers in the JV Co's database) and intelligent bulk SMS (opted-in customers in advertisers' databases). The Notifying Parties however also submit that within active marketing messaging, in practice IP push notifications do not substantially differ from traditional push SMS messages<sup>148</sup>. IP-based push notifications can be delivered to all smartphones through apps downloaded to a consumer's handset. These are internet-protocol based notifications which allow the application to make a message appear on a consumer's handset. On many smartphones, these notifications take exactly the same form as the notification of the receipt of an SMS, regardless of the type of connectivity (2G, 3G

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<sup>142</sup> Form CO, paragraphs 346 to 385.

<sup>143</sup> HTML5 is the latest development in the code which enables users to view and interact with the internet.

<sup>144</sup> Form CO, paragraph 367.

<sup>145</sup> Form CO, paragraph 372.

<sup>146</sup> Form CO, paragraph 373.

<sup>147</sup> Form CO, paragraph 374.

<sup>148</sup> Form CO, paragraph 350.



or Wi-Fi). As regards email messaging, the Notifying Parties submit that it is substitutable with push SMS, in particular because of the increased market penetration of smartphones, which means that many (and soon to be most) consumers have access to their email accounts on their mobile handsets. Email messages can appear in the inbox of a smartphone user via a notification in the same way as an SMS<sup>149</sup>.

- (148) On the supply-side, the Notifying Parties submit that there is a considerable and growing competitive threat from online advertising intermediaries such as Google or Apple who are moving into mobile advertising intermediation and who have access to key inputs into a digital advertising business – location data and browsing data<sup>150</sup>.
- (149) The Notifying Parties submit that there will be a number of supply-side competitive constraints which the JV Co will have to face in the provision of mobile advertising intermediation services. These can be any of the following:
- (a) the ability of publishers to switch between different forms of inventory and how they choose to sell it (they may choose to develop static online inventory rather than mobile inventory) or they may also sell directly to advertisers themselves, either exclusively or in conjunction with the use of an advertising network;
  - (b) the ability of static online advertising intermediaries to provide mobile advertising intermediation services, which they are well placed to do, and are increasingly doing, as the relationships they have with publishers and advertisers will, in many cases, be the same for mobile inventory as for static online inventory. Furthermore, much of the skills and technology required for static online intermediation services are the same as those required for intermediation of mobile advertising inventory;
  - (c) the ability of publishers that sell directly to advertisers to choose to intermediate. In particular, where a publisher has particularly rich targeting information, then it may well be commercially attractive for it to monetise this data.
- (150) Therefore, the Notifying Parties conclude that all forms of digital inventory are to be regarded as substitutable and the relevant market should not be further sub-segmented.

## **The Commission's assessment**

### Online and mobile advertising

- (151) In its previous practice, the Commission has distinguished between the provision of online and offline advertising space<sup>151</sup>. The Commission also discussed the question of whether the market for online advertising could be subsegmented into search and

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<sup>149</sup> Form CO, paragraph 362.

<sup>150</sup> Form CO, paragraph 334 and paragraphs 394 to 400.

<sup>151</sup> See the Commission decision of 11 March 2008, Case No COMP/M.4731 – *Google/DoubleClick*, paragraph 45 to 47.

non-search services but finally left this question open, because under any alternative product market definition, the transaction did not raise any competition concerns<sup>152</sup>.

- (152) The Commission also looked into a possible sub-market for mobile (search) advertising<sup>153</sup>. The Commission explained that mobile advertising, which presents some distinguishing features both technically (e.g; size of the ads) and commercially (for example it is especially appropriate to advertise outlets near to the actual location of the holder of the smartphone) is one of the most important recent developments in online advertising, but left open whether it would already constitute a separate product market<sup>154</sup>.
- (153) The vast majority of respondents to the market investigation considers that the mobile advertising services include many different offers: search ads on web-pages accessible via mobile; non-search ads (for example web banners) on webpages accessible via mobile handsets; SMS ads (including intelligent bulk SMS); MMS ads; email ads accessible via mobile; in-app ads; push messages (including IP-based push notifications, i.e. for coupons and vouchers); pull messages (including coupons and vouchers)<sup>155</sup>.
- (154) A majority of the respondents to the market investigation considered that it is not possible to substitute online static advertising accessed through (desktop or laptop) computers with advertising accessed on a mobile handset such as a smartphone and to some extent a tablet<sup>156</sup>.
- (155) The Commission notes that the border in terms of screen size or other properties between modern desktop computers, laptops, tablets and even smartphones is becoming increasingly blurred. However, a distinction still has to be made between their regular usage, the OS, special apps and websites accessed on a desktop or laptop computer on one hand, and those especially developed for a tablet or a smartphone on the other hand.
- (156) Some respondents commented that mobile and online advertising are complementary. One respondent argued that *"given customers' behaviour and proliferation of internet-enabled devices this usage is incremental rather than cannibalistic"*<sup>157</sup>. Another respondent agreed, saying that it sees *"both channels working side by side"*<sup>158</sup>. Some of the reasons for finding that mobile and online advertising are not substitutable relate to the size of the screen, the fact that mobile

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<sup>152</sup> See the Commission decision of 11 March 2008, Case No COMP/M.4731 – *Google/DoubleClick*, paragraph 82.

<sup>153</sup> See the Commission decision of 18 February 2010, Case No COMP/M.5727 – *Microsoft/Yahoo! Search Business*, paragraph 82.

<sup>154</sup> See the Commission decision of 18 February 2010, Case No COMP/M.5727 – *Microsoft/Yahoo! Search Business*, paragraph 79 to 81.

<sup>155</sup> Responses to Questionnaire Q1 of 7 March 2012, question 9; responses to Questionnaire Q2 of 7 March 2012, question 9 and responses to Questionnaire Q3 of 7 March 2012, question 10.

<sup>156</sup> Responses to Questionnaire Q1 of 7 March 2012, questions 12.1 to 12.3; responses to Questionnaire Q2 of 7 March 2012, question 12.1 to 12.3 and responses to Questionnaire Q3 of 7 March 2012, question 13.

<sup>157</sup> Response of HSBC to Questionnaire Q3 of 16 March 2012 question 13.1.

<sup>158</sup> Response of MBNA Europe Bank to Questionnaire Q3 of 7 March 2012 question 13.1.

handsets' penetration is not yet 100%, the reliability and speed of 3G connection on mobile handsets and the different type of consumer experience.

- (157) However, the majority of the respondents expect the markets to converge in the future. Some commented on the fact that mobile advertising is still constantly evolving. One respondent<sup>159</sup> stated that "*the mobile advertising strategy has not been defined yet*". Some of the reasons increasing the likelihood of convergence are the widespread use of smartphones and the increasing popularity of tablets as well as the adoption of the HTML 5 standard. Another respondent<sup>160</sup> stated that consumer behaviour would change to accept information from smaller screens, tablets etc. Through the use of tablets, people are moving away from static desktop computing. One respondent<sup>161</sup> even predicted that "*eventually static online display advertising would disappear*".
- (158) On this basis, it appears that mobile and online advertising currently present to a large extent different features, which difference may diminish at some point in the future. However, it is not clear whether and, if so, when and to what extent this convergence would take place.
- (159) For the purposes of the present Decision, it can however be left open if mobile advertising constitutes a separate market from online (search or non-search) advertising or if it is part of a broader market, since the operation is not likely to lead to a significant impediment of effective competition under any possible product market definition.

#### Targeted marketing messaging within mobile advertising

- (160) The large majority of respondents to the market investigation considered that within mobile advertising, targeted marketing messaging (including SMS/MMS, intelligent bulk SMS, bulk SMS and IP-based push messages<sup>162</sup>) constitutes a separate market from search and non-search mobile advertising. The two services are seen as being complementary and not substitutable<sup>163</sup>.
- (161) The main reasons for the lack of substitutability are their different approaches, marketing scope and reach, campaign objectives, functions of the means of advertising, pricing models, targeting possibilities, consumer data collection and consumer behaviour. These are some of the reasons why active marketing messaging is used in parallel to other types of mobile advertising, as a part of a bundle of different advertising techniques within a given advertising campaign with regard to which the two are substitutable only to a limited extent.
- (162) For example, targeted marketing messaging is perceived as allowing advertisers to capture consumer engagement, providing feedback and timproving the targeting of

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<sup>159</sup> Response of Kingfisher to Questionnaire Q3 of 7 March 2012 question 11.

<sup>160</sup> Response of DSG International to Questionnaire Q3 of 7 March 2012 question 14.

<sup>161</sup> Response of National Australia Bank Limited Group to Questionnaire Q3 of 7 March 2012 question 14.

<sup>162</sup> The Commission acknowledges that there are also other forms of targeted messaging, such as search or content targeted advertising. The term "targeted market messaging" in the present Decision however does not include refer to them, since they are not directly relevant for the competition assessment.

<sup>163</sup> Responses to Questionnaire Q1 of 7 March 2012, question 20; responses to Questionnaire Q2 of 7 March 2012, question 20 and responses to Questionnaire Q3 of 7 March 2012, question 20.

advertisement<sup>164</sup>. It would be possible (given the capability from a data warehousing and advertising or push targeting perspective) to target the right audience using both types of advertising. However, there are various differences mainly based on demographics, account holdings, behaviour etc<sup>165</sup>. Furthermore, according to another respondent, advertising publishers that do not offer push marketing but do offer for example mobile display advertising would need to develop a customer service around an opted-in database, which would be costly and would require a special sales team<sup>166</sup>.

- (163) The Commission therefore considers that targeted marketing messaging presents a number of differences, which often render it not substitutable to search or non-search mobile advertising.
- (164) In addition, advertising linked to NFC technology (for example tapping a mobile handset on a poster to obtain a voucher) would be distinct from mobile messaging, as the former requires active engagement of the consumer and is rather a form of untargeted advertising.
- (165) For the purposes of the present Decision, it can however be left open whether mobile marketing messaging constitutes a separate market from search and non-search mobile advertising or if it is part of a broader market, since the operation is not likely to lead to a significant impediment of effective competition under any possible product market definition.

#### Existence of separate sub-markets within targeted marketing messaging

- (166) The Commission also assessed whether within targeted marketing messaging, push SMS and intelligent bulk SMS on one hand, and IP push notifications on the other hand, would constitute separate markets.
- (167) Three UK argues that within active mobile messaging there is a separate market for push advertising via SMS or MMS, on which the JV Co would be very strong.
- (168) According to Three UK, advertisers and media agencies do not consider mobile push advertising (mobile messaging via SMS and MMS) and the associated subscriber data closely substitutable with other forms of advertising. Mobile push advertising would have unique features which allow advertisers to provide campaigns which: are highly targeted to the users, can elicit an immediate customer response, can allow the advertiser to accurately measure campaign success and consumer engagement, and are very attractive to the user, since offers are clipped to the wallet, can be redeemed simultaneously with payment and can be managed together with other cards and offers via a single wallet app<sup>167</sup>. The Commission considers that, from the consumer's perspective, IP push notifications can have similar characteristics to a push SMS and intelligent bulk SMS. Provided the device has the application installed and the necessary permissions enabled on the application, the message can be functionally the

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<sup>164</sup> Response of DSG International to Questionnaire Q3 of 7 March 2012, question 21.

<sup>165</sup> Response of Lloyds Banking Group to Questionnaire Q3 of 7 March 2012, question 21.

<sup>166</sup> Response of Three UK to Questionnaire Q1 of 7 March 2012, question 20.1.

<sup>167</sup> Three UK's submission to the Commission of 10 January 2012, page 13.

same as an SMS. However, IP push notifications can be turned off by a consumer via the settings in their User Interface or within the application.

- (169) A number of other alternatives to SMS are now emerging, operating through the data connection of a smartphone ( through the internet). For example, on its iOS5, Apple has enabled the iMessage service. This is a free messaging service which uses the data connection of iPhones and iPads to send messages that appear identical from a user's perspective to an SMS.
- (170) Whereas the majority of respondents to the market investigation replied that the various types of targeted marketing messaging would not substitute each other, only few provided a detailed explanation of their answer. Some respondents explained that the different types are likely to coexist<sup>168</sup> and that there are a number of differences in terms of capabilities, cost structures, pricing and availability on devices<sup>169</sup> and that the type of message depends on the ad campaign's aim. Also, advertising intermediaries who currently sell SMS consider that it may not be easy to switch to IP push notification<sup>170</sup>. One respondent submitted that *"IP push notifications are at least one sixth of the cost of simple bulk SMS, and in fact very large volume push notifications are even cheaper. In other words the market conditions would not be impacted by variances of 5% to 10%. In addition, IP Push notifications allow richer content than SMS, especially when delivered to smartphones and so they can be more valuable to consumers"*<sup>171</sup>.
- (171) However, most of the market participants who provided a reasoned response and most advertisers considered that push or intelligent bulk SMS and IP push notifications are substitutable in particular because SMS and IP push notifications have comparable qualities and usage and that many advertisers would use IP push notifications instead of SMS in order to reach the same audience since the former are at close to zero cost. For example, one respondent submitted that *"[t]he key difference between SMS and IP push message is the cost model [...] There may be a small amount of up-front production cost to the advertisers in the build stage of applications/sites to enable push notifications but this is likely to be minimal. The difference in effort between management and monitoring of IP based messaging and SMS/MMS messaging is minimal"*<sup>172</sup>. Other respondents replied that the campaign objectives are the same<sup>173</sup> and that IP push notifications would replace SMS to a significant extent if widely available<sup>174</sup> since it offers zero cost options<sup>175</sup> for advertisers. One advertiser explained that *"IM [internet messaging] and in-app messaging will begin to replace SMS/MMS marketing messages in the near future and at a greatly reduced cost. Handset manufacturers are already beginning to deliver this capability, bypassing the mobile networks"*<sup>176</sup>. According to one competitor, *"SMS and IP push messages are very*

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<sup>168</sup> Response of Ericsson to Questionnaire Q2 of 13 March 2012, question 21.

<sup>169</sup> Response of IBM Corporation to Questionnaire Q2 of 7 March 2012, question 21.1.

<sup>170</sup> Response of Velti to Questionnaire Q2 of 7 March 2012, question 21.2.1.

<sup>171</sup> Response of Sybase to Questionnaire R5 of 11 May 2012, question 6.

<sup>172</sup> Response of Aegis to Questionnaire Q2 of 7 March 2012, question 21.1.1.

<sup>173</sup> Response of Experian to Questionnaire Q2 of 13 March 2012, question 21.1.1.

<sup>174</sup> Response of Mobile Interactive Group to Questionnaire Q2 of 7 March 2012, question 21.1.1.

<sup>175</sup> Response of Velti to Questionnaire Q2 of 7 March 2012, question 21.3.1.

<sup>176</sup> Response of MBNA Europe Bank to Questionnaire Q3 of 14 March 2012, question 22.

*similar, as they rely on the same data and the consumer experience is similar, but they differ in the scope of what they can do"*<sup>177</sup>.

- (172) Indeed, push or intelligent bulk SMS and IP push notifications in particular tend to fulfil similar objectives and can be substituted without incurring significant costs. Both push and intelligent bulk SMS and IP push notifications are highly targetable, can prompt immediate customer response, and are likely to be attractive to end customers (for instance by being clipped to the mobile wallet).<sup>178</sup> While certain differences between the various types of targeted mobile messaging still exist, these differences are likely to decrease in the future with the increasing penetration and use of internet connected mobile devices and mobile applications. SMS was even considered by some respondents to the market investigation as a support, which progressively loses weight in the market<sup>179</sup>. For example, one respondent submitted that *"[i]n the longer run SMS will be replaced by IP messaging as IP messaging, as opposed to SMS, is free. Aegis has no concerns regarding the effect of the transaction on the markets for mobile advertising and data analytics services and on the bulk SMS market. The importance of the latter market will decline as IP messaging becomes more attractive. The JV would enhance the growth of the mobile advertising market, which is welcomed by Aegis."*<sup>180</sup>
- (173) In view of the above, the Commission considers that despite certain differences between the various types of targeted mobile messaging, in particular push or intelligent bulk SMS and IP push notifications may become part of the same market. However, for the purposes of the present Decision, it can be left open if the different types of targeted mobile marketing messages constitute separate markets or are part of a broader market, as the operation is not likely to lead to a significant impediment of effective competition under any possible product market definition.

#### Intermediation of mobile advertising versus direct sales

- (174) The JV Co will be an intermediary for targeted marketing messaging, non-search and other forms of advertising on mobile handsets (such as coupons and vouchers).
- (175) In its previous practice<sup>181</sup> the Commission has defined a separate market for intermediation in online advertising in view of the fact that direct sales are no substitute for the service provided by intermediaries for the sale of smaller publishers' inventory and for the sale of (at least) part of the remnant inventory of larger publishers that also use the direct sales channel. In addition, the Commission acknowledged that *"ad networks are currently developing sales models that are progressively becoming very close to the direct sales channels"*, but the Commission concluded that *"these developments are still at a very initial stage and cannot be considered to be an established market trend"*<sup>182</sup>. The Commission also left open

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<sup>177</sup> Agreed minutes of telephone conference call of 15 June 2012 with PayPal.

<sup>178</sup> For advertisers, both means would also allow data analytics services, in order for instance to determine the degree of success of a campaign.

<sup>179</sup> This would be due in particular to the technical restrictions applying to SMS (limitation in size, etc.).

<sup>180</sup> Agreed minutes of telephone conference call on 25 April 2012 with Aegis.

<sup>181</sup> See the Commission decision of 11 March 2008, Case No COMP/M.4731 – *Google/DoubleClick*, paragraph 68.

<sup>182</sup> See the Commission decision of 11 March 2008, Case No COMP/M.4731 – *Google/Doubleclick*, paragraph 63.

whether a further sub-division of this market in search and non-search intermediation is necessary<sup>183</sup>.

- (176) The present market investigation did not allow an unambiguous conclusion to be drawn on a possible separation of the markets into sales of mobile advertising space through intermediaries and direct sales.
- (177) A majority of the customers of mobile advertising replied that the prices of inventory sold directly by publishers are not comparable to those sold via intermediaries<sup>184</sup>, however, without providing any detailed explanation. One respondent explained for instance that *"generally intermediaries deal with remnant inventory, thus it is cheaper"*<sup>185</sup>. Another respondent submitted that the *"vast majority of mobile media is sold via a mobile network and /or specialist mobile sales house"*<sup>186</sup>.
- (178) Nevertheless, a majority of respondents on the supply side confirmed that direct sales compete with intermediaries in mobile display advertising, particularly with regard to prices<sup>187</sup>. One respondent explained that *"[t]hese compete because advertisers have finite marketing budgets and the direct sales will be competing with intermediation sales for the same marketing budget regardless of the form of advertising"*<sup>188</sup>. Another submitted that *"mobile intermediaries provide significant competition to direct sales of mobile advertising, particularly with regard to price and this has been a contributory factor in driving down the price of mobile advertising significantly"*<sup>189</sup>.
- (179) Another respondent stated: *"At times, developers and advertisers purchase and sell mobile advertising directly from each other. Large app developers with a substantial mobile advertising businesses, may decide to directly monetize some or all of their advertising space without utilizing the services of a mobile advertising intermediary. This type of direct advertising sales make it more difficult for mobile advertising intermediaries and could result in increased pricing pressure, reduced profit margins, increased sales and marketing expenses or the loss of market share for mobile advertising intermediaries"*<sup>190</sup>.
- (180) According to another respondent, *"[...] direct sales of mobile advertising inventory compete with indirect sales of mobile advertising inventory, although [...] indirect sales account for a significant proportion of the market. Accordingly, while indirect sales are a significant constraint on direct sales (and in respect of mobile advertising, the presence of mobile intermediaries has been a contributory factor in driving down the price of mobile advertising significantly), the more limited presence of direct sales minimises the ability of direct sales to constrain indirect sales in the same way"*<sup>191</sup>.

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<sup>183</sup> See the Commission decision of 11 March 2008, Case No COMP/M.4731 – Google/DoubleClick, paragraph 69.

<sup>184</sup> Responses to Questionnaire Q3 of 7 March 2012, question 16.

<sup>185</sup> Response of Mediacom to Questionnaire Q3 of 13 March 2012, question 16.1.

<sup>186</sup> Response of ZenithOptimedia UK to Questionnaire R3 of 11 May 2012, question 12.a.

<sup>187</sup> Responses to Questionnaire Q2 of 7 March 2012, question 16.

<sup>188</sup> Response of Aegis to Questionnaire Q2 of 7 March 2012, question 16.1.

<sup>189</sup> Response of Sky to Questionnaire Q2 of 7 March 2012, question 16.1.

<sup>190</sup> Response of Millennial Media to Questionnaire Q2 of 7 March 2012, question 16.1.

<sup>191</sup> Response of BskyB to Questionnaire R3 of 22 May 2012, question 16.a.

- (181) Therefore, direct sales of mobile advertising constrain the sale of mobile advertising through intermediaries to a significant extent. In any event, for the purposes of the present Decision, it can be left open whether there are separate markets for direct and intermediated sales of mobile advertising or whether they are part of a broader market, as the operation is not likely to lead to a significant impediment of effective competition under any possible product market definition.

## **Overall Conclusion**

- (182) On the basis of the above, it is concluded that, as regards the JV Co's advertising activities, the precise product market definition can be left open, as the operation would not significantly impede effective competition under any alternative product market definition.

### *8.1.5. Market for retail and wholesale bulk SMS services*

- (183) Retail bulk SMS is a service that enables businesses (such as retailers or financial institutions) to send high volumes of text messages to their customers (provided that these have opted in to receive such messages on their mobile handsets). It can be used for sending marketing messages but is currently mainly used for general customer communications. For example a bank might use a retail bulk SMS service to send mini-bank statements or fraud alerts to its customers.

- (184) Delivery of messages via SMS to their intended recipients requires connectivity into one or more mobile networks and the physical conveyance of those messages to the relevant mobile subscribers. This service is referred to as the wholesale delivery of bulk SMS. The service consists of two main elements: firstly, conveyance of the message from the sender (the JV Co or an aggregator) to the mobile network to which the intended recipient has subscribed (the home network) and secondly, conveyance by the home network to the recipient's mobile handset.

#### *8.1.5.1. The view of the Notifying Parties*

- (185) The Notifying Parties consider that there is a separate market for retail bulk SMS services and for wholesale bulk SMS delivery services, which is an upstream input into the marketing messaging services of the JV Co<sup>192</sup>
- (186) The Notifying Parties consider that retail bulk SMS is distinguishable from the other services to be provided by the JV Co and is likely to constitute a separate relevant market because it is often used in a different way from advertising services. In particular, it is commonly used for direct communications between companies and customers that have opted in to receive such information. It also lacks the essential feature of targeting or intelligence that characterises the other services to be provided by the JV Co as part of its marketing services. Furthermore, it is an existing service with a large pool of established players who will pose a direct competitive constraint on the JV Co.

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<sup>192</sup> Form CO, paragraph 333.



#### 8.1.5.2. The Commission's assessment

- (187) The JV Co will be active in the supply of retail bulk SMS services to its advertiser customers. Retail bulk SMS is a service that enables businesses (such as retailers or financial institutions) to send high volumes of text messages to their customers.
- (188) Retail bulk SMS is a service predominantly provided by intermediaries known as SMS aggregators who secure wholesale arrangements for the delivery of bulk SMS with one or more of the MNOs (on a wholesale market for bulk SMS)<sup>193</sup>. Aggregators aggregate demand for bulk SMS from multiple sources and ensure that messages are efficiently routed to their intended recipients through connectivity with MNOs around the world.
- (189) On the basis of the market investigation, the Commission concludes that the market for retail bulk SMS services can be distinguished from other types of active messaging. Indeed, the majority of answers both from customers and competitors agreed on considering that retail bulk SMS services are not capable of replacing other mobile marketing messaging. Although some replied that they "*would always consider the cost-effectiveness of every available channel and would be prepared to move advertising spend into more efficient channels*"<sup>194</sup>, the vast majority of respondents considered that "non-intelligent" bulk SMS are generic messages and are not interchangeable with other forms of active messaging for the following reasons: the target audience is different, as bulk SMS is usually based on the sender's database; the scope is different (standard information, not for customer acquisition); data analytics is not added as a service<sup>195</sup>; there is no possibility to target the audience based on demographics and the consumer experience is different.<sup>196</sup> A majority of respondents consider that a 5-10% increase in the price of active marketing messaging such as intelligent bulk SMS or IP push notifications would be compensated by the extra targeting capabilities of these intelligent services<sup>197</sup>.
- (190) In view of the above, it appears that retail bulk SMS services constitute a separate market from active marketing messaging. The former is downstream from the possible market for the wholesale supply of bulk SMS services. However, for the purposes of the present Decision, the precise market definitions can be left open, since the operation is not likely to lead to a significant impediment of effective competition under any possible product market definition.

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<sup>193</sup> The term "retail" bulk SMS is used as a way of distinguishing the activities of aggregators who will, in most cases, have the relationship with end-customers (businesses or entities wishing to send messages) from the wholesale delivery of messages by MNOs to aggregators. However, it is important to note that aggregators themselves may arrange the conveyance of messages from other aggregators and indeed a message may pass through a number of layers of aggregation before reaching an MNO. In that sense, some aggregators may be providing a "wholesale" service to other aggregators.

<sup>194</sup> Response of DSG International to Questionnaire Q3 of 7 March 2012, question 27.1.

<sup>195</sup> Response of Now Mobile Telecommunications Limited to Questionnaire Q1 of 7 March 2012 to question 25: "*retail bulk SMS services require less data analysis and less investment from operators than 'intelligent' advertising.*"

<sup>196</sup> Response of Virgin Mobile to Questionnaire Q1 of 7 March 2012 question 24: "*SMS messages are text only. They lack engaging graphics or animation.*"

<sup>197</sup> Response of DSG International to Questionnaire R3 of 11 May 2012, question 5.

#### 8.1.6. *Market for data analytics services*

- (191) In addition to its Transactions and advertising services, the JV Co will offer data analytics services to its customers. The Notifying Parties do not envisage that the JV Co will offer data analytics services as standalone products. The JV Co intends to collect and analyse the data generated from both its Transactions and advertising services in order to provide its customers with valuable insights into consumer behaviour. The JV Co's data analytics activities will comprise three main elements: reporting analytics, business development analytics and loyalty analytics<sup>198</sup>.
- (192) The reporting analytics services will provide aggregated statistical reports on the success rates of advertising campaigns provided by the JV Co.
- (193) Business development analytics comprise two main components: prospecting analytics, enabling businesses to increase their customer base by identifying new or lost customers and key influencers; and cross-sell analytics.
- (194) Loyalty analytics is aimed at assisting businesses to improve their customer retention rates by quantifying the risk of a specific consumer looking for the products and services from an alternative provider, and then tailoring relevant loyalty products loaded with appropriate levels of value.

##### 8.1.6.1. The view of the Notifying Parties

- (195) In the Notifying Parties' view, the JV Co would be active in the market for the supply of data analytics services in respect of online and offline advertising and Transactions services. They do not consider that it is necessary to segment the overall market for the supply of data analytics services in the present case.
- (196) The Notifying Parties consider that, whilst there are certain differentiating factors related to the information available from mobile usage, and particularly mobile usage within the advertising and Transactions services of the JV Co, it would not be appropriate to identify distinct sub-markets within the overall data analytics field or to identify information related to mobile users as a distinct product market for the following reasons:
- (a) most of the companies active in the mobile data analytics sector are extensions of existing and long-standing web data analytics companies, which make no distinction between the services required to be performed on data obtained through mobile usage as opposed to traditional internet usage, or credit card transaction information analytics;
  - (b) the inputs and the requirements of customers are essentially the same across all formats of data analytics;
  - (c) the data analytics services to be provided by the JV Co will straddle both the internet analytics field and the more traditional transactions analytics fields, due to the nature of the services to be provided by the JV Co.

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<sup>198</sup> Form CO, paragraphs 442 to 444.

#### 8.1.6.2. The Commission's assessment

- (197) In its previous practice, the Commission has identified a separate market for market research services (aimed at measuring and understanding consumer attitudes and purchasing behaviour) and considered whether this should be sub-divided by research type (consumer panel services, retail measurement services and customised market research)<sup>199</sup>. The Commission also identified a separate market for marketing information services, comprising the supply of data on individual consumers (for example age, social group, activities, consuming habits, address) for direct marketing purposes<sup>200</sup>.
- (198) The Commission also identified the existence of marketing data services, which were further segmented into marketing information services, which consist of the provision of data (age, social group, etc.) on individual customers for direct marketing purposes, market research services, which are aimed at measuring actual purchasing patterns, and media measurement services, which are aimed at measuring the audience of specific media, such as television and internet<sup>201</sup>.
- (199) The Commission assessed, in the context of the present operation, whether there could be a separate product market for the provision of data analytics services for mobile advertising.
- (200) According to the vast majority of respondents to the market investigation, the provision of data analytics services for static online advertising cannot be substituted by the provision of data analytics services for mobile advertising, both from the point of view of the advertisers buying these services and the data analytics providers<sup>202</sup>. Indeed, the two services collect a different type of information and amount of consumer details. For example, the information collected via mobile data analytics is usually more personal, geo-located, and can be cross referenced with call behaviour, which cannot be offered by online data analytics to a comparable extent<sup>203</sup>. The online and mobile data analytics services are generally considered as complementary and will continue to be used in parallel.
- (201) Furthermore, the Commission assessed whether within the mobile environment there could be separate markets for market research services (aimed at measuring and understanding consumers' purchasing behaviour) and market information services (aimed at supplying data on individual consumers such as age, social group, activities, address, etc. for direct marketing purposes). The respective replies were ambiguous<sup>204</sup>. However, most respondents then explained that customers purchase both mobile data market research and marketing information services for the

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<sup>199</sup> See the Commission decision of 23 September 2004, Case No COMP/M.5232 - *WPP / TMS*, paragraph 13.

<sup>200</sup> See the Commission decision of 12 February 2001, Case No COMP/M.2291 - *VNU / ACNielsen*, paragraphs 10 to 12.

<sup>201</sup> See the Commission decision of 12 February 2001, Case No COMP/M.2291 - *VNU / ACNielsen*, paragraphs 10 to 12.

<sup>202</sup> Responses to Questionnaire Q1 of 7 March 2012, question 26.1; responses to Questionnaire Q2 of 7 March, question 26.1; responses of Questionnaire Q3 of 7 March 2012n, question 28.1 and responses to Questionnaire R6 of 15 May 2012, question 1.

<sup>203</sup> Response of Aegis Media Limited to Questionnaire R6 of 15 May 2012, question 5.

<sup>204</sup> Responses to Questionnaire R5 of 15 May 2012, question 6.

additional insight they provide into the engagement of the consumer with the relevant advertising. In addition, most respondents provide they do not offer these two types of service separately<sup>205</sup>.

- (202) On the basis of the above, it can be concluded that, as regards the JV Co's data analytics activities, there are possibly separate markets for online and mobile data analytics. The market investigation was rather inconclusive as regards a further sub-segmentation into a product market for market research and market information services.
- (203) In any event, for the purposes of the present Decision, the precise product market definition can be left open, since the operation would not significantly impede effective competition under any alternative product market definition.

#### 8.1.7. *Market for retail mobile telephony services*

- (204) On this market, MNOs sell national and international voice calls, SMS (including MMS), mobile internet with data services and access to content via the mobile network to end customers.
- (205) In previous decisions<sup>206</sup>, the Commission did not further subdivide the market for the provision of mobile communications services to end customers by type of customer (corporate or private, post-pay subscribers or pre-paid customers) or by type of network technology (2G/GSM or 3G/UMTS). The Commission therefore assessed the previous cases on the basis of a single market for the provision of mobile telecommunications services to end customers.
- (206) For the purpose of the present Decision, it can be left open whether or not there are distinct sub-markets as regards mobile telecommunications services to end customers, since the operation would not significantly impede effective competition under any alternative product market definition.

### 8.2. **The Relevant Geographic Markets**

- (207) According to paragraph 7 of Article 9 of the Merger Regulation and paragraph 8 of the Commission Notice on the definition of relevant market for the purposes of Community competition law<sup>207</sup>, the geographical reference market shall consist of the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because, in particular, conditions of competition are appreciably different in those areas. This assessment should take account in particular of the nature and characteristics of the products or services concerned, of the existence of entry barriers or of consumer

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<sup>205</sup> Responses to Questionnaire R6 of 15 May 2012, question 6.

<sup>206</sup> See the Commission decision of 01 March 2012 in Case No COMP/M.5650 – *T-Mobile/Orange*, paragraph 24; the Commission decision of 27 November 2007 in Case No COMP/M. 4947 – *Vodafone/Tele2 Italy/Tele2 Spain*, paragraph 14; the Commission decision of 26 April 2006 in Case No COMP/M.3916 – *T-Mobile Austria/Tele ring*, paragraph 18; the Commission decision of 24 September 2004 in Case No COMP/M.3530 – *TeliaSonera/Orange*, paragraph 13; and the Commission decision of 16 September 2003 in Case No COMP/M.3245 – *Vodafone/Singlepoint*, paragraph 12.

<sup>207</sup> OJ 1997, C 372, page 5.

preferences, of appreciable differences of the undertakings' market share between the area concerned and neighbouring areas or of substantial price differences<sup>208</sup>.

#### 8.2.1. *Market for wholesale supply of mobile wallet platforms*

##### 8.2.1.1. The view of the Notifying Parties

(208) The Notifying Parties consider that the relevant geographic market for the wholesale supply of mobile wallet platforms is at least national in scope, covering the whole of the United Kingdom.

(209) [...] <sup>209</sup>.

##### 8.2.1.2. The Commission's assessment

(210) The Commission notes first that providers of services such as Google<sup>210</sup> intend to offer their mobile wallet platform on an international basis. No relevant geographic boundaries would appear to exist for these providers to offer mobile wallet platforms on a worldwide basis.

(211) One respondent also stressed that, while the JV Co would be a venture between three of the United Kingdom's licensed MNOs, all three entities are subsidiaries of global organizations<sup>211</sup>. Given this and the fact that the JV Co is planning to provide services to M(V)NOs, it is conceivable that they will leverage their global presence to introduce such services in other territories because the brands with which they will be working will seek global coverage for marketing campaigns and because they will sell the JV Co's products to non-participating M(V)NOs<sup>212</sup>.

(212) The market investigation found that some customers of payment services consider buying at national level and others at worldwide level. Almost half of the respondents stated that they considered the market for the wholesale provision of mobile wallet platforms as having a worldwide geographic dimension as they consider buying at worldwide level if costs are lower or if technology is improved. However, they would nonetheless have a preference for purchasing such services in the United Kingdom, as their main focus is the United Kingdom<sup>213</sup>.

(213) The Commission considers that in the present case the geographical scope of the wholesale supply of mobile wallet platforms seems to be at least national (United Kingdom) and possibly wider than national. It can however be left open whether the geographical scope of the market for wholesale supply of mobile wallet platforms is

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<sup>208</sup> Judgement of the Court of Justice of 31 March 1998, joined cases C-68/94 and C-30/95, France et al./Commission, "Kali & Salz", paragraph 143, and judgement of the Court of First instance of 30 September 2003, joined cases T-346/02 and T-347/02, "Cableuropa", paragraph 115.

<sup>209</sup> Form CO, paragraph 262.

<sup>210</sup> Google wallet is offered in the United States of America and will soon be launched in the United Kingdom. Response of Google to Questionnaire Q2 of 7 March 2012, question 52.

<sup>211</sup> Response of Openmarket to Questionnaire Q2 of 7 March 2012, question 30.1.

<sup>212</sup> Response of Openmarket to Questionnaire Q2 of 7 March 2012, question 33.

<sup>213</sup> Responses to Questionnaire Q3 of 7 March 2012, question 31.1.

wider than national since the operation would not significantly impede effective competition under any relevant geographic market definition.

#### 8.2.2. *Market for secure storage*

##### 8.2.2.1. The view of the Notifying Parties

- (214) The Notifying Parties did not consider a market for secure storage or its geographical scope.

##### 8.2.2.2. The Commission's assessment

- (215) The provision of SIM-based SE secure storage appears intimately connected to the provision of retail mobile telephony services, markets that the Commission in previous decisions has found to be national in geographical scope<sup>214</sup>.
- (216) On the other hand, the provision of secure storage on embedded SEs might conceivably be wider in geographical scope as the issuers of embedded SEs, in particular OEMs and OS providers and, possibly, issuers of external SEs and cloud-based secure storage are active on a worldwide basis. They therefore may be able to contract with retail suppliers of mobile wallet services or wholesale providers of mobile wallet platforms for the provision of secure storage on a basis that is larger than national.
- (217) The Commission takes the view that in the present case the possible market for secure storage seems to be at least national (United Kingdom) in geographic scope. For the purpose of this operation the exact geographic market definition for a possible market for secure storage can however be left open as the operation would not significantly impede effective competition under any relevant geographic market definition.

#### 8.2.3. *Market for retail distribution of mobile wallet services to customers*

##### 8.2.3.1. The view of Notifying Parties

- (218) The Notifying Parties consider that the relevant geographic scope of the market for the retail distribution of mobile wallet services is at least national. They do not anticipate actively offering mobile wallets to consumers outside of the United Kingdom, reflecting the fact that the payment cards and services that will be offered via the mobile wallet will relate to SPs in the United Kingdom.
- (219) The Notifying Parties do however expect that their competitors, such as Google and PayPal, will offer these services to consumers across multiple countries<sup>215</sup> and would therefore be active on a global basis. They take the view that, while there is no basis for identifying regional or local markets, it can be left open whether the relevant

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<sup>214</sup> See the Commission decision of 24 September 2004, Case No COMP/M.3530 – *TeliaSonera AB/Orange AS*, paragraph 16, and Commission decision of 24 October 2005, Case No COMP/M.3920 – *France Telecom/Amena*, paragraph 20.

<sup>215</sup> The Notifying Parties moreover have the aspiration that the JV Co mobile wallet will be interoperable with the various wallet initiatives in other EU Member States, allowing users to use their mobile wallet when they travel across the European Union (and potentially elsewhere).

market for the retail distribution of mobile wallet services to customers may be wider than national<sup>216</sup>.

#### 8.2.3.2. The Commission's assessment

- (220) Regarding the geographic market for the retail distribution of mobile wallets to customers, the majority of respondents to the market investigation considered that the market for the retail supply of mobile wallet services is national in scope<sup>217</sup>. This is consistent with the fact that a majority of them also consider that mobile payments will be priced differently according to geographic areas<sup>218</sup>.
- (221) Several points raised in the market investigation confirm this delineation. First of all, the main actors involved in the provision of mobile wallet services are based in the United Kingdom. Some respondents argued that most users will acquire mobile wallets from local M(V)NOs and will load credit cards on their mobile wallet associated to their local bank account. Therefore, the contractual relationship that a mobile wallet end-user will have with its particular M(V)NO and with its credit institution or bank will tie the mobile wallet to a location<sup>219</sup>. As retail mobile telephony markets and retail banking markets have previously been found to be national in scope by the Commission, the connections that exist between these markets and the retail market for mobile wallets may favour the view that the latter market also has a national dimension<sup>220</sup>. Moreover, the advertising services that can be offered through mobile wallets, such as voucher redemption or loyalty cards, tend to be at most national in nature<sup>221</sup>. Therefore, retail providers of wallet services as well as end-users thereof would likely consider mobile wallet services without customisation to a national market as inferior.
- (222) In addition, some respondents raised issues related to interoperability. Some stated that NFC-enabled devices are not interoperable across different Member States of the European Union, more particularly as standards do not encompass the full transaction chain and may therefore vary between member States<sup>222</sup>. Payment methods may differ from one country to another and impede interoperability. Some other respondents held the view that NFC-enabled devices are interoperable or will soon be<sup>223</sup>. However, they nonetheless consider that payment methods are issued at a national level and, as they may differ from one country to another, this could impede interoperability. Similarly, a majority of the respondents points to the existence of specific national limitations<sup>224</sup> such as national payment and security regulations or specific PIN-entry rules and transaction requirements, which can differ across the EEA<sup>225</sup>.

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<sup>216</sup> Form CO, paragraph 238.

<sup>217</sup> Responses to Questionnaires Q2 and Q3 of 7 March 2012, questions 30 to 35.

<sup>218</sup> Responses to Questionnaire Q3 of 7 March 2012, question 32.

<sup>219</sup> Response of Google to Questionnaire Q2 of 7 March 2012 question 35.

<sup>220</sup> See the Commission decision of 3 October 2007, Case No COMP/M.4844, *Fortis/ABN AMRO Assets*, paragraph 86; the Commission decision of 3 December 2008, Case No COMP/M.5384 - *BNP Paribas / Fortis*, paragraph 71.

<sup>221</sup> For instance, agreed minutes of telephone conference call of 25 April 2012 with Nokia.

<sup>222</sup> Responses to Questionnaire Q2 of 7 March 2012, question 31.1.

<sup>223</sup> Responses to Questionnaire Q2 of 7 March 2012, question 31.1.

<sup>224</sup> Responses to Questionnaire Q2 of 7 March 2012, question 32.

<sup>225</sup> Response of Google to Questionnaire Q2 of 7 March 2012, question 32.

- (223) However, several respondents assert that the retail market for mobile wallet services to end-users is a worldwide market as the MNOs are acting on a global level<sup>226</sup>. According to those respondents, the Notifying Parties have the capabilities to reach customers worldwide (or to reach a worldwide market)<sup>227</sup>.
- (224) The Commission takes the view in the present case that the market for the retail distribution of mobile wallet services seems to be at least national (United Kingdom) in geographic scope. For the purpose of this case the exact geographic market definition for the retail distribution of mobile wallet services to customers can however be left open since the operation would not significantly impede effective competition under any relevant geographic market definition.

#### 8.2.4. Market for advertising services

##### 8.2.4.1. The view of the Notifying Parties

- (225) In relation to the advertising services provided by the JV Co (and the possible sub-markets), the Notifying Parties submit that the geographic market definition is at least United Kingdom-wide if not wider.

##### 8.2.4.2. The Commission's assessment

- (226) Many respondents to the market investigation considered that many mobile advertising networks (or "ad networks" – which are companies that connect advertisers to web sites that want to host advertisements) have a significant global presence<sup>228</sup>. According to a respondent *"[t]he existence of many global players in this space is due to the fact that the costs for customizing mobile advertising networks for local markets are very low. In particular, the technology used for each country or region are identical or broadly similar. Global mobile advertising networks also face vigorous competition from local mobile advertising networks"*<sup>229</sup>. Furthermore, publishers willing to sell mobile advertising space in the United Kingdom do not limit themselves to intermediaries based in the United Kingdom<sup>230</sup>.
- (227) However, it also appears that *"[t]he majority of publishers sell their inventory through intermediaries based in the UK because they are offering access to a UK based audience."*<sup>231</sup>. In addition, almost all of the advertising customers who replied to the market investigation prefer to buy services from advertising intermediaries that are located in the United Kingdom<sup>232</sup>.
- (228) The main reasons for this are the different linguistic and legal requirements, consumer habits and handset usage across various Member States. Although many of the JV Co competitors are global players, a national presence is pointed out as important and

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<sup>226</sup> For instance, response of Aegis to Questionnaire Q2 of 7 March 2012, question 33.1.

<sup>227</sup> For instance, response of Reach Data to Questionnaire Q2 of 13 March 2012, question 33.1.

<sup>228</sup> Responses to Questionnaire Q2 of 7 March 2012, question 36.1.

<sup>229</sup> Response of Google to Questionnaire Q2 of 7 March 2012, question 36.1.

<sup>230</sup> Responses to Questionnaire Q3 of 7 March 2012, question 38.

<sup>231</sup> Response of Sky to Questionnaire Q2 of 7 March 2012, question 38.1

<sup>232</sup> Responses to Questionnaire Q2 of 7 March 2012 question 37 and Questionnaire Q3 of 7 March 2012, question 36.



preferable. According to many respondents this reasoning applies to the different types of mobile advertising.

- (229) In view of the above, the geographic market for advertising services and its possible sub-markets seem to be national (United Kingdom) in scope. However, for the purposes of the present Decision, the exact geographic market definition can be left open, since the operation would not significantly impede effective competition under any possible geographic market definition.

#### 8.2.5. Market for retail and wholesale bulk SMS services

##### 8.2.5.1. The view of the Notifying Parties

- (230) The Notifying Parties consider that the relevant geographic scope of the market for retail bulk SMS services is at least national, covering the whole of the United Kingdom.
- (231) As regards the wholesale delivery of bulk SMS services, the Notifying Parties submit that the relevant geographic market is at least national and may be even wider than the United Kingdom, because aggregators can, and do, route SMS internationally and then back into the United Kingdom to take advantage of the low rates for delivering internationally-originated SMS to subscribers in the United Kingdom. It is therefore possible that the MNOs also face competition from international operators in the market for the supply of wholesale bulk SMS delivery to mobile subscribers in the United Kingdom.

##### 8.2.5.2. The Commission's assessment

- (232) Many of the customers buying bulk SMS services mainly do so on a national basis, because the providers (aggregators) of retail bulk SMSs have access to and better knowledge of the local market and prices applied by retail bulk SMS providers in the United Kingdom are different from those applied by providers located outside of the United Kingdom. However, most respondents submitted that most of the providers of bulk SMSs are international players, who have international agreements with MNOs.
- (233) The majority of respondents to the market investigation confirmed that aggregators having to send retail bulk SMSs in the United Kingdom also use services of MNOs outside of the United Kingdom. However, aggregators responded that "*some UK network operators cannot reach international networks*"<sup>233</sup>, or that "*[i]t is feasible that bulk SMS terminated in the UK can be routed via MNOs outside the UK. These include routes which are covered by AA19 agreements (i.e. internetworking fees are charged), although more likely are the so-called 'grey routes' where AA19 agreements aren't in place owing to the lower delivery costs*"<sup>234</sup>. Therefore, it appears possible for aggregators to use wholesale suppliers of bulk SMSs outside of the United Kingdom.

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<sup>233</sup> Responses to Questionnaire Q2 of 7 March 2012, question 41.

<sup>234</sup> Responses to Questionnaire Q2 of 7 March 2012, question 41.

(234) Therefore, the geographic scope of the (possible) market for retail bulk SMS services appears to be national (United Kingdom) or possibly wider in scope; the (possible) market for wholesale bulk SMS services appears to be broader than national.

(235) As regards both the market for retail and wholesale bulk SMS services, the precise geographic market definition can be left open in the present case, since the operation would not significantly impede effective competition under any alternative geographic market definition.

#### 8.2.6. *Market for data analytics services*

##### 8.2.6.1. The view of the Notifying Parties

(236) The Notifying Parties consider that the geographic scope for the market for data analytics services (and its relevant sub-markets) is at least national in scope, covering the whole of the United Kingdom.

##### 8.2.6.2. The Commission's assessment

(237) Several respondents to the market investigation indicated that a local presence of a data analytics provider and the knowledge of local specificities and language could be useful<sup>235</sup>. Furthermore, customers prefer United Kingdom based data analytics providers for the provision of consultancy services on British markets, and to have a British content of the contracts they sign with data analytics providers. At the same time, most data analytics suppliers are global companies and the services are often provided on a cross-border basis.

(238) As regards the JV Co's data analytics activities and any relevant sub-markets, for the purposes of the present Decision, the precise geographic market definition can be left open, since the operation would not significantly impede effective competition under any alternative geographic market definition.

#### 8.2.7. *Market for retail mobile telephony services*

(239) In previous decisions<sup>236</sup>, the Commission considered the relevant geographic market for mobile telecommunication services to end customers (and any possible sub-market) to be national in scope. This is based on the fact that mobile tariffs operate on a national basis and that regulation (such as spectrum allocation, numbering and mobile termination) is also done on a national basis.

(240) The Commission concludes that, consistent with its previous decisions, the geographic market is restricted to the United Kingdom.

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<sup>235</sup> Responses to Questionnaire R6 of 15 May 2012, question 8.1.

<sup>236</sup> See the Commission decision of 01 March 2012 in Case No COMP/M.5650 – *T-Mobile/Orange*, paragraph 25; the Commission decision of 20 August 2007 in Case No COMP/M.4748 – *T-Mobile/Orange Netherlands*, paragraph 16 and the Commission decision of 26 April 2006 in Case No COMP/M.3916 – *T-Mobile Austria/Telering*, paragraph 19.

## 9. COMPETITIVE ASSESSMENT

### 9.1. Introduction

- (241) Under Article 2(2) and (3) of the Merger Regulation, the Commission must assess whether a proposed concentration would significantly impede effective competition in the common market or in a substantial part of it<sup>237</sup>. In this respect the Commission has assessed all markets affected by the operation.
- (242) As regards mobile transaction services, the relevant markets for the assessment of the operation are the upstream market for the wholesale supply of mobile wallet platform services, the market for secure storage, the downstream market for the retail distribution of mobile wallets to customers, and the market for retail mobile telephony services. All these markets have a geographical scope that is at least as wide as the United Kingdom and maybe wider<sup>238</sup>.
- (243) As regards the JV Co's advertising services, the relevant markets for the competitive assessment of the operation are the markets for mobile advertising intermediation and its potential submarkets as well as the wholesale and retail supply of bulk SMS services. In addition, the market for data analytics with its possible sub-markets is also relevant for the competitive assessment in the present case.
- (244) The Commission has mainly focused its market investigation on assessing the likelihood of competitive harm arising, as a result of the operation, from possible foreclosure strategies, in particular in view of the very strong positions that the Notifying Parties have together on the retail mobile telephony market in the United Kingdom. As a consequence, this section will first assess the possible non-horizontal effects of the operation on the markets for mobile wallet and bulk SMS and then examine the possible horizontal effects of the operation on the markets for wholesale supply of mobile wallet platform services and the markets for mobile advertising services and the supply of data analytics.
- (245) For the assessment of possible horizontal effects, the Commission has considered the situation absent the operation. On the basis of the outcome of the market investigation, the Commission considers that the Notifying Parties would be (and to some extent are already) able to offer their mCommerce services without the JV Co<sup>239</sup>. However, it is not necessary for the purpose of the present Decision to reach a conclusion on this as the operation would not significantly impede effective competition under any alternative scenario.

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<sup>237</sup> See Council Regulation (EC) No 139/2004 of 20 January 2004, page 7.

<sup>238</sup> The competition assessment is conducted on a market consisting of the whole of the United Kingdom. On any broader geographic market, similar conclusions of absence of any likely significant impediment to effective competition would be reached.

<sup>239</sup> See for instance responses to questionnaires Q1 and Q2 of 7 March 2012, questions 64 and 65.

## 9.2. Non-horizontal effects – vertical effects

### 9.2.1. Mobile Wallet Services

#### 9.2.1.1. Preliminary remarks

- (246) According to the Non-Horizontal Merger Guidelines, a merger is said to result in foreclosure where actual or potential rivals' access to supplies or markets is hampered or eliminated as a result of the merger, thereby reducing these companies' ability and incentive to compete. Such foreclosure is regarded as anticompetitive where, as a result of the merger, the merging companies, and possibly also some of its competitors, are able to profitably increase the price charged to consumers<sup>240</sup>.
- (247) When assessing the likelihood of such an anticompetitive foreclosure scenario, it must be examined *"first, whether the merged entity would have, post-merger, the ability to substantially foreclose access to inputs, second, whether it would have the incentive to do so, and third, whether a foreclosure strategy would have a significant detrimental effect in the competition downstream"*<sup>241</sup>.
- (248) In this Decision, the Commission ascertains whether the Notifying Parties may exercise their strong collective position in the market for retail mobile telephony services (and in any possible sub-market) in order to substantially foreclose other potential entrants in the wholesale mobile wallet platform market from offering competing mobile wallet platform services. According to the Non-Horizontal Merger Guidelines, two types of foreclosure are possible: input foreclosure and customer foreclosure<sup>242</sup>. In the current case the Commission assesses the likelihood of a strategy to either technically or commercially foreclose access to essential inputs for the provision of mobile wallet products offered to end consumers; these essential inputs are the SE as well as the placement of apps on a mobile handset allowing the mobile wallet to function. Such input foreclosure could harm or deteriorate competitive conditions in the wholesale mobile wallet platform services market (for example by leading to higher prices for Service Providers) and would also impact competitive conditions in the retail mobile wallet market downstream. Thus, the Commission examines below the Notifying Parties' ability and incentive to engage in such input foreclosure.
- (249) For the reasons set out in this section, the Commission does not consider that there is a risk of customer foreclosure in the present case<sup>243</sup>. While it is true that absent the operation the Notifying Parties would be potential customers on the wholesale platform for the provision of a mobile wallet, they are not critical customers as a considerable number of potential customers on that market would remain (for example banks, M(V)NOs). Moreover, there are a number of other vertically integrated market players with direct access to end customers. Such market players

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<sup>240</sup> OJ C265, 5.2.2008, p.6, paragraph 29.

<sup>241</sup> OJ C265, 5.2.2008, p.6, paragraph 32.

<sup>242</sup> See Guidelines on the assessment of non-horizontal mergers under the Council regulation on the control of concentrations between undertakings (2008/C 265/07), paragraph 31 for a definition of input foreclosure.

<sup>243</sup> See Guidelines on the assessment of non-horizontal mergers under the Council regulation on the control of concentrations between undertakings (2008/C 265/07), paragraph 58 for a definition of customer foreclosure.

do not rely on access to potential customers on the wholesale platform for the provision of mobile wallets and could offer mobile wallets in the United Kingdom if they wished to do so (for example Google or Apple) (see also section 7.1.3.1). Moreover, none of the participants in the market investigation raised material concerns related to a possible customer foreclosure on the part of the JV Co or the Notifying Parties.

- (250) The Notifying Parties submit that they are currently not active in the provision of mobile wallet platform services and have very limited activities in the provision of NFC offline mobile transactions.
- (251) Given the nascent state of the mobile wallet markets, no meaningful market shares can be provided for the market in the United Kingdom. Moreover, given the fact that the technologies relating to mCommerce are evolving quickly, the Commission's assessment is based on the information currently available and takes into consideration the most likely developments in the sector, as reported by all sources of information available at the time of the present Decision.
- (252) On the basis of the market investigation, the Commission has investigated in particular whether the Notifying Parties would:
  - (a) have the technical ability to substantially foreclose competing mobile wallet providers through a variety of potential means (see section 9.2.1.2);
  - (b) have the ability and the incentives to engage in commercial foreclosure of competing mobile wallet providers through a variety of potential means (see section 9.2.1.3).

#### 9.2.1.2. Assessment of technical foreclosure

- (253) As regards the technical ability to substantially foreclose competing mobile wallet providers, it should first be noted that a majority of respondents to the market investigation expressed the opinion that the Notifying Parties would not have the technical ability to prevent or limit their competitors'<sup>244</sup> ability to offer mobile wallet services other than through the JV Co<sup>245</sup>. It should also be noted that the Notifying Parties submit that the JV Co will provide access to the other MNOs and MVNOs on non-discriminatory terms<sup>246</sup>. In particular, all technical details will be developed by the JV Co in accordance with industry standards and circulated openly to Service Users and potential Service Users on a non-discriminatory basis<sup>247</sup>.
- (254) Several respondents to the market investigation indicated that the Notifying Parties might be in a position to control key elements in the mobile handset that are necessary to offer mobile wallet services. In particular, access to the SIM-based SE

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<sup>244</sup> For instance competing M(V)NOs, Google Wallet, PayPal or other providers of mobile wallets

<sup>245</sup> Responses to Questionnaire Q3 of 7 March 2012, question 7.

<sup>246</sup> See response from the Notifying Parties to the Commission's Request for Information of 13 September 2011, question 6.

<sup>247</sup> See Form CO paragraphs 994 and 995.

would be critical to the Notifying Parties' competitors in order to offer mobile wallet services<sup>248</sup>.

- (255) Access to an SE appears to be fundamental to the functioning of mobile wallets. Although it is, in principle, possible that transactions made from a mobile handset could be completed via solutions which would use software-based secure solutions where the payment credentials would be stored in the cloud (see Recital (54)), such solutions are considered at this stage to be less secure or too slow to be used at the PoS as they require entering username and passwords<sup>249</sup>. Such solutions would appear to be viable in the medium to long term<sup>250</sup>. The Notifying Parties explain that while it is possible that security can be provided via software rather than hardware, they are not aware of any specific examples that are under development. In addition, micro SDs, stickers or sleeves could also constitute an alternative to a SIM-based or embedded SE. However, at this stage, these solutions also seem to be considered as somewhat less convenient. For instance, Google explained that many mobile handsets do not have MicroSD slots, which limits the usefulness of using a MicroSD as a mean to “distribute” NFC technology and that the MicroSD hardware could interfere with a mobile handset's radio performance, and IBM explained that additional hardware lack secure storage capacity<sup>251</sup>.
- (256) The Commission therefore considers that the current most likely means of providing a mobile wallet to customers is by using a SIM-based SE, or alternatively an embedded SE.
- (257) Thus, the Commission first assesses whether the Notifying Parties would be able to substantially foreclose competitors from offering customers a mobile wallet competing with the one offered through the JV Co by refusing access to the SE located in the SIM-based SE.
- (258) Secondly, assuming that access to the SIM-based SE was refused, the Commission assesses whether competitors could still offer their mobile wallets by accessing an alternative SE embedded inside the mobile handset's hardware, or whether the Notifying Parties would also be able to substantially foreclose competitors from offering customers a mobile wallet competing with the one offered through the JV Co by refusing access to this alternative embedded SE.
- (259) The Commission nevertheless notes, as this is a nascent and evolving market, that if in the future new technologies based on software, cloud-based SEs, micro-SD, NFC stickers or sleeves, or alternative solutions were to come to market, as could reasonably be expected considering technological evolutions, they would provide

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<sup>248</sup> See slides of meeting of 13 February 2012 with Three UK; agreed minutes of meeting of 06 January 2012 with Visa Europe, agreed minutes of telephone conference call of 16 December 2011 with MasterCard.

<sup>249</sup> Responses from PayPal to Questionnaire Q2 of 07 March 2012 question 57, agreed minutes of telephone conference call with Lloyds Banking Group of 26 April 2012.

<sup>250</sup> Software-based or cloud-based services may also be used to store payment credentials. This is a new and developing technology and it is not yet very clear how this might be deployed in the mass market. However, it potentially provides an alternative to MNO led service provision; response from RBS to Questionnaire Q3 of 7 March 2012, question 56.

<sup>251</sup> Responses of Google and IBM to Questionnaire Q2 of 7 March 2012 question 57.

significant additional competition and subsequently competitive constraints to the JV Co and the Notifying Parties.

**Technical ability to substantially foreclose competing mobile wallet providers by foreclosing access to the SIM-based SE**

- (260) All respondents to the market investigation which replied to the specific question on control of the SIM-based SE stated that MNOs would exert control over SIM-based SEs<sup>252</sup>. In particular, Lloyds Banking Group raised its concern that SIM-based SEs would become the standard SE for mobile wallets<sup>253</sup>.
- (261) The Notifying Parties themselves submitted during the second phase investigation that they own and control the access to the SE if it is placed inside the SIM card. They explained that in the United Kingdom, the M(V)NOs provide and own the SIM card which is inserted into its customer's mobile handset. The M(V)NO is the issuer of this SIM-based SE. Accordingly, the M(V)NO (as issuer) has what is referred to as the "content management rights"<sup>254</sup> and controls access to this SE. The M(V)NO can delegate some of these content management rights to a properly authorised third party, granting permission to the latter to perform the content management tasks.
- (262) The Notifying Parties further explain that [...] <sup>255</sup>.
- (263) In light of the above, the Commission concludes that the Notifying Parties would have the technical ability to substantially foreclose access to SIM-based SEs to competing mobile wallet providers for the retail mobile telephony contracts they sign with their customers (where they provide the SIM card to the customer) in the United Kingdom<sup>256</sup>. This conclusion would not change if the delineation of the geographic market was wider than the United Kingdom, as the Notifying Parties predominantly offer their retail mobile telephony contracts to customers resident in the United Kingdom.

**Technical ability to block / degrade competing mobile wallets functioning with an alternative SE**

Background information

<sup>252</sup> Responses to Questionnaire Q1 of 7 March 2012, question 58, responses to Questionnaire Q2 of 7 March 2012, question 58; Questionnaire Q3 of 7 March 2012, question 57; and Questionnaire Q4 of 7 March 2012, question 12.

<sup>253</sup> Submission by Lloyds banking Group PLC of 18 June 2012, page 3

<sup>254</sup> According to the Notifying Parties, content management rights allow the holder, for example, to load the initial keys governing access, the application code, confidential data for personalisation, or to update data or code.

<sup>255</sup> Response from the Notifying Parties to the Commission's Request for Information of 24 May 2012, page 1, question 1.

<sup>256</sup> See footnote 238.

- (264) Access to the SIM-based SE could in principle be bypassed by competing mobile wallet providers if they could access other SEs placed somewhere in the mobile handset other than inside the SIM card of the Notifying Parties.
- (265) SEs can either be embedded in the hardware of the mobile handset (a solution proposed by several OEMs<sup>257</sup> selling mobile handsets in the United Kingdom), or inserted in an external device tagged onto the mobile handset. As an example, Visa already offers mobile payment solution using such SE in the United Kingdom.
- (266) These alternatives are very likely to be used by competitors offering transaction services.
- (267) The most likely alternative to the SIM-based SE would be the embedded SE. Several OEMs are starting to release new smartphones with dual SE architecture (including one SE directly embedded in the mobile handset, and one SE which would be inside the SIM card) and such architecture is likely to become frequent for newly developed smartphones<sup>258</sup>. The Notifying Parties submit that mobile handsets with dual architecture represent more than [80-90]% of their sales of NFC-enabled mobile handsets between January and April/May 2012. The Notifying Parties further stated that these dual architecture mobile handsets have embedded SEs which have not been disabled or disconnected and are capable of working with a mobile wallet if requested by a customer<sup>259</sup>. Moreover, various technical methods exist to allow the co-existence on a mobile handset of both a SIM-based and an embedded SE, some of which even imply that mobile handset users are unaware as to precisely which SE is actually used by a given application on their mobile handset. (see also Recital (115))
- (268) This availability of dual architecture smartphones clearly opens the way for competitors to offer their products to consumers using embedded SEs. It is also likely that competitors would consider using stickers, at least in the short term, in order to maximize their consumer reach, for example the sticker based PayTag offered by Barclays and Visa in the United Kingdom<sup>260</sup>.
- (269) As the most likely alternative to the SIM-based SE would be the embedded SE, the Commission focuses its assessment of technical foreclosure on the ability by the Notifying Parties to degrade the functionality of rival mobile wallets that would require the use of an embedded SE. This degradation could essentially take one of a variety of forms, which we consider in turn below.

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<sup>257</sup> For instance, RIM with its Blackberry Curve 9360, Bold 9900, Bold 9790, and 9860 models, HTC with its One X and Desire C models, Samsung with its Galaxy Nexus and Galaxy SIII models, and SonyEricsson with its Xperia S model, which all support dual SE architecture (embedded SE and SIM-based SE), and Samsung with its Galaxy note which supports embedded SE only. (Response from the Notifying Parties to the Commission's Request for Information of 24 May 2012, question 13).

<sup>258</sup> The Commission considers that uncertainty about what SE model(s) will eventually prevail in the market is one important reason why OEMs are offering dual SE architecture on their handsets. The offering of additional functionalities on their mobile handsets is also likely to be an important factor for the OEMs' decisions, as customers would favour functionality-rich smartphones.

<sup>259</sup> Response of the Notifying Parties to the Commission's Request for Information of 5 June 2012 page 4. [...]\*.

<sup>260</sup> <http://www.barclaycard.co.uk/personal/paytag/>



**Technical ability to block or degrade a competing mobile wallet app, that required an embedded SE, from being downloaded, installed or updated on a handset operating on the networks of the Notifying Parties.**

- (270) To make a payment with their mobile handsets, consumers would have to either use a mobile wallet app which is pre-installed by OEMs on the mobile handset, or download an app from an app store (for example Google Play or iTunes).
- (271) The Commission assessed whether the Notifying Parties may be technically able to ensure that consumers would be unable to download the necessary mobile wallet app, or use it.

Views of the Notifying Parties

- (272) The Notifying Parties submit that it is not technically possible for an MNO to block (or degrade) the downloading, installation or updating of a (competing) mobile wallet app<sup>261</sup>.
- (273) Apps, if not pre-installed on a mobile handset, can be downloaded from an app store (for example iTunes for Apple, Google Play for Android) and installed on the user's smart-phone. Mobile wallet apps (like Google Wallet) are the same.
- (274) The Notifying Parties submit that downloading an app is intuitive and very easy and that smartphone and tablet users rely primarily on app downloads to build and expand the features and functionality of their devices.
- (275) They explain that MNOs cannot technically prevent the downloading of a particular app without blocking access to the entire app store over their network. This is because such blocking would require blocking access to the app store's IP address. Any attempt to access the app store over the MNO's network would then fail.
- (276) According to the Notifying Parties, it would be commercially impossible for any MNO to block traffic from and to an entire app store such as Google Play. If an MNO were to attempt to do so, many (if not most) smartphone users would abandon that MNO as a supplier because a basic and essential functionality of the smartphone would be disabled. Any such action would be widely and rapidly disseminated amongst the public and lead to serious commercial and reputational consequences.
- (277) In addition, even if hypothetically an IP address were to be blocked, the mobile handset user could still access the app store and download apps via a Wi-Fi connection, or by hooking up his or her smartphone to a USB connection on his or her PC (where the app will be downloaded first onto the PC and then loaded on the smartphone, for example as with iTunes). These are easy ways to "circumvent" the MNO's mobile network.
- (278) Competing mobile wallets that are installed might in principle also be hampered by blocking traffic to or from them, for instance by disabling the right to connect to

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<sup>261</sup> Response of the Notifying Parties to the Commission's Request for Information of 24 April 2012, question 14, and Technical Paper of 8 May 2012 submitted by [...] on behalf of the Notifying Parties, pages 21, 22.

certain IP addresses they try to reach over the mobile network (for example for online payments, or for updates of the app). Again, however, the Notifying Parties submit that the mobile wallet apps can utilise other data connections for communication purposes and any such blocking could be circumvented by using a different IP address or routing traffic via another IP address.

- (279) The Notifying Parties also explain that MNOs may seek to block or throttle Voice over IP ("VoIP"), including Skype, as a matter of traffic management, to enforce appropriate tariff structures, avoid network overload at peak times, avoid degrading the network efficiency for others or avoid "bill shock" in case of surplus charge for data usage. They submit that traffic management is closely linked to net neutrality and the Notifying Parties do not generally interfere with the user's usage of their data capacity and the only limits are those resulting from applicable law (seeking to block illegal content) or from the user's own choice of tariff, which is in line with Ofcom's approach in the United Kingdom<sup>262</sup>.
- (280) Furthermore, the Notifying Parties submit that app updates are "pushed" onto the handset over the internet through the OS without the knowledge or consent of the MNOs<sup>263</sup>.
- (281) They further explain that data is sent over the internet in so-called packets, each containing 'address' information about the sender and the recipient as well as the actual data. Routers use the address information to determine where the packets should be sent. There is no need to inspect the actual contents of the data packets in order to deliver the packets to the recipient<sup>264</sup>.
- (282) With a technique called Deep Packet Inspection ("DPI"), it is however possible to look at the contents of the data. Once the use of a certain application has been discovered by using DPI to analyse the data traffic, these apps could be blocked or hampered by dropping the data packages instead of delivering them to their destination.
- (283) The Notifying Parties nonetheless explain that DPI has a number of technical limits which make it unsuitable for blocking or hampering traffic to or from electronic wallets.
- (284) First, the DPI method cannot be used for NFC payments, which do not use the mobile network, but rather NFC radio transmission.
- (285) Second, DPI is not effective if the data traffic is encrypted, which will very often be the case, and at a minimum for online payments, communications with banks, and provisioning apps onto the SE.
- (286) DPI tools may look for other indications about the type of application if the traffic itself is encrypted and the individual packets cannot be inspected, by relying on what

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<sup>262</sup> Response of the Notifying Parties to the Commission's Request for Information of 24 April 2012, question 17.

<sup>263</sup> Response of the Notifying Parties to the Commission's Request for Information of 24 April 2012, page 7, question 13.

<sup>264</sup> Technical paper submitted by [...] on behalf of the Notifying Parties on 8 May 2012, page 21, point 6.2.2.

is called a heuristic analysis. This analysis would look for an identifiable pattern of communication, that might be seen as a signature. These other indications may include speed, frequency, bit pattern and packet size. Thus, for example, DPI software may seek to recognise file sharing or video streaming by the traffic characteristics which these apps generate. These high volume data apps may have recognisable patterns.

- (287) However, when considering encrypted traffic associated with a mobile wallet, the Notifying Parties explain that it is far harder to distinguish that from other communications on the basis of these other indications . Given that it is different from file sharing and video streaming, traffic associated with online wallet services would be much harder to distinguish from other traffic as it is far more similar to typical online communication. This traffic will not be distinguishable with the required level of accuracy for DPI to be effective. The online wallet traffic is not sufficiently distinguishable from other traffic that the MNO does not seek to interfere with. It may be that the mobile wallet traffic has a signature; however, that signature is not distinguishable from other (non-wallet) traffic or from the MNO's mobile wallet traffic.
- (288) Third, an identifiable 'application signature' is required to identify the packets associated with particular application traffic. While certain services typically use an application specific protocol and can be identified this way (for example Voice over IP services like Skype), this is not the case for all data communication. Data traffic related to mobile wallets will typically not have such a 'special' protocol signature. That means that the protocol could not be used to identify the service (and thus to block or hamper it).
- (289) Furthermore, the Notifying Parties submit that it is not possible for the MNOs to identify apps by inspecting their Secure Socket Layer ("SSL") certificates because the same SSL certificate could be used for different apps. The application developer can determine which information is written on the certificate and could easily obfuscate the application by ensuring that the certificate does not contain information by which the application can be identified.
- (290) Seeking to apply DPI for the purpose of blocking traffic that does not have a particularly distinguishable pattern will lead to many errors. It would give customers an unsatisfactory service of (seemingly randomly) failed communications (including of traffic not related to the mobile wallet). This would induce customers to switch operators in search of a better quality of service and would risk significant reputational damage for operators in their overall relations with their customers.
- (291) For these reasons, DPI would not be an effective method to block or hamper apps or wallet solutions provided by third parties.
- (292) Moreover, the Notifying Parties submit that mobile wallets (for example multiple app-centric wallets besides the container wallets) require access to the apps in the SE via an API. MNOs could request that a mobile handset manufacturer leaves some APIs out of the mobile handset in an attempt to block rival mobile wallets. However, this would be a business decision of the OEM. It is not within the technical means of the MNO. OEMs will also have license agreements with the OS providers which

they need to comply with. The OS will likely provide such APIs and changes would not be allowed.

- (293) Finally, the Notifying Parties explain that pre-installed wallet apps (that MNOs may require OEMs to pre-install on the mobile handsets they sell) will not have a technical advantage over downloaded competing mobile wallet apps. This is because downloaded wallet apps, like any app, will install themselves on the mobile handset with the support of the OS, and MNOs have no influence or control over the OS or the interactions between the OS, apps and hardware, except between the MNO-branded mobile wallet and the SIM-based SE<sup>265</sup>.

#### The Commission's assessment

- (294) Assessing the technical ability of the Notifying Parties to substantially foreclose competing mobile wallet providers is a technical exercise in a technologically complex industry. Therefore, the Commission has entered into close communication with the United Kingdom telecom regulator (Ofcom), which has proven independent technical expertise. Ofcom assessed in detail the submission of the Notifying Parties on technical foreclosure. In substance, Ofcom concluded that the Notifying Parties' assertions are reasonable in the current state of technology and application of mobile wallet services.
- (295) As regards the technical possibility for MNOs to prevent the downloading of a competing mobile wallet app without blocking access to the entire app store, two MNOs which are not part of the JV Co confirmed that it would not be possible<sup>266</sup>.
- (296) Furthermore, as regards the technical possibility for MNOs to stop a consumer using their 3G or Wi-Fi connection to download apps (for example from PayPal) from app stores such as Google Play or iTunes, several respondents stated that it was not possible.<sup>267</sup>
- (297) Visa submitted that the Notifying Parties may be able to block the downloading of either the mobile wallet app that customers will use, or the Visa Mobile Payment Application (VMPPA) that must sit on the SE. However, the Commission notes that this submission is based on the assumption that the Notifying Parties have control of the handset OS, whereas in fact, on the basis of the market investigation, the Commission can conclude that the Notifying Parties cannot technically modify the OS of the mobile handset by themselves, but can only do so if they request the OS provider to make changes on their behalf<sup>268</sup> (see Recitals (451) to (465)).
- (298) Three UK also confirmed that an MNO cannot stop an app from being installed on a consumer's device once downloaded from the app store<sup>269</sup>. This is because control depends upon where the app is downloaded, if it is via Google Play or Apple App

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<sup>265</sup> Submission of the Notifying Parties of 16 May 2012, page 6.

<sup>266</sup> Response of Telia Sonera and Virgin Mobile to Questionnaire R7 of 16 May 2012 question 6.

<sup>267</sup> For instance agreed minutes of telephone conference call of 11 April 2012 with Carphone Warehouse, agreed minutes of telephone conference call of 02 May 2012 with Intelligent Environments, agreed minutes of telephone conference call of 26 April 2012 with Ericsson, and response of Microsoft to Questionnaire R2 of 15 May 2012, question 66.

<sup>268</sup> For instance response of Three UK to Questionnaire R7 of 16 May 2012, question 34.1.

<sup>269</sup> Response of Three UK to Questionnaire R7 of 16 May 2012, question 5.2.

Store, updates are routed via those stores and an MNO will not be able to specifically block an update.

- (299) Three UK submitted that MNOs could stop an app from using the MNO's data connection to pull information into the app. For instance, an MNO could impede much of the wallet functionality by preventing updates of the account balance or spend history. However, the Commission notes that Three UK confirms that updates could still be performed via a Wi-Fi connection (even though it may be less convenient to consumers as Wi-Fi is not widely available outside of the home)<sup>270</sup>.
- (300) Importantly, Ofcom confirmed the Commission's understanding that access to the MNO broadband connection can be used to initially activate an embedded SE and the mobile wallet, but that alternatively, this activation can also be done with USB or a Wi-Fi connection (although this might be somewhat less convenient from a customer perspective). In Ofcom's view, the same holds true for software upgrades and services. If the MNO wished to foreclose access, it could do so with respect to the MNO broadband connection (that is to say it may be technically feasible), but it would be less likely to be technically feasible to prevent the use of other access services (for example USB or Wi-Fi). For the payment transaction via NFC, no access to the MNO network is needed, as the handset with the NFC device is mimicking a passive device being contacted by the PoS terminal<sup>271</sup>.
- (301) Ofcom<sup>272</sup> further explains that under certain circumstances, it is technically feasible (but not necessarily practical or desirable) to selectively block unencrypted app download URL<sup>273</sup> links, where app download links are served over Hypertext Transfer Protocol ("HTTP"<sup>274</sup>). In the context of mobile wallets, such blocking of discrete unencrypted application download URLs would be evident to end-user consumers, in that the blocked links would not work. The Commission shares Ofcom's assessment.
- (302) However, such URL blocking could be side-stepped in a relatively simple way. Upon in-depth assessment of the Ofcom report, the Commission considers that Google Play is delivered via an encrypted network connection, (via HTTPS<sup>275</sup>), making the blocking of discrete URLs impractical in this instance. Ofcom believes that to place an application download link or service over an encrypted network connection is trivial to implement, thereby defeating any URL blocking by MNOs. It is also possible to block encrypted URLs (by discarding IP packets) or entire domains using Domain Name System blocking. However, in both techniques there is a tendency to "over block" which would likely become evident to both customers and third parties. The Commission, using the Ofcom report as a crucial input for its reasoning, considers that it would therefore be trivial for the affected party to move to a

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<sup>270</sup> Response of Three UK to Questionnaire R7 of 16 May 2012, question 5.2.

<sup>271</sup> Ofcom's submission of 31 May 2012, paragraphs 3.28-3.33, and agreed minutes of telephone conference call of 6 June 2012 with Ofcom.

<sup>272</sup> Ofcom's submission of 31 May 2012, paragraphs 3.20-3.26.

<sup>273</sup> A Uniform Resource Locator (URL) is normally associated with web-based traffic, see for example, <http://www.Example.com/walletapp.apk>.

<sup>274</sup> Hypertext Transfer Protocol is used to transfer data on the World Wide Web.

<sup>275</sup> HTTPS is Hypertext Transfer Protocol secured using cryptography. HTTPS prevents eavesdropping or tampering.

different IP address, IP address network range or new Domain Name System domain.

- (303) As regards the use of DPI to block the download of competing mobile wallet apps, Three UK submits that DPI relies on network packet headers, packet patterns, etc. (in other words signatures) to identify protocols and apps. This allows DPI to perform advanced network management, provide enhanced user services and perform security functions such as blocking of spam. For many years MNOs have used DPI for better network planning, to manage congestion in their networks and to mitigate malicious traffic. According to Three UK, this could be extended to hamper wallet services with relative ease. DPI can be an effective method to selectively block the download of third party apps. In the case of pre-installed apps, DPI could also be employed to block data or manage down the quality of service of the app<sup>276</sup>.
- (304) However, the Commission considers, on the basis of Ofcom's report<sup>277</sup> that in substance the Notifying Parties' conclusions regarding the use of DPI are correct. In particular, it would not be technically possible for a network based DPI device to examine the IP packet payload when the session is encrypted by Transport Layer Security ("TLS").
- (305) It is true that where unencrypted traffic is used, it is technically possible to intercept this traffic using DPI. The GlobalPlatform<sup>278</sup> states that the payment communication is between the NFC-enabled device and the PoS equipment and therefore does not utilise Internet Protocol networks in this interface. Provisioning and administration of network traffic associated with a payment app residing on an SE would be the traffic susceptible to interception via DPI. However, the Commission, after analysing the Ofcom report, shares Ofcom's view that DPI is generally rendered ineffective by the use of widely available network encryption methods such as HTTP traffic delivered over SSL or TLS<sup>279</sup>.
- (306) PayPal submits that the Notifying Parties have the potential ability to control internet and mobile network access. For example, they can restrict access to adult content or to competing voice over the internet services, such as Skype.
- (307) However, as was confirmed by Ofcom<sup>280</sup>, blocking payment traffic is not analogous to blocking an illegitimate website showing for example adult content. In order to block an illegitimate website showing for example adult content, all traffic from a given IP would be blocked (the access to the entire website would be blocked). However, the objective of blocking competing mobile payment apps would be more subtle, as it would be to block only some content (namely the transaction initiation) of a given IP, but not the entire traffic from a given IP (for example the IP of a bank). Blocking all the traffic from a given IP would not make economic sense for the

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<sup>276</sup> Response of Three UK to Questionnaire R7 of 16 May 2012, question 7.1.

<sup>277</sup> Ofcom's submission of 31 May 2012, paragraphs 3.28-3.33.

<sup>278</sup> GlobalPlatform Document "Secure Element Remote Application Management", version 1.0, pages 10-15.

<sup>279</sup> In the agreed minutes of telephone conference call of 6 June 2012, p.2, regarding the description of DPI, Ofcom clarifies that *"DPI inspection is limited in its efficacy against encrypted traffic (e.g. via SSL). In general, it can be applied, but it both blocks legitimate traffic and might also fail to block illegitimate traffic (e.g. by "padding" of packages)."*

<sup>280</sup> Agreed minutes of telephone conference call of 6 June 2012 with Ofcom.

Notifying Parties as blocking all traffic to and from their bank website would make customers very unhappy, as they would for example not be able to perform their usual online banking activities. These risks of customer un-satisfaction militate against the possibility that access is blocked by the Notifying Parties.

- (308) Furthermore, any attempt by the Notifying Parties to block websites or apps for reasons other than traffic management or blocking of illegal content would be likely detected by consumers or the owners of these websites and Ofcom, which would affect the behaviour of the Notifying Parties in this regard. The Commission considers that this would also likely apply to the other technical foreclosure strategies assessed in the present Decision.
- (309) In the context of the analysis of the likelihood of an attempt by the Notifying Parties to substantially foreclose competing mobile wallet providers, the Commission also has considered the possibility that the foreclosure conduct in question may be unlawful or may give rise to regulatory intervention which would constrain the Notifying Parties' ability to foreclose.
- (310) Regarding the foreclosure strategies relating to degrading the service offered by competing wallets over the mobile network of the Notifying Parties, that is to say by means of the blocking of IP addresses or the use of DPI and traffic management, the Commission is of the view that Ofcom might very well intervene. In November 2011, Ofcom has expressed concern to this effect<sup>281</sup>: *“Our stance as a regulator is that any blocking of alternative services by providers of internet access is highly undesirable, because of the potential effect on innovation. Similarly, whilst we recognise that some forms of traffic management may be necessary in order to manage congestion on networks, we expect such traffic management practices to be applied in a manner which is consistent within broad categories of traffic. Where providers of internet access apply traffic management in a manner that discriminates against specific alternative services, our view is that this could have a similar impact to outright blocking”*.
- (311) These hypothetical foreclosure practices by blocking traffic or treating traffic in a differentiated way would be without any countervailing justification related to network performance or congestion or proper remuneration of network usage. Therefore, because of the regulatory framework in the United Kingdom, the Notifying Parties would have to treat their own wallet apps in the same way as those of third parties, leading to the result that they would block or degrade their own wallet traffic to make their practices defensible.
- (312) In such instance, regulatory intervention by Ofcom would be likely<sup>282</sup>, reducing further the incentive of the Notifying Parties to adopt the conduct concerned.

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<sup>281</sup> Ofcom's Approach to Net Neutrality, paragraphs 1.33 and 4.40. See <http://stakeholders.ofcom.org.uk/binaries/consultations/net-neutrality/statement/statement.pdf>

<sup>282</sup> In its Report "Approach to Net Neutrality", Ofcom also warned about regulatory intervention if blocking was widespread and persistent. In this regard, in their reply to the Commission's Request for Information of 24 May 2012, the Notifying Parties argue that a distinction should be the present foreclosure scenario and VoIP and how that is approached in the overall net neutrality debate. In case of VoIP, operators may offer VoIP services as part of some tariff packages and thus consumers have a choice. In the foreclosure scenario with regard to traffic degradation of mobile wallets, that would not

## Conclusion

- (313) On the basis of the above, it is most likely that the Notifying Parties have no ability to technically block or degrade a competing mobile wallet app from being downloaded, installed or updated on a handset operating on the network of the Notifying Parties.

## **Technical ability to block or degrade the functionality of or deactivate an embedded SE after it has been installed.**

### Views of the Notifying Parties

- (314) The Notifying Parties<sup>283</sup> submit that the OEMs are the issuers of embedded SEs and control access to them, as OEMs will have the content management rights. The Notifying Parties cannot block access or degrade the functionality of the embedded SE because they do not have the necessary technical keys to enter the embedded SE. They cannot change or determine access rights to embedded SEs.
- (315) Furthermore, they explain that any communication inside the embedded SE passes through the processor, follows the Java Card processing rules, and is outside the reach of the MNO (or any other provider)<sup>284</sup>.
- (316) The Notifying Parties also submit that any communication between the embedded SE and a competing mobile wallet is also outside the reach of an MNO as it is secured and does not travel over the MNO network but inside the mobile handset, according to the specifications set by GlobalPlatform<sup>285</sup>.
- (317) Furthermore, the access to the embedded SE from outside the handset over the internet or via the NFC antenna would also be outside the MNO technical reach as they do not use the MNO network.
- (318) Finally, according to the Notifying Parties, the access to the embedded SE from outside the mobile handset over the air is within the reach of an MNO but is securely encrypted end-to-end and cannot be inspected by an MNO by any means, including DPI software, and as a result cannot be interfered with.

### The Commission's assessment

- (319) HTC, an OEM, stated that the Notifying Parties are not in a position to technically deactivate or hamper the performance of an embedded SE after it has been installed, and that only an OEM could do so<sup>286</sup>. Nokia, another OEM, also stated that it is not

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be the case and the Notifying Parties would seek to deny consumer choice. That would trigger Ofcom's intervention.

<sup>283</sup> Response from the Notifying Parties to the Commission's Request for Information of 24 April 2012 question 5; technical paper of 8 May 2012 submitted by [...] on behalf of the Notifying Parties page 16.

<sup>284</sup> Response from the Notifying Parties to the Commission's Request for Information of 24 April 2012 question 7.

<sup>285</sup> GlobalPlatform card Contactless Services card specification v2.2 Amendment C Version 1.0.1 of February 2012 (<http://globalplatform.org/specificationscard.asp>).

<sup>286</sup> Response of HTC to Questionnaire Q4 of 23 March 2012 question 20.



possible for an MNO to disable the operations of an embedded SE by technical means<sup>287</sup>, but that an MNO may request an OEM to disable the embedded SE<sup>288</sup> (a point which will be addressed below in section 9.2.1.3 on commercial ability and incentives to foreclose).

- (320) Two MNOs which are not part of the JV Co also stated that it would not be possible for an MNO to technically deactivate the embedded SE by itself<sup>289</sup>.
- (321) The Commission considers, in particular on the basis of the Ofcom report<sup>290</sup> that MNOs do not 'own' non-SIM based SEs, and, as a result, activating and controlling such a SE would not be under the control of the MNO (although enabling some aspects may rely either in part or in whole on access services, such as mobile broadband connections, that the MNO may provide for some customers). If access to the MNO broadband connection can be used to initially activate an embedded SE, this can alternatively also be done with USB or a Wi-Fi connection. As a result, if the MNO wished to foreclose access, it could do so with respect to the MNO's broadband connection (that is to say it may be technically feasible) but is unlikely to be technically feasible to prevent the use of other access services (for example USB or Wi-Fi)<sup>291</sup>.

### Conclusion

- (322) On the basis of the above, it is most likely that the Notifying Parties have no ability to technically block or degrade the functionality of or deactivate an embedded SE after it has been installed.

### **Technical ability to subordinate the operation of a competing mobile wallet so that preference is automatically given to the SIM-based SE / Notifying Parties' mobile wallet.**

#### Views of the Notifying Parties

- (323) The Notifying Parties<sup>292</sup> submit that it is possible to have both a SIM-based SE and a mobile handset-embedded SE functioning on one and the same mobile handset. It is also technically possible to have both a SIM-based SE and an embedded SE "active" at the same time, that is to say, operating in a mode such that the contactless reader would be able to call on either SE.
- (324) According to them, the co-existence of a SIM-based SE and an embedded SE on one mobile handset would not necessarily create technical difficulties in selecting the "active" SE. In this model, the SE that is currently activated by the user will receive all commands from the contactless reader (via the NFC antenna) to communicate the card details in order to execute a payment or other service. For completeness, they add that the routing of the command from the NFC antenna on the mobile handset is,

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<sup>287</sup> Agreed minutes of telephone conference call with Nokia of 25 April 2012.

<sup>288</sup> Response of Nokia to Questionnaire R2 of 22 May 2012 question 14.

<sup>289</sup> Responses of Telia Sonera and Three UK to Questionnaire R7 of 5 June 2012 question 4.

<sup>290</sup> Ofcom's submission of 31 May 2012 paragraph 2.4.4.

<sup>291</sup> In particular agreed minutes of telephone conference call with Ofcom of 6 June 2012.

<sup>292</sup> Response from the Notifying Parties to the Commission's Request for Information of 24 April 2012 questions 10 and 12.

technically, a matter for the OEM or the OS provider. Interaction between different hardware components (in this case the two SEs and the NFC controller) falls outside the scope of the MNO's technical abilities and is typically a matter for the OS provider (or possibly the OEM).

- (325) Furthermore, MNOs do not have the technical ability to subordinate the operation of a rival mobile wallet so that preference is automatically given to the SIM-based SE or the mobile wallet based on the JV Co platform. The MNOs would have to rely on an OS provider or OEM to configure the mobile handset's software and hardware to subordinate the operation of a rival mobile wallet. According to the Notifying Parties, the MNOs do not have the technical ability to control the default SE setting. That is a matter for the OS provider or OEM.
- (326) Where multiple SEs are present on a single mobile handset, the Notifying Parties<sup>293</sup> explain that there might be some kind of prioritisation mechanism in place to decide which SE has preference over the other(s). However, currently, there are no standards available that specify this prioritisation. Therefore, according to the Notifying Parties, any prioritisation depends on the implemented architecture in the handset and OS, which are controlled by OEMs or OS suppliers. The OS software will likely include a graphical interface allowing the consumer to select the mobile wallet which it wants to be activated. That means that the consumer will be in control of this type of prioritisation as well, just as he or she is in control of the prioritisation of the available apps installed on the SE.
- (327) According to the Notifying Parties, the customer will expect that when a mobile wallet is started the appropriate SE will be activated to allow all services related to that mobile wallet to operate. Ultimately, the customer thus decides and the MNO cannot interfere with the customer's choice<sup>294</sup>. If one was to take away the menu setting where a customer can identify the active mobile wallet and change the selection, only the OS provider or the OEM would be able to do so. An OS provider such as Google could more easily set Google Wallet as the default wallet via its control over the mobile handset's OS. The MNO would however not be technically able to determine which wallet would be the default as it does not control the low level software on the mobile handset that would direct the prioritisation between the wallets and SEs and cannot change that without the approval of the software owner<sup>295</sup>.

#### The Commission's assessment

- (328) All OEMs who replied to the relevant question in the market investigation questionnaire stated that there currently exists no standards or specifications which govern which SE is the default SE or which SE has priority where multiple SEs are present on the mobile handset, and which mobile wallet is the default mobile wallet

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<sup>293</sup> Response from the Notifying Parties to the Commission's Request for Information of 24 May 2012 question 34.

<sup>294</sup> Response from the Notifying Parties to the Commission's Request for Information of 24 April 2012 question 16.

<sup>295</sup> Response from the Notifying Parties to the Commission's Request for Information of 5 June 2012 question 5.

or which wallet has priority in case multiple mobile wallets are present on the handset<sup>296</sup>.

- (329) A majority of OEMs considered that neither the SIM-based SE, nor the embedded SE, is the default requirement for certain mobile handset OSs<sup>297</sup>.
- (330) One MNO not participating in the JV Co also stated that it would be technically difficult, and in the control of the OEMs that control the mobile handset's OS to give technical preference to the mobile wallet of the JV Co<sup>298</sup>.
- (331) Visa explained that the Proximity Payment System Environment ("PPSE") is standardised in EMVCo specifications<sup>299</sup>. These specifications identify the priority of payment apps supported within the SE(s) of a mobile handset. A contactless reader will automatically select the highest priority recognised payment app that is listed in the PPSE. Consumers can change the hierarchy of any app listed in the PPSE through the Application Activation User Interface (AAUI). The standard for the AAUI is also defined by EMVCo<sup>300</sup>.
- (332) Importantly, Ofcom<sup>301</sup> explained that the technical standards and specifications that facilitate the co-existence and end-user selection of different SEs have not yet reached maturity, and that there is on-going activity and development in this area. Further technical standards and specifications are likely to emerge which may influence user selection and interoperability of SIM-based and embedded SEs. According to the Ofcom, it is unclear when these standards and specifications will emerge and they understand that at the moment, only SIM-based SEs have agreed standards and specifications. However, Ofcom further explains that this does not imply that the SIM-based SE is selected by default in case of multiple SEs, but rather that by the lack of a uniform standard or specification for SE selection, the selection will be done according to the preconfigured setting implemented by the OS provider, and that eventually, it is the consumer who will be able to configure his or her mobile handset and determine default settings<sup>302</sup>.
- (333) Google<sup>303</sup> stated that there currently exists no standard or specification governing which SE a given PoS command would be routed to. In practice, within the hardware of an Android handset, the NFC controller (which is a piece of software included in a NFC-enabled OS) contains the functionality to decide which SE a PoS command should be routed to. In the case of mobile handsets operating the Android OS,

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<sup>296</sup> Responses to Questionnaire R2 of 15 May 2012 questions 30 and 31.

<sup>297</sup> Responses to Questionnaire R2 of 15 May 2012 questions 46 and 47.

<sup>298</sup> Response of Telia Sonera to Questionnaire R7 of 16 June 2012 question 11.

<sup>299</sup> EMV stands for Europay, MasterCard and VISA, a global technical specification for inter-operation of integrated circuit cards (IC-cards or "chip cards"), PoS terminals, and automated teller machines (ATMs), for authenticating credit and debit card transactions. EMV standards/specifications are maintained by EMVCo currently owned by American Express, JCB (Japan), Visa and MasterCard. It is a joint effort between large card issuers to ensure security and global interoperability so that cards can be technically accepted everywhere. Further information on the EMVCo standards/specifications can be found at <http://www.emvco.com/specifications.aspx>

<sup>300</sup> Response of Visa to Questionnaire R1 of 7 May 2012 question 9.

<sup>301</sup> Ofcom's comments of 31 May 2012 on [...] Technical Paper of 8 May 2012 chapter 3.

<sup>302</sup> Agreed minutes of telephone conference call with Ofcom of 6 June 2012.

<sup>303</sup> Response of Google to Questionnaire R2 of 15 May 2012 questions 62 and 62.1.

whoever controls the NFC controller on the mobile handset will determine which SE a PoS command is routed to.

- (334) The Commission understands that because the Android OS is open source (open source software are computer software that are available in source code form: that is to say the source code and certain other rights normally reserved for copyright holders are provided under an open-source license that permits users to study, change, improve and at times also to distribute the software), MNOs could possibly modify it and determine the function of the NFC controller for the mobile handsets sold through their own channels.
- (335) However, as Google explains<sup>304</sup>, any third-party can use, modify, and distribute the Android OS without Google's authorization or consent. Accordingly, OEMs will control the manufacturing of their Android mobile handsets (or, in most cases, the specifications of a particular mobile handset will be the result of a commercial negotiation between the OEMs and MNOs).
- (336) Therefore, the Commission considers that given its market power, as soon as Google launches its Google Wallet in the United Kingdom<sup>305</sup>, Google may try and then would likely succeed in convincing OEMs that the SIM-based SE should not be the default SE, and that as a result, it is not clear whether OEMs and MNOs would reach an agreement as to which of the competing SEs should be set as the default SE.
- (337) Google<sup>306</sup> further clarifies that it is the customer that will determine which mobile wallet application is used. Google expects that this choice will be made at the checkout stage of a particular purchase. In other words, according to Google, there is no such thing as a default mobile wallet (that is to say automatically selected without customer intervention) in the manner that, for example, a default web browser may exist.
- (338) The Commission, looking in particular at Ofcom's submissions, considers that the selection of the default SE will ultimately be a matter for the customer to decide.
- (339) The Commission acknowledges that there may be advantages for a mobile wallet to be pre-selected as the default mobile wallet in the settings of the mobile handset. However, the Commission considers that for an app enabling payments in shops or online, which may be considered as an important app for consumers, in terms of perceived security, benefits, etc., the consumer will likely select the payment app that he or she chooses to pay its goods or services with.
- (340) Three UK<sup>307</sup> also explained that the Notifying Parties could request the exclusion of key APIs<sup>308</sup> in an outward attempt to block rival mobile wallets. In addition,

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<sup>304</sup> Response of Google to Questionnaire R2 of 15 May 2012 questions 71.

<sup>305</sup> Response of Google to Questionnaire Q2 of 7 March 2012, questions 52 and 69.

<sup>306</sup> Response of Google to the Commission's Request for Information of 24 May 2012 questions 10.

<sup>307</sup> Response of Three UK to Questionnaire R7 of 5 June 2012 question 11.

<sup>308</sup> An API is a specification intended to be used as an interface by software components to communicate with each other. An API may include specifications for routines, data structures, object classes, and variables. An API specification can take many forms, including an International Standard such as POSIX or vendor documentation such as the Microsoft Windows API, or the libraries of a

according to Three UK, rival mobile wallets could be subordinated by the Notifying Parties in more subtle ways, such as the following:

- (a) User interface – the mobile wallet application and associated “widget” could be “hard coded” into a homepage of the handset, in such a way that a user will be presented with the MNO’s preferred wallet app or widget whenever they pick up their mobile handset;
  - (b) Default settings – whenever a customer clicks on mobile wallet apps, an interstitial page could be imposed which asks “Do you want to use JV Co’s Wallet?”.
- (341) First, the Commission notes that requesting OEMs to exclude key APIs is not a technical ability from the part of an MNO but rather a commercial ability, which will be analysed below in section 9.2.1.3. Furthermore, as concluded by the Commission in Recital (338) it will ultimately be up to the consumer to decide which mobile wallet he or she desires to select as his or her default mobile wallet.
- (342) Moreover, Three UK<sup>309</sup> confirms that the possibility to feature dual SE architecture is becoming a reality. Nevertheless, according to Three UK, the influence that global MNOs have on OEMs should not be underestimated and it is yet to be seen whether large MNO groups will, in the longer term, demand mobile handsets with only one form of SE. This has already been seen in the United States of America where the MNO Verizon purchased a variant of the Samsung Galaxy Nexus which would not support Google Wallet.
- (343) The Commission investigated the example mentioned in Recital (342) with Google and Verizon in order to understand whether it may be relevant for the assessment of the present operation. In the United States of America, the recently launched Google Wallet has been unavailable on the Galaxy Nexus mobile handset on the Verizon network. This was widely reported by the press as being the consequence of Verizon blocking the Google Wallet because it is a party to the ISIS<sup>310</sup> mobile wallet platform, which is a potential competitor of Google Wallet.
- (344) The Commission considers that there are several differences between the Verizon and Google issue, and the operation which takes place in the United Kingdom:
- (a) Firstly, as explained by the Notifying Parties<sup>311</sup>, MNOs in the United States of America are able to exert greater control over the supply of mobile handsets on their network than MNOs in the United Kingdom. MNOs continue being the primary distribution channel for mobile handsets in the United States of America. This has marginalised indirect retailers of mobile handsets in the United States of America who do not source their own handsets but sell handsets that are provided by the MNOs. As discussed in Recitals (42) and

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programming language, e.g. Standard Template Library in C++ or Java API. See [http://en.wikipedia.org/wiki/Application\\_programming\\_interface](http://en.wikipedia.org/wiki/Application_programming_interface)

<sup>309</sup> Response of Three UK to Questionnaire R7 of 5 June 2012 question 14.

<sup>310</sup> ISIS is a joint venture created by AT&T Mobility, T-Mobile USA and Verizon Wireless, to develop a mCommerce platform working with NFC technology. See more information on <http://www.paywithisis.com/>.

<sup>311</sup> See Annex 33 to the Form CO, paragraph 7.

(43), the situation is different in the United Kingdom, where independent retailers sell around [40-50]% to [50-60]% of all mobile handsets. This has implications for the commercial ability and the incentive of the Notifying Parties to substantially foreclose competitors (see section 9.2.1.3);

- (b) Secondly, another difference is related to the type of technology used in the United States of America and the United Kingdom. In the latter, MNOs use technologies standardised by the GSMA (for example GSM, WCDMA) which implies that mobile handsets are generally technically compatible across the MNOs' networks. In the United States of America, this is not the case as different MNOs use different families of technologies, some of which do not use SIM cards. The key competing technologies are CDMA/CDMA2000 and GSM/W-CDMA. In general mobile handsets are not technically compatible between the technologies. For example, according to the Notifying Parties, [90-100]% of Verizon's customers are using CDMA/CDMA2000 technology and will generally have mobile handsets that are not technically compatible with a GSM or W-CDMA network used by AT&T. Furthermore, within CDMA technology, mobile handsets cannot easily be switched between operators. This means that a customer in the United States of America cannot purchase a mobile handset from a third party and use it on one of the CDMA networks or necessarily switch from one MNO to another - even if both MNOs use the same technology - while keeping the same mobile handset. By contrast, in the United Kingdom any pay monthly customer out of contract or on rolling monthly contracts can easily switch networks. Likewise, the 16% of adult smartphone users in the United Kingdom who have a pay as you go service could easily switch networks. Given the differences in technology MNOs in the United States of America have a greater incentive to seek to negotiate exclusive mobile handset supply deals than in the United Kingdom. Again, these issues have significant consequences for the ability and the incentive of the Notifying Parties to substantially foreclose competitors in the United Kingdom;
- (c) Thirdly, Verizon explained that the non-pre-installation of the Google Wallet was part of a commercial agreement between Verizon and Google, which could have been otherwise negotiated subject to changes in other contractual terms. The outcome of the Verizon / Google commercial discussions has also to be seen against this fundamentally different competitive landscape, as described in the two above Recitals. Besides, regardless of what has exactly happened, the Commission notes that Google Wallet is now available on AT&T networks<sup>312</sup> (a party to the ISIS joint venture competing with Google Wallet);
- (d) Fourthly, in any event, the Commission considers that this point relates more to a commercial ability to foreclose by requesting OEMs to customise the mobile handsets they purchase with only a SIM-based SE, rather than a pure technical ability to foreclose without the agreement of an OEM. This will be analysed below in section 9.2.1.3.

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Report by KBW "Was 2011 really "Year Zero"?", page 25: "However, just recently, AT&T allowed Google Wallet to be downloaded on just two of its handsets, which may indicate a softening of this stance."

- (345) Each of the above reasons is sufficient to conclude that the issue between Verizon and Google, identified in the United States of America, is not directly relevant for the assessment of foreclosure by technical means as a result of the present operation.
- (346) It can therefore be concluded that in case of a mobile handset with a SIM-based SE and an embedded SE, it is the OS provider and not the OEMs that would likely do the first configuration of the preference settings for the SE, and that it will ultimately be the consumer that will be able to configure the settings as he or she wishes.

### Conclusion

- (347) On the basis of the above, it is most likely that the Notifying Parties have no technical ability to subordinate the operation of a competing mobile wallet so that preference is automatically given to the SIM-based SE or the Notifying Parties' mobile wallet.

### **Create de facto standards or specifications which would foreclose competing mobile wallet providers**

#### Views of the Notifying Parties

- (348) The Notifying Parties submit that it is not envisaged that the JV Co will be creating any new standards<sup>313</sup>. Instead, it will be utilising pre-existing openly available standards in the creation of its mobile wallet platform. Operating norms for how these standards are utilised in practice will only be created to the extent they are necessary for establishing an open and interoperable platform and common core user experience.
- (349) The JV Co will support the development of suitable open standards for NFC in mobile handsets, namely those NFC handset and SIM specifications being developed by GSMA with the assistance of the [...] <sup>314</sup> [...]\*, in addition to the EMVCo NFC payment standards. These various bodies are described in more detail in the following Recitals.

#### *[...] \* NFC*

- (350) The [...] \* NFC initiative, which started in late 2010, looks wider than the United Kingdom and focuses in particular on NFC mobile handset and SIM-card specifications. The [...] \* NFC initiative was set up to help expedite the deployment of NFC services by agreeing on concrete specifications in a way that would ensure interoperability of the different mobile transaction initiatives on a pan-European basis. [...] \*

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<sup>313</sup> Form CO paragraph 595: "[...] \*".

<sup>314</sup> The members of the [...] \* are [...] \*.

- (351) In July 2011 the two specifications on NFC handsets and SIM-cards developed by the [...] NFC initiative have been submitted to the GSMA in order to provide other operators with the opportunity to participate in the specifications setting process. Several MNOs, including Three UK, have already participated through the GSMA in this way. These specifications complement those developed through the original GSMA Pay-Buy-Mobile ("PBM") project. The Notifying Parties submit that the JV Co and other national NFC projects, will not have any role in the development of these specifications or the implementation of these specifications but will use those specifications in establishing their commercial arrangements.

#### GSMA

- (352) The GSMA Pay-Buy-Mobile ("PBM")<sup>315</sup> project is an umbrella for all NFC related work streams in the GSMA and looks wider than the United Kingdom. Its objectives include developing relevant standards or specifications for a common global approach for mobile NFC payments in particular, issuing guidelines and supporting pilot projects and sharing information regarding best practices. All GSMA full members have the opportunity to participate in PBM and the project has been supported by over 60 MNOs worldwide (this does not include Three UK). PBM has delivered a number of white papers, including handset guidelines. However, the Notifying parties submit that the pace of the project has been slow for some time. The GSMA PBM project was started in 2007.
- (353) The GSMA<sup>316</sup> submits that it is not a "standards" body in the classic sense of the word in the telecommunications industry, and has no powers to set binding standards for the industry such as European Telecommunications Standards Institute ("ETSI") does. It may, however, contribute to the development of *"technical specifications in product or services markets where compatibility and interoperability with other products or systems is essential" as per paragraph 257 of the Horizontal Guidelines*<sup>317</sup>. The GSMA further holds that although it is not an approved Standards Development Organisation (for example like ETSI) the work of GSMA *"is based on open standards from bodies such as 3GPP/ETSI, OMA etc. to ensure interoperability of services across mobile networks"* and it *"does produce additional specifications and guidelines, aimed at turning the standards into reality and providing additional information and processes required to launch actual services."*
- (354) GSMA is currently developing technical specifications for a common global introduction of mobile NFC payments, including the following requirements for SIM cards and mobile handsets:

- (a) Universal Integrated Circuit Card SIM requirements<sup>318</sup>

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<sup>315</sup> See [http://www.gsmworld.com/our-work/mobile\\_lifestyle/mobile\\_money/pay\\_buy\\_mobile/index.htm](http://www.gsmworld.com/our-work/mobile_lifestyle/mobile_money/pay_buy_mobile/index.htm).

<sup>316</sup> Response of GSMA to the Commission's Request for Information of 6 June 2012 questions 1.

<sup>317</sup> Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (O.J. 2011/C 11/01).

<sup>318</sup> <http://www.gsma.com/documents/gsma-nfc-uicc-requirements-specification-november-2011/21131/>



- (b) Requirements for Single Wire Protocol NFC handsets<sup>319</sup>
  - (c) Mobile NFC technical guidelines<sup>320</sup>
  - (d) GSMA NFC handset application programming interface requirements<sup>321</sup>
  - (e) GSMA's so-called "GlobalPlatform" for SIM specifications<sup>322</sup>
- (355) The Notifying Parties understand that GSMA and [...] intend to work collaboratively<sup>323</sup> to develop further mobile handset and SIM specifications throughout the course of 2012, which the JV Co would then adopt<sup>324</sup>.

#### *ETSI*

- (356) The European Telecommunications Standards Institute (ETSI) has developed a number of standards for NFC SIM cards, including the following:
- (a) ETSI TS 102 613 Release 7, Smart Cards; UICC-CLF Interface; Physical and Data Link Layer Characteristics<sup>325</sup>;
  - (b) ETSI TS 102 622 Release 7, Smart Cards; UICC – Contactless Front-end (CLF) interface; Host Controller Interface (HCI)<sup>326</sup>.

#### *NFC Forum*

- (357) The NFC Forum has also published a list of NFC specifications at <http://www.nfc-forum.org/specs/>. It launched its Certification Programme at the end of 2010<sup>327</sup>.

#### *EMVCo*

- (358) While NFC specifications developed by [...] and GSMA are specific to SIM and mobile handset requirements, the EMVCo standards and specifications being adopted apply to both NFC mobile payments as well as contactless credit and debit cards<sup>328</sup>. In this sense, according to the Notifying Parties, mCommerce via NFC will

<sup>319</sup> [http://www.gsmworld.com/documents/GSMA\\_Requirements\\_for\\_SWP\\_NFC\\_Handsets\\_v4.pdf](http://www.gsmworld.com/documents/GSMA_Requirements_for_SWP_NFC_Handsets_v4.pdf)

<sup>320</sup> [http://www.gsmworld.com/documents/gsma\\_whitepaper\\_nfc\\_vs2.pdf](http://www.gsmworld.com/documents/gsma_whitepaper_nfc_vs2.pdf)

<sup>321</sup> <http://www.gsma.com/documents/gsma-nfc-handset-apis-requirement-specification-november-2011/21126/>

<sup>322</sup> <http://www.globalplatform.org/specificationscard.asp> and <http://www.globalplatform.org/specificationssystems.asp>.

<sup>323</sup> The Commission understands that GSMA has set up a fast track project on NFC, in which the MNOs [...] participate as members of GSMA. The outputs from the fast track teams are subject to the usual GSMA process for consultation and approval by its wider membership. The GSMA notes that "... the GSMA Fast Track Project does not discuss or address the issue of the "possibility for competing mobile wallet providers to use the embedded SE". The GSMA has taken a clear and consistent position that the issue mentioned is not one for collective discussion within the GSMA." (Response from GSMA to the Commission's Request for Information of 6 June 2012 questions 7).

<sup>324</sup> Form CO, paragraph 579.

<sup>325</sup> [http://www.etsi.org/deliver/etsi\\_ts/102600\\_102699/102613/07.07.00\\_60/ts\\_102613v070700p.pdf](http://www.etsi.org/deliver/etsi_ts/102600_102699/102613/07.07.00_60/ts_102613v070700p.pdf)

<sup>326</sup> [http://www.etsi.org/deliver/etsi\\_ts/102600\\_102699/102622/07.00.00\\_60/ts\\_102622v070000p.pdf](http://www.etsi.org/deliver/etsi_ts/102600_102699/102622/07.00.00_60/ts_102622v070000p.pdf)

<sup>327</sup> <http://www.nfc-forum.org/certification/>

<sup>328</sup> See Annex 25 for the two EMVCo Mobile specifications (also available at <http://www.emvco.com/specifications.aspx>).

emulate a contactless plastic debit or credit card transaction. As a result, the NFC mobile handsets will work with existing contactless PoS terminals.

#### *GlobalPlatform*

- (359) GlobalPlatform is a cross industry association which identifies, develops and publishes specifications to facilitate secure and interoperable deployment and management of multiple embedded apps on secure chip technology. It includes representatives of the chip producers, OEMs, MNOs, cards schemes and IT companies. Therefore it covers at the same time the interests of the various owners of secure elements.

#### *Other relevant standards and specifications*

- (360) In addition to the SIM, NFC handset and EMVCo standards and specifications, the JV Co is also likely to adopt mobile wallet apps standards and specifications to facilitate Cross-Service User interoperability and portability of mobile wallets between different mobile handsets. The GSMA is currently *inter alia* developing standard specifications for apps and it is anticipated that these will also be adopted by the JV Co.
- (361) The Notifying Parties do not anticipate other regulatory barriers to entry. The most significant product certification requirements relate to the main card schemes: Visa and MasterCard. Each of these card schemes operates its own certification scheme, requiring certain standards and specifications (most notably related to security of consumer's payment credentials) to be fulfilled before a format will be certified to their members.
- (362) It is [...]\*.
- (363) However, in order to enable physical NFC payments to be made with Visa and MasterCard branded credit cards, the JV Co and card issuers will need to satisfy payment scheme operators, such as Visa and MasterCard, that it meets their scheme certification requirements. Without satisfying the applicable scheme's certification requirements, the JV Co and card issuers will not be permitted to allow "virtual" versions of that particular scheme's credit cards to be placed in the mobile wallet.
- (364) Both Visa and MasterCard have established their own scheme certification requirements, with which the JV Co will need to comply in order for Visa and MasterCard payment cards to be placed in the mobile wallets of the Notifying Parties and other service Users of the JV Co. In particular, card issuers need to ensure the following:
- (a) That their NFC technology complies with the EMVCo requirements;
  - (b) That the secure application on the SIM complies with the EMVCo requirements;

- (c) That the security test confirming that the whole mobile wallet protects the virtual card, is satisfied.
- (365) At present, each card issuer would have to gain individual certification from MasterCard or Visa and then be required to fulfil further testing with each M(V)NO to ensure compliance with the M(V)NO's requirements. Instead of this, the JV Co intends to aggregate all of the testing requirements of participating M(V)NOs for card issuers into a single test process<sup>329</sup>. This common set of tests would cover systems integration testing, style guide adherence testing, user experience testing and conformity to OS variations.
- (366) As far as online payments are concerned, no specific engagement will be needed between the JV Co and the relevant payment scheme operator (such as Visa or MasterCard), reflecting the fact that, in executing an online transaction on behalf of a consumer, the JV Co will simply be passing that consumer's card details on to the relevant merchant in a secure manner.

#### The Commission's assessment

- (367) The Commission investigated whether the Notifying Parties could create de-facto standards and specifications, to which they would prevent providers of rival wholesale mobile wallet platform services having access, thereby foreclosing them from offering competing mobile wallets.
- (368) Three UK<sup>330</sup> argued that in order to operate an NFC-based mobile wallet it would be necessary to develop certain standards and specifications going beyond the already existing standards and specifications, as claimed by the Notifying Parties. The JV Co would develop closed standards and specifications that would become de facto standards and specifications that the whole industry would be forced to use and the JV Co would have the freedom to license or not and to establish conditions in relation to their use. Three UK fears that as a result of the merger it would have to become a customer of the JV Co and it would be impossible to develop alternative mobile wallets.
- (369) Lloyds Banking Group stated that while technical standards have already been developed for NFC communications and mobile contactless payments, it expects that further standards would still need to be created. The JV Co could develop these still

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<sup>329</sup> Referred to as a "super-set" of tests in the Notifying parties' response to the Commission's question 3.B.k of 8 November 2011.

<sup>330</sup> Response of Three UK to Questionnaire Q1 of 7 March 2012 question 73.1: "*Although the JV partners have stated that the JV will be based on open standards (see Annex 2), it is our view that new de facto and/or proprietary standards will need to be created. For example, standards to facilitate simultaneous payment and coupon redemption do not currently exist, and standard interfaces and processes will be defined by the JV for its interaction with the banking and advertising industries. Furthermore, there appears to be little justification for why the standardisation of interfaces to the banking and advertising industries should be defined by the incumbent mobile operators alone. The JV's governance will preclude any influence (or equality) in the definition and evolution of standards over time, ensuring that any such standards created will be designed to favour the JV partners. It is also to be expected that there will be a delay before any technical standards are made available to MNOs/MVNOs that are not JV partners.*"

outstanding standards in a direction that would limit the ability of third party providers to supply their own mobile wallet<sup>331</sup>.

- (370) PayPal<sup>332</sup> also submitted that while basic NFC communication standards and specifications have been developed, there are currently no standards or specifications for combining payment with coupon redemption – an area that is likely to be controlled by the JV Co. The JV Co platform would provide the Notifying Parties with the ability to adopt strict standards and specifications, limiting consumers' access to competing service providers, who may very well offer a better and more attractive user experience. This, according to PayPal, would enable the Notifying Parties to discriminate between competing services and their own mobile wallets on the JV Co platform, in particular by controlling access to the only currently workable method of NFC-based payments through standardisation and certification requirements embedded in its SIM-based technologies. According to PayPal, the JV Co is likely to become the gatekeeper in the payments ecosystem through control of a single sponsored standard or specification concentrated in the hands of a single firm. The JV Co would have the market power to dictate the standards/specifications – and through the distribution power of the Notifying Parties the JV Co standards and specifications would become the industry standards and specifications.
- (371) Furthermore, PayPal also expressed a concern that the JV Co and the Notifying Parties could entrench the Card Emulation mode (see Recital (51)) using an SE, at the expense of an uptake of the P2P mode, which PayPal believes to be more flexible and open<sup>333</sup>. If the consumer and the merchant both have devices supporting P2P, then a two-way communication from the cloud via the two devices (mobile handset and PoS terminal) allows confirmation of the consumer presence at the PoS, reducing risk of fraud. PayPal explained that today PoS terminals are set by default to support Card Emulation Mode (many PoS terminals also support P2P, but this mode in most instances is not activated or is disabled), and there is a strong incentive for both MNOs and existing card issuers to push Card Emulation, because it would maintain the strong position of issuing banks (versus new entrants such as PayPal). By hardwiring the Card Emulation mode into the SE, MNOs could easily entrench the existing players and shape consumer expectations in future years that existing cards simply transfer onto the Card Emulation mode. According to PayPal, the problem is compounded further by the tendency of retailers to adopt the dominant choice, meaning that Card Emulation readers could quickly become the new standard, limiting the uptake of the P2P standard that PayPal prefers.
- (372) The Commission has considered in detail PayPal's arguments. In relation to NFC payment standards, as discussed in Recital (358), the main standard-setting organisation is EMVCo, which adopts NFC standards that apply to mobile payments as well as to contactless cards. The EMVCo standards are being shaped by the card issuers, in particular by Visa and MasterCard and the Notifying Parties have very little influence over them.
- (373) In addition, the Commission notes that PayPal is successful in concluding agreements with PoS terminal providers to allow the PayPal mobile payment

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<sup>331</sup> Submission by Lloyds Banking Group PLC of 18 June 2012, page 24.

<sup>332</sup> Response of PayPal to Questionnaire R1 of 7 May 2012 question 3.4.

<sup>333</sup> Response of PayPal to Questionnaire Q2 of 07 March 2012, questions 46, 48.

application to be used in-store. In the United States of America, PayPal and Verifone entered into a comprehensive agreement in May 2012 that advances PayPal acceptance at large retailers. Verifone's press release<sup>334</sup> claims that "the Verifone solution is future-proof so that adding new options, such as NFC, will be easy to implement when they become available. Secondly, in January 2012, PayPal signed an agreement with Ingenico, which will enable merchants equipped with Ingenico PoS devices to accept PayPal payment options<sup>335</sup>. A similar agreement was made with Equinox in May 2012<sup>336</sup>. Although these agreements are in the United States of America, they demonstrate that PayPal's solutions are successfully enabled in PoS terminals. Finally, in the United Kingdom PayPal promotes innovative payment solutions. In May 2012, PayPal was reported to launch a new payment service for using a mobile app to pay online through the cloud<sup>337</sup>. The Commission therefore considers that the JV Co will not have a greater ability to influence the NFC standards than other market participants, and that PayPal will continue to have similar negotiating power to promote innovative solutions in relation to mobile payments.

- (374) Further investigation, in particular with manufacturers of PoS terminal readers and potential competitors or customers in the field of mobile payment also enabled the Commission to understand that as far as mobile payments are concerned, rules and specifications developed by Visa and MasterCard already exist for contactless payments (as explained in Recital (364)) and, even if mobile payments are still a nascent technology as a result it is likely that changes to the current specifications will be needed to reflect improvements in technology and security updates, the Notifying Parties would not be in a position to create proprietary standards or specifications in this field.
- (375) For instance, HSBC explained that the NFC/SE environment has comprehensive and consistent standards and specifications which are understood, stable and mature and notes that EMVCo and card scheme rules (set by Visa and MasterCard) play an important role in that matter<sup>338</sup>.
- (376) A financial institution also confirmed that virtually all aspects of NFC and mobile contactless payments are already covered by technical standards and specifications<sup>339</sup>.
- (377) Visa also explained in particular that Visa branded NFC mobile cards within the JV Co's wallet will only be able to conduct Visa NFC mobile transactions at Visa-enabled contactless readers. It also explained that Visa has developed specifications for Visa payWave terminal readers at the PoS and Visa expects that the vast majority

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<sup>334</sup> <http://www.verifone.com/2012/verifone-and-paypal-sign-pact-to-bring-alternative-payments-to-large-retailers.aspx>.

<sup>335</sup> [http://www.ingenico.com/en/media\\_centre/press\\_releases/ingenico-launches-new-paypal-payment-solution-exp\\_gxhl9nnv.html](http://www.ingenico.com/en/media_centre/press_releases/ingenico-launches-new-paypal-payment-solution-exp_gxhl9nnv.html).

<sup>336</sup> <http://www.hypercomusa.com/news>

<sup>337</sup> <http://www.dailymail.co.uk/sciencetech/article-2152118/Paypal-unveils-new-app-lets-pay-shops-direct-smartphone--queuing-till.html>.

<sup>338</sup> Response of HSBC to Questionnaire R1 of 7 May 2012 question 6.1.

<sup>339</sup> Response of Lloyds Banking Group to Questionnaire R1 of 7 May 2012 question 6.1.

of terminals equipped for PayWave will be equipped for PayPass and other systems for contactless payments<sup>340</sup>.

- (378) The result of the market investigation as regards the question of whether or not there already exist standards or specifications governing the interoperability between SIM-based SEs and mobile wallet apps was not conclusive. For instance, Bouygues Telecom explained that the interoperability was still under standardisation and that the proprietary APIs of Gemalto were becoming de facto standards and specifications. Three UK explained that Android does not currently provide a standard API for allowing apps to access a SIM based-SE, and Telia Sonera explained that GSMA has defined requirement specification(s) and that access control is provided by the GlobalPlatform<sup>341</sup>. The Commission considers that this may reflect the evolving nature of this nascent technology.
- (379) Moreover, as far as enabling customers to pay, redeem coupons and claim loyalty points at the same time with their mobile handsets (the "one-tap" solution), on the basis of the market investigation, the Commission has found that no standard specification exists and that the Notifying Parties would have to create their own specifications<sup>342</sup>, or use the standards and specifications developed by market participants such as Google or VeriFone<sup>343</sup>.
- (380) Nevertheless, Google, in order for its Google Wallet to work, also developed proprietary specifications to enable simultaneous payment-coupons-loyalty points' redemption and manufacturers of PoS readers stated that these proprietary specifications could co-exist on PoS readers for different mobile wallets to function<sup>344</sup>.

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<sup>340</sup> Response of Visa to the Commission's Request for Information of 25 May 2012, other issues, points 1.a and 1.b.

<sup>341</sup> Responses to Questionnaire R7 of 16 May 2012, question 23.

<sup>342</sup> First Data submits that PoS terminals are not yet equipped with standards or specifications for the processing of non-payment transactions such as voucher redemption and loyalty points awarding. There are different potential ways to set these standards and to upgrade terminals accordingly. The development of such standards or specifications is expected to take place within industry association type bodies, such as EMVCO or according to international card schemes (Visa, MasterCard). First Data will adopt those standards/specifications as required by the industry. Agreed minutes of telephone conference call of 3 May 2012 with First Data.

<sup>343</sup> Verifone submits that there are only standards and specifications for payment transactions (set by Visa and MasterCard). For vouchers and loyalty points, operators such as Google have to develop a specific protocol. VeriFone tries to also provide an open API framework so any mobile wallet which enables vouchers could interact with its terminals. VeriFone expects that global standards will ultimately develop. Regarding the certification process for VeriFone terminals, there is no standard certification for contactless payment terminals. VeriFone has its terminals certified separately by Visa, MasterCard, etc. The different certification processes change regularly, but they are valid worldwide, except for Visa which has developed different versions in some regions (for example Visawave for ASPAC). Agreed minutes of telephone conference call of 24 May 2012 with Verifone.

<sup>344</sup> Verifone submits that there are no patents covering the single-tap technology. Google would have developed its specifications for Google wallet and would own the respective proprietary rights. The API for implementing these specifications on VeriFone's terminals is developed by VeriFone on the basis of these specifications; VeriFone owns the property rights to this API. VeriFone has also developed its own general environment for supporting mobile wallets to function on its terminals. Therefore, it would be simple to offer a service similar to Google single tap to other undertakings. Agreed minutes of telephone conference call of 24 May 2012 with Verifone.

- (381) In May 2010 the Cityzi project for interoperable commercial services combining transport ticketing systems, secure mobile payments, several retail projects and other tourism services on mobile handsets was launched in France. More than 1 million NFC mobile handsets are currently using this service<sup>345</sup>. During the experiment it appears that the current GlobalPlatform standard or specification for the connections between the TSM and the management of the SEs were not clear enough for example for loyalty cards. Therefore the Association Française Sans Contact Mobile has created new standards or specifications to resolve the issue<sup>346</sup>. These standards or specifications are now under discussion and approval by GlobalPlatform and are also included in the GSMA Fast track project<sup>347</sup>.
- (382) Based on the above, it can be concluded that it is most likely that the Notifying Parties will not be in a position to create *de facto* standards and specifications<sup>348</sup> that no other market participant could use, hereby foreclosing competing mobile wallet providers.

#### 9.2.1.3. Assessment of commercial foreclosure

##### **Conceptual background on commercial foreclosure**

- (383) For the purpose of the present Decision, the Commission considers “commercial foreclosure” as a strategy which relies on the Notifying Parties' ability and incentive to substantially foreclose rival mobile wallet providers using commercial, rather than technical means. Commercial foreclosure is therefore mainly implemented indirectly<sup>349</sup>, for instance by negotiating with third parties, such as OEMs, to induce them to take commercial measures which may block or hamper rival mobile wallet providers, or by incentivizing third parties such as independent retailers to market mobile handsets bundled with the JV Co mobile wallet over mobile handsets that include rival mobile wallets.
- (384) In contrast to technical foreclosure, it is more difficult to establish whether or not the Notifying Parties have the ability to engage in commercial foreclosure. This is because this type of foreclosure depends on the relative balance of power between the Notifying Parties and other parties involved in the mobile wallet market (for example OEMs, OS providers), as well as on the counterstrategies that rival wholesale mobile wallet platform service providers could deploy. These considerations imply that commercial foreclosure may not be fully effective, but nonetheless that the Notifying Parties could engage in forms of partial commercial foreclosure if they wished to do so. The counterstrategies that could be deployed by rival mobile wallet providers in order to frustrate a commercial foreclosure strategy also have a bearing on the likely cost of such a strategy for the Notifying Parties, and therefore on the assessment of the incentives to engage in foreclosure.

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<sup>345</sup> [http://www.afscm.org/fichiers/bibliotheque/cp\\_cityzimobiles\\_21june12\\_vuk.pdf](http://www.afscm.org/fichiers/bibliotheque/cp_cityzimobiles_21june12_vuk.pdf)

<sup>346</sup> See press release (20.12.2011): <http://www.afscm.org/en/news/the-afscm-releases-a-new-set-of-specifications.htm?id=59>

<sup>347</sup> See response from GSMA to the Commission's Request for Information of 6 June 2012, point 94.

<sup>348</sup> A *de facto* standard is a custom, convention, product, or system that has achieved a dominant position by public acceptance or market forces (such as early entrance to the market).

<sup>349</sup> Except for commercial foreclosure based on delisting of mobile handsets containing rival mobile wallets which could be implemented directly by the foreclosing parties.

- (385) In assessing the likelihood of an anticompetitive foreclosure scenario, and thus in particular the likelihood of an anticompetitive commercial foreclosure scenario, the Commission examined, in line with the Non-Horizontal Merger Guidelines, whether the Notifying Parties and the JV Co post-merger would have the ability and incentive to substantially foreclose the wholesale market for the provision of wallet platform services and whether a foreclosure strategy would have significant detrimental impact on competition downstream. The Non-Horizontal Merger Guidelines also recognize that "[...] *in practice, these factors are often examined together as they are closely intertwined*"<sup>350</sup>.
- (386) Assuming that the Notifying Parties would have the ability to substantially foreclose rival mobile wallets, it would need to be considered whether they also have the incentive to do so. When engaging in a foreclosure strategy, parties typically face a trade-off between additional profits in the foreclosed market and losses in any adjacent market that is affected by foreclosure (for example because of the inefficient exclusion of a trading partner in the adjacent market)<sup>351</sup>. In the NFC-enabled mobile wallet market, the profits from foreclosure would essentially stem from the additional revenues in the market for wholesale supply of mobile wallet platform services which would be captured as a result of the exclusion of rival wholesale mobile wallet platform service providers. The creation of the JV Co would increase the profit from foreclosure since it would eliminate competition between the Notifying Parties in wholesale supply of mobile wallet platform services market. This would increase their profits in the upstream market for the wholesale supply of mobile wallet platform services given the high combined market shares in the retail mobile telephony market of the Notifying Parties. These additional revenues could, for instance, take the form of increased access fees to Service Users and Service Providers, and potentially higher revenues for renting space on the SIM-based SE (see section 8.1.2)<sup>352</sup>.
- (387) The (opportunity) cost of foreclosure would essentially be due to the lower downstream retail mobile telephony profits associated with not being able to offer to subscribers a wider choice of mobile wallet options downstream and (depending on the exact foreclosure mechanism) a full choice set of mobile handsets.
- (388) The Commission considered whether a commercial foreclosure strategy could be implemented by a single Notifying Party on its own, irrespective of the strategies of the remaining Notifying Parties, or whether under any potential foreclosure scenario the Notifying Parties would rely on joint (or collective) implementation of a foreclosure strategy.
- (389) Given that each Notifying Party would only foreclose a relatively small part of the mobile wallet market by acting on its own, that is to say its own customer base, it would be unable to exclude competitors from the remaining mobile wallet market. This would severely undermine the effectiveness of foreclosure. In particular, each

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<sup>350</sup> See Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings, paragraph 32.

<sup>351</sup> See Non-Horizontal Merger Guidelines, paragraphs 40 and following.

<sup>352</sup> Note that as competitive conditions in the other markets in which the JV Co will be active (advertising, data analytics) are fundamentally different from those in the wholesale mobile wallet market, an increase in mobile wallet profits due to foreclosure will only have limited spill-over effects on the advertising and data analytics markets (see also Recital (434)).



Notifying Party only has between [ 20-30]% and [ 30-40]% of the retail mobile telephony market share, which means that on their own they could only foreclose a limited part of the market for the wholesale supply of mobile wallet platform services. The Commission concludes that each Notifying Party would not have the ability and incentive to engage in a commercial foreclosure strategy on its own independently of the conduct of the other Notifying Parties.

- (390) As a result, the assessment remains to be carried out as to whether the Notifying Parties could or would develop a joint (or collective) foreclosure strategy.
- (391) When considering any hypothetical joint foreclosure strategy, it is important to bear in mind that it is not the JV Co directly that would be implementing the joint foreclosure strategy, but rather each Notifying Party.
- (392) In its assessment the Commission explores two distinct types of incentives for the Notifying Parties to engage in a joint foreclosure strategy: unilateral incentives (which would give rise to "unilateral effects" of the operation); and coordinated incentives (which would give rise to "coordinated effects").
- (393) Unilateral incentives to engage in a joint foreclosure strategy would arise if each of the Notifying Parties were to find it profitable to foreclose rivals, given that the other Notifying Parties are also implementing the same strategy. If this condition holds, no Notifying Party faces the unilateral incentive to deviate from the joint foreclosure strategy. In this case, the existence of the JV Co may act as a device that allows the Notifying Parties to align their strategies and foreclosure competitors. The existence of unilateral incentives to engage in a joint foreclosure strategy would imply that this outcome could be sustained in a "static" setting, without the need for a deterrent mechanism based on future punishment of any firm that would deviate from the strategy. The unilateral decision to foreclose rival wallets would be optimal for each Notifying Party if the gain from deviating from such a foreclosure strategy (that is to say the acquisition of additional subscribers from the other Notifying Parties which are engaging in such a foreclosure strategy) is small compared to the incremental profits that would accrue to the Notifying Party through the JV Co as a result of foreclosure.
- (394) Coordinated incentives to engage in a joint foreclosure strategy would arise if the Notifying Parties were to find it profitable to tacitly coordinate on this strategy. The existence of incentives of this type would be based on a dynamic mechanism in which coordination is sustained by a deterrent mechanism that punishes potential deviators from the joint agreement to foreclose. To assess coordinated effects of this kind the Non-Horizontal Merger Guidelines<sup>353</sup> and well-established case law<sup>354</sup> require proof that the operation will make coordination more likely, more effective or more sustainable. The analysis needs to focus in particular on the ability to reach

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<sup>353</sup> Non-Horizontal Merger Guidelines, paragraphs 79 and onwards.

<sup>354</sup> See for example Case T-342/99, *Airtours plc v. Commission* [2002] ECR II-2585; Judgment of the Court of First Instance (Third Chamber) of 13 July 2006 in *Independent Music Publishers and Labels Association (Impala, association internationale) v. Commission* (Case T-464/04), [2006] ECR II-2289; Judgment of the Court (Grand Chamber) of 10 July 2008 in *Bertelsmann AG and Sony Corporation of America v. Independent Music Publishers and Labels Association (Impala)* (Case C-413/06 P), [2008] ECR I-04951.

terms of coordination, the ability to monitor deviations, the existence of a credible deterrent mechanism if deviation is detected, and the reactions of outsiders such as potential competitors and customers.

### **Industry characteristics pertinent to commercial foreclosure**

- (395) To understand whether the Notifying Parties would have the commercial ability to substantially foreclose rival mobile wallet providers, the Commission examined the mobile supply chain. The following are the main participants in the supply chain:
- (a) OEMs, responsible for the hardware and software specification of the mobile handsets which are supplied to the retailers;
  - (b) OS developers who supply software to OEMs and often set minimum hardware requirements and control which apps run on their OS and/or the major app stores where apps can be downloaded from;
  - (c) M(V)NOs as suppliers of airtime;
  - (d) Retailers of mobile handsets and airtime, both M(V)NO direct sales channels and independent retailers.
- (396) M(V)NOs either sell their airtime through their direct sales channel, that is, their own branded retail store or their online store, or they sell it through independent retailers who act as agents for the M(V)NOs for airtime. In the United Kingdom, end customers typically expect to acquire a new mobile handset when purchasing connectivity to a mobile network. Therefore, to attract customers, retailers offer subscribers subsidies on mobile handsets when the customers purchase mobile airtime. Mobile handsets are subsidised both by the direct M(V)NO sales channels as well as by the independent distributors. These handset subsidies are usually financed by part of the commission that M(V)NOs offer to the independent retailers for the sale of airtime contracts, although it is for the independent retailer to decide how to utilise his commission. It is the retailer (direct or independent) who determines the level of the subsidy and grants it to its customer. As discussed in Recital (44), the majority of mobile handsets are subsidised for post-pay (pay monthly) subscriptions, but subsidies for prepay subscriptions have largely been phased out. However, as discussed in Recital (45), the smartphones needed to run mobile payments and mCommerce apps are mostly (77%) sold subject to a pay monthly contract.
- (397) M(V)NOs purchase mobile handsets from OEMs and sell them through their own branded retail stores or online stores. Larger independent retailers also usually purchase their handsets directly from OEMs. Exceptionally, smaller, non-specialised independent retailers (such as supermarkets) which typically sell lower-end mobile handsets are often supplied by the M(V)NOs. Lower-end mobile handsets would be unlikely to accommodate mobile wallets so these non-specialist retailers have very limited relevance in this case. As discussed in Recitals (42) and (43) the two largest independent retailers, Carphone Warehouse and Phones 4U are reported to have jointly a market share of up to [40-50]% on a sales value basis<sup>355</sup>.

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<sup>355</sup>

[...]\*, January 2011.

- (398) In the United Kingdom, mobile handsets are generally sold on a non-exclusive basis to all M(V)NOs and independent retailers. Exclusive supply of mobile handsets in the United Kingdom is rare and typically involves significant volume commitments to the OEM concerned. Where exclusive supply of popular mobile handsets is negotiated, the OEM can typically negotiate even more favourable terms of supply. For example, when Telefónica took exclusive supply of the Apple iPhone in the United Kingdom, the Notifying Parties submitted<sup>356</sup> that it was reported that between [10-20]% and [40-50]% of its iPhone voice and data revenues went to Apple<sup>357</sup>. In the retail mobile telephony market, the MNOs compete intensely against each other, with the MVNOs and with the indirect channels. To win customers, each retailer needs to ensure that it offers consumers an attractive user experience. The independent retailers provide OEMs with important alternative options to dealing directly with the MNOs. Their mobile handsets are able to reach consumers independently of the retail activity of MNOs. Independent retailers are perceived as offering impartial technical and sales advices to consumers on mobile handsets and airtime contracts. They can also offer a wider range of mobile handsets than that offered by the MNOs.
- (399) An MNO who seeks to compete without engaging indirect channels will be at a disadvantage. The importance of indirect retailers of MNOs can be seen by [...] <sup>358</sup>.
- (400) The MVNOs also play an important role in the competitive environment in the United Kingdom. First, their inclusion in the retail mobile telephony market intensifies the level of competition. Second, in many cases they are an important alternative channel for the retail supply of mobile handsets. In 2010 Virgin Mobile had a consumer share of mobile connections of around 6%, Tesco Mobile had a share of around 5% and others had a share around 2% <sup>359</sup>.
- (401) As discussed in Recital (36), M(V)NOs sometimes request OEMs to modify the specifications of mobile handsets that are purchased for sale in the direct M(V)NO sales channels. Depending on the volume purchased and the approach of the specific OEM, the OEM might agree to introduce such modifications. Independent retailers on the other hand do not tailor the mobile handsets they purchase from the OEMs (so called "vanilla" mobile handsets).
- (402) Several very important OEMs are currently selling and developing mobile handsets with embedded SEs or dual SE architecture as the standard version of the mobile handsets (see footnote 258). In this context, it is recalled that besides Transaction services, other services would most likely exist that may be better suited for mobile

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<sup>356</sup> Form CO, Annex 33, paragraph 49.

<sup>357</sup> <http://www.guardian.co.uk/technology/2007/sep/17/mobilephones.apple>

<sup>358</sup> Form CO, Annex 33, paragraph 56 onwards.

<sup>359</sup> Ofcom Communications Market Report 2011.

handsets equipped with an embedded SE, like access control to company's offices, or where a service provider needs to deliver credentials (for example hotel keys) to the smartphone of a traveller from another country (in this latter example, a SIM-based SE would not appear to be most adequate as the service providers would need to deal with operators globally to provide an ubiquitous service). While there are also "world devices" that can be used in any geographic area, mobile handsets appear to be often configured differently depending on the region in which they are ultimately sold (United States of America, Japan, China, European Union, etc). In some countries, notably the United States of America and Japan, the same SIM model is not applied.

- (403) Moreover, each of the Notifying Parties' parent company's purchase share of the global market for the mobile handsets is likely to be small<sup>360</sup>. While data on MNO's purchase share of global mobile handset supply appears unavailable, their share of global mobile revenues could be a reasonable proxy for their share of mobile handset supply. A recent report found that, of the top 20 mobile operators by global revenues in 2011, none of the Notifying Parties' parent companies had a share of revenues greater than 10%. Given that there are likely to be a long tail of mobile operators outside the top 20, the actual share of global revenues of each parent operator (on a consolidated basis) is likely to be significantly lower than 10% (the share of revenues of the top 20 Mobile Operators for each parent Group was: Vodafone 9.9%; Telefónica 7.9%; Deutsche Telecom 6% and France Telecom 5.3%). Therefore, none of the Notifying Parties parent company is likely to be able to exert much bargaining power in their relationship with OEMs<sup>361</sup>.
- (404) Mobile handsets play an important role in generating sales of airtime contracts. Retailers have to offer the latest "must have" mobile handsets. There is a limited number of such mobile handsets. Consumers increasingly demand high specification mobile handsets which are often marketed directly to the public by manufacturers. Relatively few mobile handsets tend to account for the vast majority of the market. This means that in order to compete effectively, retailers (whether the MNOs or MVNOs directly or indirect retailers) have to stock these "must offer" mobile handsets. According to [...]\*, the top ten contract mobile handsets sold in the second quarter of 2011 accounted for 62% of all contract mobile handset sales. The most popular contract mobile handsets in 2011 Q2 were the [...]\*\*\*<sup>362</sup>.
- (405) The OS is a key component for smartphones<sup>363</sup>. OEMs either develop their own OS or they license it from an OS developer. The number and variety of apps that is available for an OS is one of the key dimensions of competition in the retail mobile telephony market. Apps are either pre-installed on the mobile handset when it is

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<sup>360</sup> Form CO, Annex 33, paragraph 73.

<sup>361</sup> See <http://www.wirelessintelligence.com/analysis/2011/05/new-study-ranks-top-20-global-mobile-operator-groups-by-revenue/>

<sup>362</sup> Form CO, Annex 33, paragraph 42.

<sup>363</sup> See the Commission decision of 13 February 2012 in Case No COMP/M.6381 *Google / Motorola Mobility*, paragraph 62.

purchased or are downloaded by the consumer from app stores. For all major OSs the app store of the OS developer is by far the most used in the UK<sup>364</sup>.

- (406) Some OS providers are vertically integrated with OEMs. Others are not integrated but contract for their services with OEMs. The following are examples of OS provider situation:
- (a) Apple is a vertically integrated supplier of mobile OS (iOs), mobile handsets (iPhone and iPad), a mobile application marketplace (Apple App Store) as well as mobile apps (for example FaceTime, iPhoto, iBooks). iPhone or iPad users are required to open an iTunes store account when activating their mobile handsets, providing card details;
  - (b) Google controls the Android OS, which runs over the majority of non-Apple smartphones in the United Kingdom<sup>365</sup> and the Google suite of mobile apps including Google Play (which includes the former Android Market), YouTube, Google Maps and Google Search. Google controls the development of the Android OS, the terms on which handsets can use the Android OS and the Google app;
  - (c) RIM is another vertically integrated provider of mobile services controlling both the hardware and software (RIM OS) of its own BlackBerry mobile handsets;
  - (d) Microsoft has developed the Windows Phone OS to replace its previous Windows Mobile OS. The Windows Phone has its own app store, the Windows Phone Marketplace. Microsoft has a range of services including its own search engine (Bing), map provider (Bing Maps), web browser (Internet explorer) and media player (Zune<sup>366</sup>).
- (407) With the rise of smartphones, some market power has shifted further from the M(V)NOs to the OS providers and consumers.
- (408) Attracting smartphone users appears also to be key to the development of M(V)NOs' business. In particular, smartphones have allowed M(V)NOs to attract consumers with higher average revenue per user and thus to monetise the development of additional services (like mobile data services)<sup>367</sup> in a way that was not possible before.

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<sup>364</sup> Apple controls the only app stores that can be used with its OS. The Android market place, now Google Play, is by far the most used app store on the Android platform.

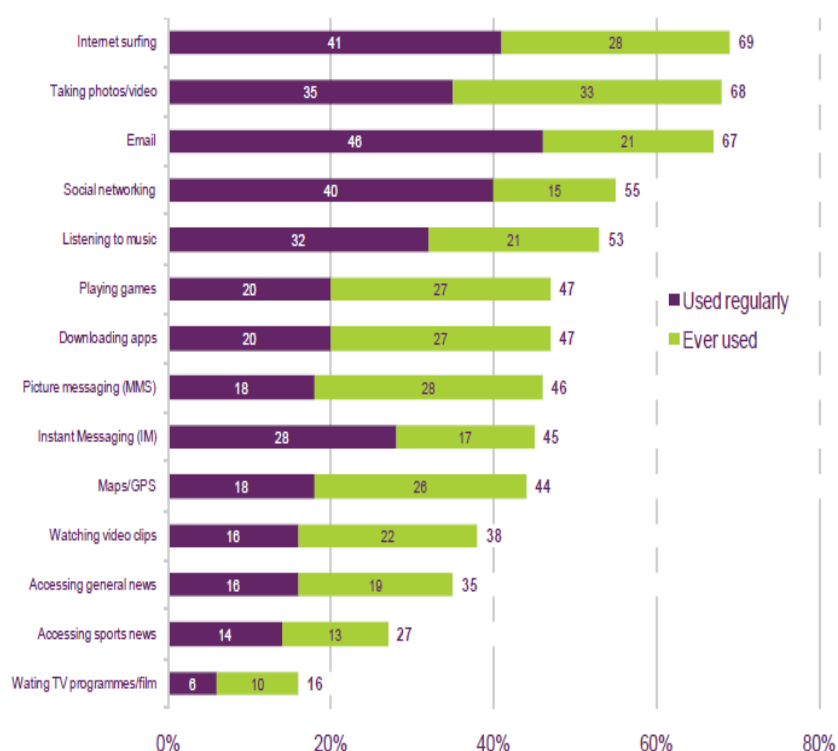
<sup>365</sup> See the Commission decision of 13 February 2012 in Case No COMP/M.6381 *Google / Motorola Mobility*, paragraphs 75 onwards.

<sup>366</sup> Microsoft announced in June 2012 that it would discontinue its Zune brand and launch a new service called Xbox Music (<http://www.xboxmusic.net/en-US/promotions/xboxmusic.htm>).

<sup>367</sup> The wide adoption of smartphones has increased the amount of data traffic by 40 times since the end of 2007 (See Ofcom (2011) Communications Market Report paragraph 4.1.2). M(V)NOs compete to upgrade customers from voice only tariffs to combined voice and data tariffs, which have higher average revenue per user, by offering smartphones at discounted prices. The growth in data traffic driven by increased smartphone use is expected to continue in the coming years. This is illustrated by a report from Enders Analysis which stated that “mobile internet use in the UK to grow from one billion hours in 2009 to 7 billion hours in 2015”. As MNOs roll out their 4G LTE networks much faster

- (409) The development of smartphones has altered how consumers interact with their mobile handset. Now, customers choose a "mobile ecosystem" which includes: mobile handsets with sophisticated hardware capabilities, OSs which enable fast, easy-to-use and customisable user interfaces on those mobile handsets, and an app store which offers a wide range of services which enable consumers to personalise their mobile handset to reflect their needs. OEMs have to cater for smartphone users who expect to be able to seamlessly switch between multiple activities on a single mobile handset (access the internet, send and receive emails and messages, access social networks, use their music and video player, use satellite navigation, manage their contacts database, and take and publish pictures or videos).

**Figure 2. Activities conducted on a smartphone (adults)**



Source: Ofcom omnibus research, March 2011

Q.8/9 Which, if any, of the following functions or activities have you ever used/use regularly on mobile?

Base: GB adults who use a smartphone (n = 474).

Source: Ofcom Communication Markets report 2011. Figure 1.44.

- (410) According to research by [...] in 2011, the mobile handset OS is among the top four reasons for deciding to get a particular handset rather than another make or model of mobile handset. Excluding "recommendations from friends [and] relatives", the OS as a driver of smartphone choice was second only to ease of use and price<sup>368</sup>.

download speeds will be possible which will enable a new generation of apps and services which will in turn drive demand for more sophisticated smartphones.

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[...]\* submission "No commercial ability to foreclose rival wholesale mobile wallet platform services", page 11.

- (411) As new uses for mobile handsets evolve, because of changing technology or demand, consumers expect to be able to quickly and easily incorporate new apps onto their preferred mobile handset. In this regard, mobile handsets which provide open access to app stores have become an important part of retail competition in the supply of mobile handsets. Customers choose mobile handsets which can access well stocked app stores as consumers seek to tailor their mobile handsets to their needs. For example, Apple's app store was launched in 2008 and hosted over 500,000 apps by October 2011. Android Market launched in 2008 and had about 400,000 apps from around 100,000 developers by January 2012<sup>369</sup>. Consumers' changing relationship with their smartphone is underlined by research from Ofcom who reported: *"There has been a huge growth in smartphone take-up in past 12 months [during 2010]. Over a quarter (27%) of UK adults are smartphone users ...The Apple iPhone is the most popular brand overall, but BlackBerry handsets are the most popular choice among younger consumers...Smartphone users have a much stronger relationship with their phone than standard mobile phone users, with 37% admitting high levels of 'addiction' to their phone (scoring seven or more out of ten), compared to 12% of standard mobile handset users"*<sup>370</sup>.
- (412) Research by Telefónica highlighted [...] <sup>371</sup>.
- (413) Any attempts by the MNOs to introduce a mobile "walled garden" model usually meet strong consumer resistance. With the use of social networks, blogs and other consumer comments and review websites, consumer dissatisfaction can gain wide traction and cause damage to MNOs' reputation. [...] <sup>372</sup>, [...] <sup>\*</sup>.
- (414) iPhone and Android OS mobile handsets, in particular, have succeeded in providing feature-rich mobile handsets which allow users to customise their experience. Google and Apple's success in supplying smartphones which consumers value is seen in their market shares; by November 2011, 72% <sup>373</sup> of all mobile handsets supplied were either Apple or Android.
- (415) Therefore, it appears that consumers have quickly grown accustomed to personalising their mobile handsets by downloading apps, etc. Consumers are likely to react in a negative manner to having their choice of services on their smartphones

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<sup>369</sup> [http://www.pcworld.com/article/247247/android\\_market\\_tops\\_400000\\_apps.html](http://www.pcworld.com/article/247247/android_market_tops_400000_apps.html)

<sup>370</sup> See Ofcom (2011) Communications Market Report paragraph 1.5.2.

[http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr11/UK\\_CM\\_2011\\_FINAL.pdf](http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr11/UK_CM_2011_FINAL.pdf)

<sup>371</sup> Annex 33 to Form CO, paragraph 24 and onwards.

<sup>372</sup> Form CO, Annex 33, paragraph 26 and onwards.

<sup>373</sup> Source: [...] <sup>\*</sup>.

limited by their MNOs. In the era of social networking, consumer forums, and consumer review and comment websites, any such adverse reaction would likely gain wider media coverage which could cause damage to the Notifying Parties' brand and reputation. Consumers do not appear to favour having their mobile experience shaped by their MNO.

### **Routes to commercial foreclosure**

- (416) The Commission has examined several potential routes to commercial foreclosure ordered along the different steps of the value chain which the Commission considers as the most likely potential routes to commercial foreclosure in the market investigation. It is important to bear in mind that strategies listed below are not mutually exclusive and could be used in combination with each other. The Commission examined the following:
- (a) Whether the Notifying Parties could exercise commercial pressure on OEMs not to install or to block the pre-installed embedded SE;
  - (b) Whether the Notifying Parties have the commercial ability to influence OS developers or OEMs to block/remove the preloading of mobile wallet apps;
  - (c) Whether the Notifying Parties could disadvantage or delist handsets capable of supporting rival wallets;
  - (d) Whether the Notifying Parties would be able to incentivise independent retailers to market handsets that do not contain rival wallets or to set certain default settings which favour their wallet.
- (417) In this section, the Commission analyses, for each route of commercial foreclosure, whether the Notifying Parties have the ability and the incentive to engage in a joint commercial foreclosure strategy. In addition, the Commission analyses whether the Notifying Parties together with banks would have the ability and the incentive to substantially foreclose non-bank payment solutions.
- (418) It is important to bear in mind that the assessment of the different foreclosure strategies discussed in this section is based on the narrowest market definition, concentrating only on mobile wallets that work on NFC technology as discussed in section 8.1.3. If additional types of payment methods were to be included in the relevant market and therefore in the assessment of foreclosure (for example NFC payment cards or NFC credit cards, non-NFC mobile payment methods such as the Apple Passbook that provides voucher and loyalty card functionality) it would be even less likely that the operation would raise foreclosure concerns.
- (419) As Apple currently does not offer NFC enabled mobile handsets or mobile wallets, the Commission has assessed the likelihood of foreclosure assuming that Apple will not be active as a provider of NFC-based mobile wallet services, at least in the short term. [...]\*. Market participants, however, expect that Apple could enter that market should it wish to do so. Apple currently already offers mobile wallet related services within "Apple Passbook", a digital card carrier for loyalty cards, event tickets or airline boarding passes. The Commission expects that in case the NFC mobile wallet market passes



the nascency phase and if the mobile wallet ecosystem is widely adopted by consumers and merchants alike, it would induce entry by players such as Apple. Using all available evidence, indicating the unique market position that Apple enjoys, the Commission considers that the Notifying Parties would not be in a position in any event to foreclose Apple in such circumstances. This is relevant to the competitive assessment of the operation, as it is set out below.

### **Commercial pressure on OEMs not to install or to block the pre-installed embedded SE**

- (420) The Commission has examined whether the Notifying Parties would have the ability and the incentive to put commercial pressure on OEMs not to install an embedded SE on their mobile handset models, or to block a pre-installed embedded SE. The Commission has examined the Notifying Parties' commercial influence in relation to mobile handsets sourced by the Notifying Parties themselves for distribution through their direct sales channels and also in relation to "vanilla" mobile handsets sourced by independent retailers.

### **The view of the Notifying Parties**

- (421) The Notifying Parties submit that they would not request OEMs not to install or to block or disable the pre-installed mobile handset embedded SE (which could carry a competing mobile wallet), as it would not be in their interest to reduce the appeal of its handsets by removing or disabling functionalities that customers may want, and this may require the consent of other players in the mobile supply chain who would have the power to resist such attempt (notably Google with its Android OS). In addition, they submit that they already sell or plan to sell a number of mobile handsets containing embedded SEs in the United Kingdom; this proves that they do not intend to require handset manufacturers to remove or block embedded SEs.
- (422) Regarding all commercial foreclosure strategies considered by the Commission, the Notifying Parties submit that they would not have unilateral incentives to engage in a joint foreclosure strategy. Among other things this is due to the fact that there is a large asymmetry between the potential gains in the mobile wallet market and the potential losses in the retail mobile telephony market. In particular, the gains would accrue in the mobile wallet market which is relatively small in terms of expected revenues and expected margins; the losses however would occur in the much larger retail mobile telephony market. Moreover, the cost of any foreclosure strategy would also be high due to counterstrategies that would be expected in case of foreclosure which would be employed by rival mobile wallet providers. As a result, the risk of engaging in unilateral foreclosure would be too high for the Notifying Parties.
- (423) Moreover, the Notifying Parties submit that they would not have the ability to reach and monitor an agreement to engage in coordinated foreclosure for any commercial foreclosure strategies considered by the Commission. Among other things, this is due to the fact that it would be difficult for the Notifying Parties to reach a common agreement as there is a lack of transparency over the bi-lateral commercial agreements on which commercial coordinated foreclosure strategy would depend, and a lack of a focal point on the various potential commercial foreclosure strategies. Moreover, the parties to such an agreement would have an incentive to deviate as punishment mechanisms would not be sufficiently costly to deter deviation. External stability would be undermined as players outside the JV Co, could easily disrupt any

collusive agreement between the Notifying Parties. Overall, the Notifying Parties therefore conclude that they would not have the ability or the incentive to engage in a coordinated commercial foreclosure strategy.

### **The Commission's assessment**

- (424) M(V)NOs control the decision of which mobile handsets they distribute through their own-branded shops; and they may request OEMs to tailor a handset for these direct sales. It is at the sole discretion of the M(V)NO which mobile handsets they select for direct sales. Moreover, a number of OEMs have indicated that they would make modifications to specific handset models if requested by an MNO for direct sales.
- (425) A number of OEMs have responded to the Commission's questions during the market investigation that MNOs sometimes seek to buy a specific "operator variant" of a given mobile handset sold in their own MNO retailer channels. Thus some features may differ in the "operator variant" mobile handset, depending on the wishes of the MNO as to the features that need to be supported by the mobile handset and that they are willing to support as preloaded content. However, these features (such as an embedded SE) would be available in the "vanilla variant" open-market mobile handset, which would be available to independent retailers, subject to technical certification by MNOs. This technical certification is given by MNOs to all mobile handsets that are technically compatible with its network and is not impacted by commercial considerations. This is evidenced by the fact that NFC-enabled mobile handsets with an embedded SE (which could carry a competing mobile wallet) are already being widely stocked by the Notifying Parties (see Recital (267)) as well as by the independent retailers in the United Kingdom.
- (426) A notable exception is Apple which does not offer operator variants. The design of the iPhone does not vary by geography and there are no different versions of the same mobile handset. Apple works with MNOs to ensure that the new mobile handset model will work on their networks and will share general information with MNOs. Apple retains control of the design process. MNOs only influence the design process to the extent that the mobile handset must be compatible with their networks. The Notifying Parties would therefore not be able to substantially foreclose Apple from the wallet market if Apple were to decide to enter.
- (427) On this basis, the Notifying Parties could in theory request OEMs to remove or block the pre-installed embedded SE on the mobile handsets sourced for their own direct, own-brand retail channel. However, OS providers or fully vertically integrated OEMs could engage in counterstrategies against such an attempt to foreclose. OS providers are involved much earlier than the MNOs in the development process of a mobile handset and this limits the extent of the influence the Notifying Parties have on the mobile handset specifications compared to the OS providers. An OS provider anticipating any such request by the Notifying Parties could try to influence OEMs' mobile handset specifications early on by making it mandatory that any OS branded mobile handset has a functioning embedded SE on the mobile handset. This would be the case in particular for Google, whose control over Android gives it a strong

position in possible negotiations with OEMs<sup>374</sup>. Google's position in the market for the supply of handsets is becoming increasingly important as the proportion of mobile handset sales that use Android has grown significantly over time. In the period of 2010-2011, Android mobile handsets in the United Kingdom have increased their share from below [5-10]% to around [40-50]%<sup>375</sup>. Fully vertically integrated OEMs that would offer a rival wallet over an embedded SE could also ensure that the hardware of the mobile handset was fully compatible with the operation of their mobile wallet<sup>376</sup>.

- (428) Financial institutions could also choose to offer NFC contactless payments functionality, either by partnering with an OTT provider (for example Google) through access to an embedded SE, or on its own using micro SDs or stickers / sleeves (even though these solutions are considered somewhat less convenient<sup>377</sup>). The existence of these alternative channels demonstrates that any attempt by the Notifying Parties to substantially foreclose rival mobile wallets offered by financial institutions would be ineffective.
- (429) Moreover, any ability to commercially foreclose based on the blocking or disabling of the embedded SE would in any event be limited in scope, and at least partially ineffective. The commercial ability of the Notifying Parties to block or disable the pre-installed embedded SEs would only lead to partial foreclosure of rival mobile wallets as the Notifying Parties would not have the ability and incentives to

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<sup>374</sup> See the Commission decision of 13 February 2012 in Case No COMP/M.6381 *Google / Motorola Mobility*, paragraphs 68 to 70. Besides, even if Google is moving in the hardware business, independent experts confirm that: *"Despite the open philosophy on which Android was first introduced, there has been a steady trend of Google becoming more controlling over the platform. This was initially through the release of its own-branded Nexus devices, which it has used to showcase the latest release of Android, but this has been followed by its refusal to open source the code for the tablet-optimized Honeycomb version of Android. There have also been reports of Google being more selective as to which OEMs it provides with early access to the latest releases of the Android source code, essentially creating a select club of OEMs which must stay close to Google in order to keep at the leading edge of technological development. Google maintains a number of proprietary control points over the "open" OS, such as the trademark to the term "Android", in addition to the core Google-branded apps on the device, such as Google Mail, Maps, and Android Marketplace. Additionally, the Apache 2.0 open source license which Google has chosen for Android means that it is not legally obliged to release the source code, which is why it was able to keep the Honeycomb code private. These factors mean that OEMs must maintain a close relationship with Google and have the company's blessing in order to access the source code, use its popular services, and use the Android brand on their devices. With this in mind, it is clear that Google is not only keen to exert more control over who uses Android, but also how they use it. The company has clearly seen the benefits that greater control and vertical integration can bring, by watching the value of its close competitor Apple rise, and may be keen to also tap into the benefits of becoming more vertically integrated."* Ovum's report, page.6, attached as Annex 4 to the Notifying Parties' submission of 6 June 2012.

<sup>375</sup> Annex 33 of Form CO, paragraph 67.

<sup>376</sup> Blackberry mobile handset manufacturer RIM has recently announced that developing NFC apps will be a priority for its Blackberry smartphones and stated that "NFC will be a big push for RIM for the next 12 months" (see <http://www.forbes.com/sites/elizabethwoyke/2011/11/08/rim-plans-big-push-for-nfc-enabled-blackberry-apps/>). The Commission however takes note of the evolving situation of RIM, which appears to go through some restructuring measures. Blackberry likely possesses the necessary power in the mobile supply chain to ensure a route to the market for its popular mobile handsets. According to [...]\*, three of the top ten handsets for post-pay customers in Q1 2012 in the United Kingdom were Blackberry mobile handsets (see the Notifying Parties' submission "No commercial ability to foreclose rival wholesale mobile wallet platform services", page 35).

<sup>377</sup> See Recital (255).

substantially foreclose the indirect retail channel (as is set out in detail in Recital (487)). Independent retailers have a strong position in the market with up to 49% market share and 41% of the number of retail stores in the United Kingdom. According to a Mintel Report<sup>378</sup> Phones 4U and Carphone Warehouse collectively have 1,258 stores. This compares to Everything Everywhere with 672 stores, Telefónica with 450 stores and Vodafone with 365 stores. Three UK has another 300 stores in the United Kingdom.

- (430) This argument also applies to other commercial strategies of the Notifying Parties to foreclose which were presented above in Recitals (416)(b) and (416)(c).
- (431) The Commission therefore concludes that the Notifying Parties' commercial ability to foreclose by exerting commercial pressure on OEMs to block or de-activate the pre-installed embedded SE would at most lead to partial foreclosure (excluding Apple mobile handsets and the indirect retailers). Moreover, it may fail altogether if OS providers were able to implement effective counterstrategies which would prevent the Notifying Parties from blocking the functioning of embedded SEs.
- (432) The fact that the commercial strategy to foreclose based on not installing or blocking the embedded SE only leads to a limited ability to foreclose also impacts the unilateral incentives to foreclose.
- (433) Firstly, as this strategy would only lead to partial foreclosure it would considerably limit the effectiveness and would - even if used - significantly reduce the incentives to engage in such a strategy, since the incremental profits from foreclosure would be limited. This is reinforced by the strong asymmetry that exists between the expected profits of the JV Co and the profits in the retail mobile telephony market, as highlighted by the Notifying Parties. In particular, gross profits for the retail mobile telephony activities of the Notifying Parties (including interconnection profits, and net of customer acquisitions costs) are roughly about [...] \* times higher than the expected profits of the JV Co after its initial ramping-up period<sup>379</sup>.
- (434) Secondly, the Notifying Parties have also shown that competitive conditions in the markets for advertising and data analytics differ significantly from those in the wholesale mobile wallet market. Moreover, revenues and profits for these two activities are not directly linked to the Transaction activities of the JV Co, and would not be directly affected by a strategy that forecloses rival mobile wallet operators. This is in particular due to the fact that there are currently already existing competitors or potential new entrants in both the advertising and data analytics markets (offering the same or similar services to the JV Co) who will constrain the JV Co to a sufficient extent (See sections 9.4.4 and 9.4.5). This implies that the potential profits from foreclosure which would mainly accrue in the Transaction market (instead of across the entire range of the activities of the JV Co) would be even smaller in magnitude compared with the potential losses in the retail mobile telephony market, making it even less likely that the Notifying Parties would have incentives to engage in the commercial foreclosure strategy considered here. Specifically, after initial ramp-up of the JV Co, the ratio between the Transaction

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<sup>378</sup> Mintel, Telecoms Retailing (January 2011), Figure 27.

<sup>379</sup> See for instance the Notifying Parties' responses to the Commission's Request for Information of 31 May 2012, 8 June 2012, and 14 June 2012.

markets<sup>380</sup> (excluding advertising and data analytics) and the profits in the retail mobile telephony market would be about [...] <sup>381</sup>.

- (435) Thirdly, adverse consumer reaction to the impairment of rival mobile wallet offers represents the primary mechanism through which commercial foreclosure would lead to losses in the retail mobile telephony market. Consumers would react adversely to foreclosure either because they value rival mobile wallets more and therefore decide to switch to a rival mobile wallet provider offered on a competing mobile platform (for example by Three UK or one of the M(V)NOs), or because consumers react to the negative publicity that would be triggered as a result of foreclosure. Consumers may also switch to alternative payment methods which constrain retail mobile wallets (including both offline and online alternatives), as discussed in the market definition section (see section 8.1.3). An example of how a restriction in consumer choice can lead to slow uptake and adverse consumer reaction is [...] <sup>\*</sup>.
- (436) Fourthly, competitors could engage in counter-strategies aimed at increasing adverse consumer reaction. These counterstrategies would make rival mobile wallets attractive to customers thereby increasing the cost of foreclosure. Such counterstrategies could take the form of increasing the product differentiation between the JV CO and rival mobile wallets by investing in branding and marketing. Moreover, customers could be directly targeted by offering free credits for the adoption of the rival mobile wallet. An example of this is Google Wallet which in the United States of America offered USD 50 worth of credit for consumers choosing their mobile wallet services.
- (437) Lastly, if one of the Notifying Parties wanted to unilaterally deviate from the common foreclosure strategy based on pressure on OEMs not to install or to block the pre-installed embedded SE, it would have the ability to stock or promote a range of fully functional mobile handsets, and have a faster time-to-market for mobile handsets compared to the foreclosing Notifying Parties. Given that some mobile handsets are considered as "must-have", limiting the sale of these mobile handsets would be a risky and costly strategy for each of the Notifying Parties.
- (438) These factors, taken together, mean that commercial foreclosure would be associated with significant incentives for any Notifying Party to deviate from the conduct, so as to avoid any adverse consumer reaction to the impairment of their mobile offer, and to gain an advantage over the other Notifying Parties which would engage in foreclosure. Any Notifying Party deviating from foreclosure would also avoid a loss of market share to the M(V)NOs outside of the JV Co.
- (439) The Commission has assessed the submission of the Notifying Parties whereby at least one of them would only need to grow its retail sales by a very small amount

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<sup>380</sup> See Recital (5) for a definition of Transaction and the presentation of the different activities the JV Co plans to offer.

<sup>381</sup> [...] <sup>\*</sup>. See for instance the Notifying Parties' responses to the Commission's Request for Information of 31 May 2012, 8 June 2012, and 14 June 2012.

(about [0-5]%) in order to have a unilateral incentive to deviate from a hypothetical joint foreclosure strategy. This critical growth level assumes that foreclosure would result in symmetric switching away from the foreclosing Notifying Parties towards the deviating Notifying Party and other parties that would support rival mobile wallet operators, for example Three UK and MVNOs. This calculation is based on the assumption that the Notifying Parties would increase their profits in the Transaction market by [50-60]% as a result of foreclosure. This would represent a significant increase in the profits from mobile wallet activities, given that commercial foreclosure would be partial for the reasons explained above<sup>382</sup>. This computation also assumes that the [50-60]% increase in profits in the Transaction market would translate into an associated increase in profits in the data analytics and advertising services (due to higher transaction volumes), resulting in an overall increase in profits for the JV Co of about [30-40]%<sup>383</sup>.

- (440) Overall, it appears very likely that at least one of the Notifying Parties would have a unilateral incentive to deviate from any a joint commercial foreclosure strategy predicated on exerting pressure on OEMs to block the pre-installed embedded SE. This would undermine a joint commercial foreclosure strategy.
- (441) Concerning a joint foreclosure strategy based on tacit and on-going coordination between the Notifying Parties, it is unlikely that all of the conditions laid down in the *Airtours* judgment<sup>384</sup> would be met in the case of commercial foreclosure. The following Recitals (442) to (450) discuss the incentives of the JV Co to engage in tacit coordination.
- (442) Firstly, coordinated commercial foreclosure would be complex to implement given that it depends on the outcome of bilateral negotiations between each Notifying Party and third parties which are confidential and which depend on the bargaining power of each party in the negotiations.
- (443) Secondly, coordinated foreclosure may not be internally stable, since the unilateral gains from deviation may exceed the cost of punishment following the collapse of the coordinated outcome. Given the significant asymmetry between retail mobile telephony profits and the JV Co's expected profits in the Transaction activities, the threat of punishment may not be sufficient to outweigh the incentive to deviate. Moreover, deviations from coordination would likely only be detected with a lag in this market, since commercial negotiations are confidential and deviation would only be detected once the mobile handset comes on the market. This would further undermine the effectiveness of any punishment mechanism, making a collusive agreement even more difficult to sustain.
- (444) A related point is that deviation by one of the Notifying Parties is likely to be irreversible in the sense that once the consumer has a particular feature on his or her mobile handset, this feature will stay on the mobile handset until the consumer decides to buy a new mobile handset. Furthermore, as pointed out by the Notifying

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<sup>382</sup> It should be noted that this is a cautious assumption given that it increases the likelihood that foreclosure of rival mobile wallet providers would be profitable.

<sup>383</sup> See for instance the Notifying Parties' responses to the Commission's Request for Information of 31 May 2012, 8 June 2012, and 14 June 2012.

<sup>384</sup> See Case T-342/99 *Airtours v Commission*, European Court reports 2002 Page II-02585, paragraph 62.

Parties, it is likely that there is significant adverse consumer reaction to the roll-back of new and enhanced functionality that is offered in the market (see Recital (413)). Irreversibility therefore commits the deviating firm to keeping the new feature on the market. In particular, given that the post-pay contract length associated with smartphones is typically about two years in the United Kingdom (see Recital (44)), a deviating firm would capture switching customers for a relatively long time period. This would give the deviating firm a head start compared to the foreclosing Notifying Parties that could lead to a more persistent shift in market shares towards the deviating Notifying Party to the detriment of the foreclosing Notifying Parties. This would increase the incentive to deviate from the coordinated outcome and would destabilize tacit collusion.

- (445) Thirdly, rival mobile wallet providers, such as Google, could also deploy counterstrategies targeted at the possibility of coordinated foreclosure, with the aim of increasing the incentives to deviate for each Notifying Party (and therefore undermine internal stability). Counterstrategies could take the form of offering temporary exclusivity on a specific mobile handset to a Notifying Party that would deviate from the agreement. This temporary exclusivity offer could be combined with a volume commitment imposed on the deviating Notifying Party which would guarantee that the MNO would be incentivized to achieve the required sales target<sup>385</sup>. The cost of such counterstrategies to a rival mobile wallet provider would therefore be limited while having a considerable adverse impact on the foreclosing Notifying Parties as they would lose market shares to the deviating Notifying Party (this counterstrategy also applies to all commercial foreclosure mechanisms discussed in Recitals (416)(b) to (416)(d)).(416)(b)
- (446) Fourthly, the existence of effective counterstrategies would also undermine the external stability of the outcome of the potential coordinated foreclosure. M(V)NOs outside of the JV Co could negotiate preferential terms with rival mobile wallet providers, OEMs or retailers. OTT players, Three UK or financial institutions could start offering their own mobile wallets in the United Kingdom either by themselves or in collaboration with each other. Moreover, if the price level (for example for access fees or for renting space on SE) were to rise as a result of foreclosure this would likely induce entry by integrated players such as Apple. This would also increase the attractiveness of alternative competing mobile payment methods offered by external players such as NFC-enabled payment cards or "PayPal InStore" (see Recital ((47)(b))).
- (447) Fifthly, regardless of the existence of counterstrategies, the Notifying Parties would lose retail mobile telephony market shares to rival mobile wallet providers as a result of adverse consumer reaction to foreclosure as discussed in Recital (436). External competitors may therefore be able to disrupt the coordinated equilibrium by capturing a sufficiently high share of the retail mobile telephony market or of the JV Co's related markets from the Notifying Parties.
- (448) Given the asymmetry between profits from retail mobile telephony market and those from the JV Co, undertakings outside the JV Co (for example Three UK, and MNVOs) would only need to grow their retail mobile sales by a small percentage of

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<sup>385</sup> See Annex 33 of the Form CO, page 17.

the market in order to make coordinated foreclosure unprofitable (relative to a competitive outcome with no foreclosure) for at least one of the Notifying Parties. Three UK and the MVNOs active in the United Kingdom would be able to profit from a commercial foreclosure strategy by the Notifying Parties, since they could support rival mobile wallet offerings on their mobile handsets. The Notifying Parties have calculated the critical loss of market shares to Three UK and MVNOs that would make foreclosure unprofitable for the JV Co as a whole. They submit that a combined market share gain of the undertakings outside of the JV Co of about [0-5]%point would be enough to make foreclosure unprofitable for the Notifying Parties<sup>386</sup>. This would translate into [...]\*. The Commission considers that such growth rate is most likely within reach of these undertakings. Again, as outlined in Recital (439), it is assumed in this numerical example that foreclosure would increase the JV Co's mobile wallet transaction profits by [50-60]% and overall JV Co's profits (including Transaction profits, advertising profits and data analytics profits) by [30-40]%. The Commission has carefully analysed the various economic submissions from the Notifying Parties<sup>387</sup> and considers the approach to be realistic.

- (449) These calculations would even result in lower critical growth rates for undertakings outside of the JV Co if one takes a dynamic perspective. In particular, whilst Three UK has a relatively small share of the overall retail mobile telephony market in the United Kingdom (9.5% roughly), its share of post-pay smartphone connections is considerably higher [10-20%]<sup>388</sup>. The market share in post-pay smartphone connections is more indicative for the current analysis as the mobile wallets would be rolled out on high-end smart-phones, typically linked to post-pay contracts. Moreover, it provides a better picture of future market shares, given the continuing growth of smartphones in the market.
- (450) Overall, based on the above analysis, the Commission concludes that it is very unlikely that the Notifying Parties would have the ability and the incentive to engage in a joint foreclosure strategy that would entail putting commercial pressure on OEMs to block the pre-installed embedded SE which could support a rival mobile wallet.

### **Influence over OS developers or OEMs to block mobile wallet apps**

- (451) The Commission has examined whether the Notifying Parties would have the ability and the incentive to influence OS developers or OEMs to block the preloading of, or to remove, mobile wallet apps on mobile handsets. In the discussion on technical foreclosure in Recitals (294) to (313) the Commission concluded that the Notifying Parties would not have the ability to technically foreclose the downloading of a rival mobile wallet app on a mobile handset. In this section, the Commission considers whether the Notifying Parties could commercially restrict the pre-loading of a mobile

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<sup>386</sup> This assumes that the undertakings outside of the JV Co have an approximate retail mobile telephony market share of about [10-20]% and that the ratio of retail margins compared to the JV Co margins is [...]\*. Three UK achieved a subscriber growth rate of 12.4% in 2010. See Form CO, paragraph 872.

<sup>387</sup> Notifying Parties' responses to the Commission's Request for Information of 31 May 2012, 8 June 2012, 14 June 2012.

<sup>388</sup> Annex 40 of the Form CO.



wallet app on a mobile handset, and by doing so, foreclose rival mobile wallet providers.

#### The view of the Notifying Parties

- (452) The Notifying Parties argue that any potential rival mobile wallet provider which also controls an OS (such as Google and Apple) would be able to ensure that its mobile wallet app was available to download from their app store.
- (453) They add that, even if the JV Co were to develop a mobile wallet platform that could technically be installed on a mobile handset, this mobile wallet would not be preloaded on open market handsets sold by independent retailers for the following reasons, which are the same reasons that the Notifying Parties' mobile wallets will not be preloaded:
- (a) retailers will not know which airtime contract the user will buy with the mobile handset , or whether they will buy a contract with the mobile handset at all;
  - (b) generally, it would also not be feasible for the retailer to open the mobile handset packaging, preload certain apps, and then sell it to customers.
- (454) The Notifying Parties submit that competitors such as Google or Apple could pre-install their mobile wallet app on mobile handsets, including on “open market” mobile handsets. These mobile wallets are not country or network operator specific. Thus, they have an advantage in this respect over the Notifying Parties.
- (455) As discussed in Recitals (422) to (423), the Notifying Parties submit that they also would not have the incentives to engage in either unilateral or coordinated foreclosure.

#### The Commission's assessment

- (456) On the basis of the market investigation, the Commission concludes that the Notifying Parties cannot prevent users from downloading apps. This is set out in detail in Recitals (294) to (313).
- (457) A number of respondents to the questions raised during the market investigation highlighted the importance of pre-loading an app and noted that the Notifying Parties could influence where a specific app sits on the handset screen in their "operator variant" mobile handsets.
- (458) However, rival mobile wallet providers would be able to take countermeasures, promoting the placement of their mobile wallets in a prominent location in the app store. Moreover, OS providers could also tie the mobile wallet app to the OS in anticipation of requests to OEMs. In particular, such a counterstrategy may be implemented by Google, who, for instance, has the ability to influence software choices via their mobile app distribution agreements with OEMs that stipulate which of the Google mobile suite of apps are pre-loaded onto a mobile handset. The potential effectiveness of such a strategy is also reflected in the influence Google currently has on the mobile OS market (see Recital (414)).

- (459) The Commission also notes that Microsoft states that the Microsoft wallet will be preloaded on all Windows Phones. Every version of a Windows Phone will be provided with a version of the mobile wallet (even if not all of them will necessarily be used for payment instruments)<sup>389</sup>.
- (460) Moreover, as stated by the Notifying Parties, OEMs (in particular those selling must-have mobile handsets and integrated OEMs) could also engage in retaliatory blocking of the JV Co mobile wallet as a counterstrategy.
- (461) Similar to the commercial strategy discussed above, a commercial foreclosure strategy based on pressuring OEMs not to install or to block the pre-installed embedded SE would only lead to partial foreclosure as it could only be implemented on the direct retail channel that is controlled by the Notifying Parties.
- (462) Overall, given the limited effectiveness of commercial foreclosure based on pressuring OEMs not to install or to block the pre-installed embedded SE and the strength of counterstrategies by rival mobile wallet providers, it is unlikely that the Notifying Parties have the commercial ability to substantially foreclose by blocking rival mobile wallet apps.
- (463) In this recital and the Recitals (464) to (465) below, the Commission considers the incentives (both unilateral and coordinated) of the Notifying Parties' to engage in a commercial foreclosure strategy based on influencing OS developers or OEMs to block competing mobile wallets. The majority of incentive arguments that apply to the first commercial foreclosure strategy discussed in the section on foreclosure by pressuring OEMs not to install or to block the pre-installed embedded SE (see Recitals (432) to (450)) also apply to a commercial strategy based on influencing OS developers or OEMs to block mobile wallets. In particular, the following arguments apply:
- (a) Foreclosure would only be partial since influencing OS developers or OEMs to block mobile wallets would only be effective on the segment of the direct channel that is controlled by the Notifying Parties. This would reduce the incentive to engage in such a commercial foreclosure strategy;
  - (b) The incentives to substantially foreclose are also reduced due to the fact there is a strong asymmetry between the expected profits of the JV Co (where the gains from foreclosure would be realised) and the retail mobile telephony market (where losses from foreclosure would occur, due to customers switching to competitors);
  - (c) As competitive conditions differ between the Transaction markets and the two additional markets in which the JV Co would be active (advertising and data analytics), these latter markets would not be directly affected by a strategy to foreclose the Transaction market. This implies that the profits to foreclose would be even smaller compared with the potential losses on the retail mobile telephony market, further reducing the incentives to foreclose;

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Agreed minutes of telephone conference call with Microsoft of 2 May 2012.

- (d) Adverse consumer reaction to foreclosure would lead to losses in the retail mobile telephony market. This implies that a Notifying Party could win customers by deviating from a joint foreclosure strategy, as it would stock a fully functional range of handsets. The Notifying Parties would therefore have significant incentives to deviate from a foreclosure strategy in order to avoid adverse consumer reaction and potential loss of market shares to parties outside the JV Co.
- (464) Regarding a joint foreclosure strategy based on tacit coordination, as in the previous foreclosure strategy, it seems unlikely that the conditions laid down in the *Airtours* judgment are met. Coordination on a joint commercial strategy related to OS developers or OEMs to block mobile wallet apps would be difficult to implement given that it depends on bilateral negotiations between each Notifying Party and OS providers or OEMs (see Recital (442)). Coordinated foreclosure may also not be internally stable since unilateral gains from deviation may exceed the expected costs of punishment (see Recital (443)). Third, due to the irreversibility of deviation, coordination would become less stable as gains from deviations would be larger and punishment would be less severe (see Recital (444)). Moreover, rival mobile wallet providers such as OTTs or integrated OEMs could implement counterstrategies which would harm the Notifying Parties while at the same time would not entail significant costs to the parties engaging in the counterstrategies. These counterstrategies would also likely undermine the external stability of coordination (see Recital (445)-(446)). Moreover, the adverse consumer reaction would enable competitors to disrupt coordination by capturing sufficiently high market shares from the Notifying Parties. The Notifying Parties submit that the parties outside the JV Co would need to grow their retail mobile telephony sales by about [5-10]% in order to make foreclosure unprofitable (see Recital (448)). The Commission has carefully analysed the various economic submissions from the Notifying Parties<sup>390</sup> and considers the approach to be realistic.
- (465) On the basis of the above analysis, the Commission concludes that it is very unlikely that the Notifying Parties would have the ability and the incentive to engage in a joint foreclosure strategy that would be based on influencing OS developers or OEMs to block mobile wallet apps.

#### **Disadvantage or delist mobile handsets that contain rival mobile wallets**

- (466) The Commission has examined whether the Notifying Parties would have the ability and the incentive to disadvantage or delist mobile handsets capable of supporting rival mobile wallets.

#### Views of the Notifying Parties

- (467) The Notifying Parties accept that they control their own retail channels and therefore have the commercial ability to determine the range of mobile handsets that they stock on their retail channels. However, the Notifying Parties submit that they will have limited commercial ability to influence the sourcing of mobile handsets by independent retailers.

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<sup>390</sup> Notifying Parties' responses to the Commission's Request for Information of 31 August 2012.

- (468) Besides, the JV Co has no role in deciding which mobile handsets the Notifying Parties choose to range. [...] <sup>391</sup>, [...] <sup>\*</sup>.
- (469) As discussed in Recitals (422) to (423), the Notifying Parties also submit that they would not have the incentives to engage in either unilateral or coordinated foreclosure.

#### The Commission's assessment

- (470) Three UK raised concerns that the JV Co could engage in commercial foreclosure by not distributing smartphones that include embedded SEs <sup>392</sup>. Given that the delisted or disadvantaged mobile handsets that may contain rival mobile wallets will have an alternative route to the market through the independent retailers, MNOs delisting or disadvantaging mobile handsets with embedded SEs on their own retail network will only partially foreclose. In addition, such a strategy will have a high commercial cost. As discussed in Recital (436), competitors could engage in counterstrategies that would make rival mobile wallets attractive to customers which would increase the cost of foreclosure.
- (471) Delisting of mobile handsets carrying rival mobile wallets would imply that these mobile handsets would not be stocked anymore in the direct retail channel controlled by the Notifying Parties. Disadvantaging of mobile handsets carrying rival mobile wallets would be a more subtle form of foreclosure based on reducing the subsidies paid on such mobile handsets in the direct retail channel controlled by the Notifying Parties.
- (472) In the Recitals (472) to (474) , the Commission considers the incentives (both unilateral and coordinated) of the Notifying Parties to engage in a commercial foreclosure strategy based on disadvantaging or delisting mobile handsets that contain rival mobile wallets.. The majority of the incentive arguments made in the section discussing a foreclosure strategy based on putting commercial pressure on OEMs not to install or block the pre-installed embedded SE also apply to a commercial foreclosure strategy based on disadvantaging or delisting mobile handsets. In particular, the following arguments apply.
- (a) Foreclosure would only be partial since influencing OS developers or OEMS to block mobile wallets would only be effective on the segment of the direct channel that is controlled by the Notifying Parties. This would reduce the incentive to engage in such a commercial foreclosure strategy (see Recital (433);
  - (b) The incentives to foreclose are also reduced due to a strong asymmetry between the expected profits of the JV Co (where the gains from foreclosure would be realised) and the retail mobile telephony market (where losses from

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<sup>391</sup> [...] <sup>\*</sup>.

<sup>392</sup> Three UK's submission from January 2012, page 25.

foreclosure would occur, due to customers switching to competitors) (see Recital (433));

- (c) As competitive conditions differ between the Transaction markets and the two additional markets in which the JV Co would be active (advertising and data analytics), these latter markets would not be directly affected by a strategy to foreclose the Transaction market. This implies that the profits to foreclose would be even smaller compared to the potential losses on the retail mobile telephony market, further reducing the incentives to foreclose (see Recital (434));
  - (d) Adverse consumer reaction to foreclosure would lead to losses in the retail mobile telephony market. This implies that a Notifying Party could gain customers by deviating from a joint foreclosure strategy. In comparison to the other three commercial foreclosure strategies discussed (see Recital (416)(a), (416)(b) and (416)(d)), the Commission would expect an even stronger adverse consumer response to the complete delisting of mobile handsets as this constitutes a more invasive strategy compared to strategies under which a consumer would still be able to purchase the mobile handset even if its functionality would be impaired. A related, more subtle form of foreclosure would be associated with a reduction of subsidies on mobile handsets that contain rival mobile wallets in the direct retail channel controlled by the Notifying Parties. Even though this variant of the foreclosure strategy may lead to a less pronounced adverse consumer reaction it would still be costly. The cost of foreclosure in this case would stem from the fact that popular "must-have" mobile handsets with full functionality (including embedded SEs) sold by the foreclosing Notifying Parties would become more expensive compared to the same mobile handsets sold by competitors. This would induce consumers to switch to non-foreclosing operators. (see Recital (437));
  - (e) The adverse consumer reaction also implies that a Notifying Party by deviating from the joint agreement could gain more customers as it would stock a wider range of mobile handsets or would price them on more attractive terms. In order to avoid adverse consumer reaction and potential loss of market shares to parties outside of the JV Co each Notifying Party would therefore face significant incentives to deviate from a foreclosure strategy (see Recital (438)) as it would stock a fully functional range of mobile handsets. The Notifying Parties would therefore face significant incentives to deviate from a foreclosure strategy in order to avoid adverse consumer reaction and potential loss of market shares to parties outside of the JV Co (see Recital (438)).
- (473) Regarding a joint foreclosure strategy based on tacit coordination, it seems unlikely that the conditions laid down in the *Airtours* judgment are met. Coordination on a joint commercial strategy based on disadvantaging or delisting of mobile handsets may not be internally stable since unilateral gains from deviation may exceed the expected costs of punishment (see Recital (443)). Secondly, due to the irreversibility of deviation, coordination would become less stable as deviation would become more attractive and punishment would be less severe (see Recital (444)). Moreover, rival mobile wallet providers such as OTTs or integrated OEMs could implement counterstrategies which would harm the Notifying Parties while at the same time would not impose significant costs on the parties engaging in the counterstrategies.

These counterstrategies would also likely undermine the external stability of coordination (Recitals (445) to (446)). Moreover, the adverse consumer reaction would enable competitors to disrupt coordination by capturing sufficiently high market shares from the Notifying Parties. The Notifying Parties submit that the parties outside the JV Co would need to grow their retail mobile sales by about of [5-10]% in order to make foreclosure unprofitable (Recital(448)).

- (474) In the light of the above analysis, the Commission concludes that it is very unlikely that the Notifying Parties would have the ability and the incentive to engage in a joint foreclosure strategy based on disadvantaging or delisting of mobile handsets.

**Incentivise independent retailers to market mobile handsets that do not contain rival mobile wallets or to set certain default settings which favour their Notifying Parties' mobile wallet.**

- (475) The Commission has examined whether the Notifying Parties would have the ability and the incentive to induce independent retailers to market mobile handsets that do not contain rival mobile wallets or to set certain default settings which favour the Notifying Parties' mobile wallet. While the strategies discussed in Recitals (420)(a)-(420)(c) are all implemented via the direct retail channel controlled by the Notifying Parties, this strategy focuses on the indirect retail channel.

Views of the Notifying Parties

- (476) The Notifying Parties argue that they are not in a unique position to incentivise independent retailers and that OEMs and OS providers may engage in a similar counterstrategy in order to incentivise the sale of mobile handsets that contain rival mobile wallets on the open market.
- (477) As discussed in Recitals and (422) to (423) the Notifying Parties submit that they would not have incentives to engage in either unilateral or coordinated foreclosure.

The Commission's assessment

- (478) In order to follow a cautious approach as regards a commercial foreclosure strategy based on incentivizing independent retailers to market mobile handsets that do not contain rival mobile wallets or to set certain default settings which favour the Notifying Parties' mobile wallet, the Commission will assess this commercial foreclosure strategy in combination with one of the three strategies discussed above (see Recitals (420) to (477)) (foreclosure of the direct retail channel controlled by the Notifying Parties).
- (479) Unlike the case of foreclosure strategies targeting the direct retail channel, the Notifying Parties would have a more constrained ability to commercially foreclose their competitors through incentivizing independent retailers. While the Notifying Parties may be in a position to incentivise independent retailers as they already grant commissions and [...] subsidies to them (even though these clearly tend not to be handset-specific), OEMs and OS providers also grant selective marketing subsidies to independent retailers and could engage in a parallel counterstrategy in order to incentivise the sale of mobile handsets that contain a rival mobile wallet on the open market. In particular, the Commission considers that a potential entrant on

the mobile wallet market could engage in revenue-sharing agreements with OEMs in order to ensure that handsets are equipped with embedded SEs. It is not apparent why the Notifying Parties would face a greater incentive than OEMs or OS providers to subsidise specific mobile handsets in order to foreclose the mobile wallet market.

- (480) Therefore, while the Notifying Parties would have some commercial ability to incentivise independent retailers to market mobile handsets that do not contain rival mobile wallets or to set certain default settings which favour the Notifying Parties' mobile wallet, the effectiveness of such a strategy could be significantly constrained by similar counterstrategies by third parties.
- (481) In the Recitals (482) to (487) below, the Commission considers the incentives (both unilateral and coordinated) of the Notifying Parties to engage in a commercial foreclosure strategy based on incentivizing independent retailers to market mobile handsets that do not contain rival mobile wallets or to set certain default settings which favour the Notifying Parties' mobile wallet.
- (482) In order to achieve effective foreclosure of competing offers in the indirect retail channel, the Notifying Parties would have to incur significant costs in order to outbid OEMs or OS providers to gain support from independent resellers. This would in turn considerably raise the cost of foreclosure, again reinforcing unilateral incentives to deviate from this commercial foreclosure strategy. It is therefore unlikely that a strategy based on foreclosure by incentivizing retailers to market mobile handsets that do not contain rival mobile wallets or to set certain default settings which favour the Notifying Parties' mobile wallets will lead to the foreclosure of the indirect retail channel.
- (483) A less costly strategy would be for the Notifying Parties to provide payments to indirect retailers in order to shift only some market share away from rival mobile wallet providers. This however would at best lead to partial (and therefore less effective) foreclosure of the indirect retail channel.
- (484) Foreclosure incentives are reduced as there is a strong asymmetry between the expected profits of the JV CO and the retail mobile telephony market (Recital (433)). As there is no strong link between the Transactions markets and the two additional markets in which the JV CO would be active (advertising and data analytics), these latter markets would not be directly affected by a strategy to foreclose the Transactions markets. This implies that the profits to foreclose would be smaller compared with the potential losses on the retail mobile telephony market which would reduce the incentives to foreclose (see also Recital (434)).
- (485) Regarding a joint foreclosure strategy based on tacit coordination, it seems unlikely that the conditions laid down in the *Airtours* judgment are met. Coordination on a joint commercial strategy would be hard to implement given that it depends on bilateral negotiations between each Notifying Party and third parties (Recital (442)). Coordinated foreclosure may also not be internally stable since unilateral gains of deviation may exceed the expected costs of punishment (Recital (443)). Moreover, as discussed in Recital (445) to (446), rival mobile wallet providers such as OTTs or integrated OEMs could implement counterstrategies which would harm the Notifying Parties while at the same time would not impose significant costs on the parties

engaging in the counterstrategies. These counterstrategies would also likely undermine the external stability of coordination (Recital (446)).

- (486) It should be noted that the Notifying Parties in theory could also apply a foreclosure strategy similar to the strategy based on delisting or disadvantaging of mobile handsets discussed in Recitals (466) to (474) on the indirect retail channel by applying a subsidy that is conditional on selling handsets that only contain the Notifying Parties' mobile wallet and that would exclude rival mobile wallet providers<sup>393</sup>. The arguments regarding the incentives to foreclose raised in Recital (472)(b),(472)(c), (472)(d) and (472)(e), also apply here.
- (487) In light of the above analysis, the Commission concludes that it is very unlikely that the Notifying Parties would have the ability and the incentive to engage in a joint foreclosure strategy that would foreclose rival mobile wallets from the independent retail channel. Even under the conservative hypotheses that this strategy would be used in combination with commercial foreclosure of the direct retail channel controlled by the Notifying Parties; the Notifying Parties would not have the ability or the incentive to engage in this strategy. The reason is that full foreclosure of the indirect retail channel would be too costly given the available counterstrategies that could be employed by rival mobile wallet providers. This would leave only a less costly strategy based on shifting market shares away from competing mobile wallet providers as a feasible option. Such a strategy however would also be ineffective as it would only partially foreclose the indirect retail channel.

#### **Potential foreclosure of non-bank payment solutions**

- (488) A concern was raised during the market investigation with respect to potential coordination wider than just among the Notifying Parties, namely between the Notifying Parties and banks to coordinate their behaviour with regards to interchange fees<sup>394</sup>. This may raise the incentive to foreclose non-bank payment solutions.
- (489) However, the Commission considers that the JV Co would not change anything in relation to the banks' ability and incentive to disadvantage non-bank payment systems as a result of the creation of the JV Co, relative to a scenario in which each Shareholder would offer its own mobile wallet, as banks are not shareholders to the operation. The Commission therefore considers that the issue of whether the banks and the Shareholders could disadvantage non-bank payment solutions would not be merger-specific.
- (490) Also, in order to increase revenue streams, the JV Co would have an incentive not only to attract banks but also to work with any payment provider, as each of them would provide additional set-up and fixed-fees. Moreover, if consumers and merchants value new forms of payment, or a variety of payment options, the JV Co would have additional incentives to engage in deals with other payment providers as

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<sup>393</sup> As discussed in Recital (397), the current subsidy business model is based on the subsidization of airtime over the contract length and the Notifying Parties do not tie this subsidy to specific mobile handset models to any significant extent.

<sup>394</sup> Three UK's submission from January 2012, page 31. Three UK is concerned that the Notifying Parties and payment schemes (Visa, MasterCard) may coordinate their behaviour with regards to interchange fees.



this would make the adoption of mobile payments (and the MNOs' mobile wallets) more attractive for consumers and merchants. It is expected that this would enhance the business case for the JV Co and it would also lead to additional revenues in the form of fees. Moreover, the JV Co would likely want to work with new payment providers in order to avoid giving an advantage to rival mobile wallets.

- (491) In conclusion, the Commission considers that it is very unlikely that the banks and the MNOs would have aligned incentives to substantially foreclose non-bank payments systems.

## **Overall Conclusion**

- (492) The Commission examined in great detail the potential commercial foreclosure strategies raised by the market participants that would be most likely based on pressuring OEMs not to install or to block the pre-installed embedded SE, influencing OS developers or OEMs to block or remove the mobile wallet apps, disadvantaging or delisting mobile handsets capable of supporting rival mobile wallets, and incentivising independent retailers to market mobile handsets that do not contain rival mobile wallets, to set certain default settings which favour their mobile wallet or bundling the subsidy given to indirect retailers to a handset that does not contain rival mobile wallets. On the basis of the analysis in Section 9.2.1.3, the Commission concludes that it is unlikely that the Notifying Parties have the ability or the incentive to engage in commercial foreclosure.

### *9.2.2. Bulk SMS services*

- (493) The JV Co would also be active as an aggregator on the market for retail bulk SMS, which buys origination and termination services from the MNOs on the market for wholesale bulk SMS services in the United Kingdom.
- (494) The upstream market for wholesale delivery of bulk SMS consists of two main elements: the conveyance of the message from the sender (that is to say the JV Co or an aggregator) to the mobile network to which the intended recipient has subscribed (the home network) and the conveyance by the home network to the recipient's mobile handset.
- (495) Wholesale delivery of bulk SMS can only be provided by MNOs and it is provided by all MNOs in the United Kingdom on a competitive basis. Aggregators typically contract with one MNO for the delivery of all their bulk SMS messages irrespective of the home network of individual recipients of messages. MNOs are able to offer this service, which comprises both on-net and off-net delivery (see Recital (506)), because of the underlying interconnection arrangements that are in place between MNOs for the exchange of SMS messages.
- (496) Aggregation requires a computer equipped with software for originating messages and a connection to one, globally-connected, MNO that is able to route SMS messages to any destination through that operator's underlying interconnection arrangements with other MNOs. Aggregators who generate sufficient volumes of messages to a particular network to justify the investment typically establish their own interconnection arrangements with individual networks for the sending of messages to (and from) mobile subscribers to that network.

(497) According to the Notifying Parties, the total volume of bulk SMS in January to October 2011 was approximately [...]\*. By comparison they estimate that there were approximately [...]\* SMS messages sent in January to October 2011<sup>395</sup>.

(498) As shown in table 3, the Notifying Parties' current combined market share on the market for retail bulk SMS is approximately [10-20]% with the remaining [80-90]% distributed among a wide range of aggregators, as detailed in the table below. [...]\*.

**Table 3: Retail bulk SMS market volumes (number of SMS and market shares)**

Aggregator	2010		2011 (Jan-Oct)	
	volume	Market share	volume	Market share
Telefónica UK	[...]*	[10-20]%	[...]*	[10-20]%
EE (Orange)	[...]*	[0-5]%	[...]*	[0-5]%
mBlox	[...]*	[10-20]%	[...]*	[20-30]%
Sybase	[...]*	[5-10]%	[...]*	[5-10]%
Ericsson	[...]*	[0-5]%	[...]*	[5-10]%
MX Telecom	[...]*	[0-5]%	[...]*	[5-10]%
Reach-Data	[...]*	[0-5]%	[...]*	[5-10]%
Others	[...]*	[50-60]%	[...]*	[30-40]%
Total	[...]	100%	[...]	100%

Source: Form CO, from tables 737A and 737B.

(499) Table 4 below presents the Notifying Parties' estimates for the market for wholesale market for bulk SMS in the United Kingdom.

**Table 4: Wholesale delivery of bulk SMS – volumes and market shares**

MNO	2010		2011(Jan-Oct)	
	Volume	Market share	Volume	Market share
Telefónica UK	[...]*	[30-40]%	[...]*	[50-60]%
EE (T Mobile)	[...]*	[0-5]%	[...]*	[5-10]%
Vodafone	[...]*	[50-60]%	[...]*	[30-40]%
EE (Orange)	[...]*	[0-5]%	[...]*	[0-5]%
Three	[...]*	[5-10]%	[...]*	[5-10]%

<sup>395</sup> Form CO, paragraph 778. Based on the 2010 SMS figures from Ofcom and the 2009 to 2010 growth rate.

Other (for example provided by international MNOs)	unknown	unknown	unknown	unknown
Total	[...]*	100%	[...]*	100%

Source: Form CO, tables 782A and 782B.

- (500) The Commission assessed whether the combined position of the Notifying Parties on the upstream wholesale market for bulk SMS could lead to a foreclosure of bulk SMS aggregators competing with the JV Co on the retail bulk SMS market by refusing to terminate bulk SMS that come from competing aggregators on their respective networks or by offering higher termination rates to the JV Co's competitors.

#### 9.2.2.1. The view of the Notifying Parties

- (501) The Notifying Parties consider that the creation of the JV Co, which will be active on the market for retail bulk SMS, would not lead to input foreclosure or discriminatory termination rates to the other aggregators.
- (502) Firstly, it is not envisaged by the Notifying Parties that the JV Co will actively promote retail bulk SMS services, but it may be required by customers to provide them as an ancillary offering to its overall advertising services, which will focus predominantly on various forms of intelligent messaging. [...]\*. Therefore, the entry of the JV Co would not lead to any significant changes in the market structure.
- (503) Furthermore, the Notifying Parties submit that they will not have the ability to engage in a foreclosure strategy against the JV Co's competitors. The Notifying Parties explained that if one of them were to attempt to refuse to provide wholesale bulk SMS delivery to an aggregator, or to provide it at a price higher than the competitive level, then the aggregator could do a deal with another Notifying Party or another MNO that would allow it to provide bulk SMS delivery services to all mobile subscribers in the United Kingdom, including those of the Notifying Party that refused access. This is because each MNO offers wholesale delivery of bulk SMS to all mobile subscribers in the United Kingdom, it is easy for the aggregators to switch volumes between MNOs and a MNO does not have the ability to block bulk SMS traffic arriving from other networks.

#### 9.2.2.2. The Commission's assessment

- (504) The Commission assessed the Notifying Parties' arguments concerning their lack of ability to substantially foreclose bulk SMS aggregators competing with the JV Co.
- (505) Each MNO has bilateral reciprocal arrangements with other MNOs for the termination of SMS. These interconnection agreements between the MNOs in the United Kingdom include a reciprocal rate that both parties charge each other for an SMS originating from the other network that they terminate on their own network ("termination rate"). This rate applies to all SMSs regardless of the type of message, that is to say regardless of whether the SMS originates from an aggregator (bulk SMS) or from a consumer (known as "peer to peer" or "P2P"). [...]\*. For example, according to Notifying Parties' data, bulk SMS accounts for [...]\* [1-5]% of the volume of all SMS sent.

- (506) An MNO would contract with aggregators for the delivery of bulk SMSs "[...]\*" to subscribers not only connected to its own network ("on-net") but also to the networks of the other MNOs ("off-net").
- (507) Aggregators will contract with more than one MNO for delivery in the United Kingdom at any time, typically for commercial reasons, and most major aggregators will have relations with all the MNOs in the United Kingdom. Once these initial connectivity arrangements have been put in place, it would be very easy and essentially costless for aggregators to divert volumes between different networks for bulk SMS delivery using widely-available least cost routing software. Indeed, most of the aggregators who responded to the market investigation, confirmed that they use such automated routing models allowing them to identify the cheapest routing for bulk SMS services<sup>396</sup>. One respondent explained that the routing is also based on other criteria such as for example direct route, quality, throughput and capabilities<sup>397</sup>. Besides, it appears indeed common for aggregators to quickly switch significant volumes from an MNO, making market shares in the United Kingdom's wholesale bulk SMS market rather volatile<sup>398</sup>.
- (508) Moreover, the existence of grey routes (see Recital (233)) is further constraining the Notifying Parties, as they might lose bulk SMS revenues to MNOs outside of the United Kingdom.
- (509) Furthermore, in order to be able to block an incoming bulk SMS, the terminating Notifying Party should be first able to identify it as such.
- (510) The terminating network would have access to a certain amount of information from the SMS enabling it to ascertain from which network the SMS was sent. In theory, it is possible for a MNO to apply a "filter" to incoming SMSs to identify certain types of message, for example a filter such as is used for SPAM messages. However, there are a number of reasons, which make it more difficult for MNOs to use these filters, such as the ease with which the sending party could change its originating identity and the fact that the sending party could "disguise" a bulk SMS as a P2P SMS by using a numeric originating number.
- (511) An MNO would, therefore need to make significant investment in software and systems, and analyse vast amounts of data (covering the total SMS traffic arriving on its network including P2P) for the sole purpose of blocking bulk SMS that aggregators sent via other MNOs<sup>399</sup>.

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<sup>396</sup> Responses to Questionnaire R5 of 11 May 2012, question 25.

<sup>397</sup> Responses of Ericsson to Questionnaire R5 of 11 May 2012, question 25.

<sup>398</sup> See Notifying Parties' submission of 21 May 2012, p.9, Figure 3. Besides, there is no capacity constraint with respect to wholesale delivery of bulk SMS for the MNOs.

<sup>399</sup> Form CO, annex 39, page.1, and the Notifying Parties' reply to the decision opening proceedings of 21 May 2012.

- (512) This was generally confirmed by the responses to the market investigation. For example, some respondents, who think that it is technically possible for MNOs to trace the originator of bulk SMS and block certain messages terminated on their network<sup>400</sup> explain that "[t]here are multiple 'SMS filters' available for instalment in the network. The difficult part is to configure a filter to exclude only truly unwanted messages and to keep the configuration up to date"<sup>401</sup> or that "MNOs can trace messages after the fact but cannot block real time on net messaging. Filters can be placed on networks but these are not guaranteed 100%"<sup>402</sup>.
- (513) Furthermore, the vast majority of respondents consider that the Notifying Parties would continue to supply them with termination of bulk SMS services<sup>403</sup>.
- (514) In view of the above, the Commission considers that it is unlikely that the Notifying Parties would have the ability to discriminate between the bulk SMSs sent by the JV Co and those sent by their competitors that are to be terminated on their networks; therefore, the Notifying Parties are unlikely to engage in foreclosure.
- (515) Furthermore, it would be difficult to reach coordinated foreclosure. In particular, due to the lack of transparency in the wholesale market and the rapidly changing market shares, there would only be very limited ability for the Notifying Parties to reach an agreement on the foreclosure strategy. The lack of transparency stems from the fact that contract between MNOs and aggregators appear to be complex, [...]\*. Deviation from a collusive agreement would also be difficult to detect for the other Notifying Parties because no MNO is able to determine with certainty the source of all SMSs that are terminated on its network; as P2P SMSs are significantly more frequent than bulk SMSs, the change in the total number of SMSs terminated on the network as a consequence of the loss of the traffic generated by an aggregator would not be perceptible to any Notifying Party. This would not change with the creation of the JV Co.
- (516) The Commission also finds that the Notifying Parties would not have an incentive to foreclose the JV Co's existing competitors as regards bulk SMSs. The JV Co would be a new entrant in a market with well-established players, which generate significant incremental revenues for the Notifying Parties (for example as the market shares data for retail bulk SMS show, firms other than the Notifying Party account for [...] \* than [80-90]% of the retail bulk SMS market). Foreclosure of existing competitors in order to reduce competition in the retail bulk SMS market would therefore represent a risky strategy, which would undermine the wholesale profits earned by the Notifying Party in this market. This consideration applies to both unilateral and coordinated incentives to engage in a foreclosure strategy. The fact that two of the Notifying Parties are already active in the market for retail bulk SMS but only have a modest combined market share appears to confirm the lack of ability and incentives to engage in foreclosure of rival bulk SMS providers.

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<sup>400</sup> Responses to Questionnaire R5 of 11 May 2012, question 27.

<sup>401</sup> Response of Ericsson to Questionnaire R5 of 11 May 2012, question 27.1.

<sup>402</sup> Response of mBlox to Questionnaire R5 of 11 May 2012 question 27.1.

<sup>403</sup> Responses to Questionnaire R5 of 11 May 2012, question 26.

- (517) In light of the above, the Commission concluded that the operation is unlikely to create a significant impediment to effective competition on any of the markets related to the JV Co's bulk SMS activities.

### **9.3. Non-horizontal effects – conglomerate effects**

- (518) According to the Non-Horizontal Merger Guidelines<sup>404</sup>, in the assessment of conglomerate mergers, the Commission will consider mainly the question of foreclosure. The combination of products in related markets may confer on the merged entity the ability and incentive to leverage a strong market position from one market to another by means of tying or bundling or other exclusionary practices.
- (519) The Commission analysed how important it would be for a competing M(V)NO to be able to offer a mobile wallet in order to remain a credible competitor in the retail mobile telephony market.
- (520) A majority of respondents to the market investigation expect that, at least in the short-term, the presence of mobile wallets will not be a key differentiating factor for consumers when selecting a mobile handset or airtime contract with a MNO<sup>405</sup>.
- (521) Furthermore, even if having the capability to offer a mobile wallet was to become a "must-have" factor - a contention that Three UK strongly makes<sup>406</sup> - it is likely that Three UK would be in a position to offer its own mobile wallet to customers, possibly partnering with third parties such as Google or financial institutions.
- (522) Based on the above, it is concluded that it is most likely that no competition concern would arise from conglomerate effects induced by the creation of the JV Co.

### **9.4. Horizontal effects**

#### *9.4.1. Introduction*

- (523) The Commission has also examined whether the operation will raise horizontal competition concerns. The assessment in this section is divided in two parts, dedicated respectively to the market for wholesale supply of mobile wallet platform services and to the markets for advertising services and data analytics.

#### *9.4.2. The framework for the Commission's assessment*

- (524) In making its competitive assessment the Commission applies the following principles laid down in the Horizontal Merger Guidelines:

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<sup>404</sup> Non-Horizontal Merger Guidelines, paragraph 91 and onwards.

<sup>405</sup> Responses to Questionnaires Q1 and Q2 of 07 March 2012, question 78.

<sup>406</sup> Three UK submits that the availability of a mobile wallet will become a key parameter of competition when consumers decide on a tariff plan with an operator, as handsets will become increasingly multifunctional and the mobile wallet is going to be the next step of an already existing natural evolution, becoming a "hygiene factor" in the sense that it will be an integral part of the mobile phone, like for example the camera, or access to the internet.

- (a) A merger may significantly impede effective competition in a market by removing important competitive constraints on one or more sellers, who consequently have increased market power<sup>407</sup>.
- (b) The most direct effect of the merger will be the loss of competition between the merging firms. For example, if prior to the merger one of the merging firms had raised its price, it would have lost some sales to the other merging firm. The merger removes this particular constraint. In addition, non-merging firms in the same market can also benefit from the reduction of competitive pressure resulting from the merger, since the merging firm's price increase may switch some demand to the rival firms, which in turn may find it profitable to increase their prices. The reduction in these competitive constraints could lead to significant price increases in the relevant market<sup>408</sup>.
- (c) Accordingly, mergers in oligopolistic markets involving the elimination of important competitive constraints that the merging parties previously exerted upon each other together with a reduction of the competitive pressure on the remaining competitors may, even where there is little likelihood of coordination between the members of oligopoly, result in a significant impediment to effective competition<sup>409</sup>. The Merger Regulation clarifies that all mergers giving rise to such non-coordinated effects must be declared incompatible with the internal market<sup>410</sup>.

#### 9.4.3. *Wholesale supply of mobile wallet platform services and secure storage*

- (525) The JV Co will be a new entrant in the nascent market for the wholesale supply of mobile wallet platform services. The Notifying Parties are either new entrants in the market (for example the Orange/Barclaycard Quicktap product and the Telefónica O2 wallet) or they are potential entrants. They are also either new entrants or potential entrants on the possible market for secure storage.
- (526) Some respondents to the market investigation expressed the concern that the operation would eliminate competition between the Notifying Parties which would otherwise develop separate initiatives. On the other hand, the Notifying Parties argued that they would not be able to independently launch separate mobile wallet platform services. However, for the assessment of the operation, the Commission does not need to conclude whether absent the operation the Notifying Parties would be able to independently offer their mCommerce services given that it is unlikely that the Notifying Parties can deter significant undertakings from entering the markets for the wholesale supply of mobile wallet platform services and secure storage.
- (527) The Commission has investigated these barriers to entry in this nascent market for mobile wallet platform services and secure storage. A number of initiatives have already been announced in a number of countries as described in Recitals (73) to (76). A number of initiatives have also been launched in the United Kingdom, as set out in Recital (70). Potential entrants are banks and financial institutions, other

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<sup>407</sup> Horizontal Merger Guidelines, paragraph 24.

<sup>408</sup> Horizontal Merger Guidelines, paragraph 24.

<sup>409</sup> Horizontal Merger Guidelines, paragraph 25.

<sup>410</sup> Recital 25 of the Merger Regulation.

MNOs / MVNOs (notably Three UK) and online or OTT players such as Google and PayPal. The Commission considers it also likely that Apple would enter if market conditions are favourable. Apart from SIM-based SE, access would also be available to embedded SEs, and also to SEs included in additional hardware (stickers, tags, etc). As described above in the vertical and conglomerate sections, the Notifying Parties, will have neither the ability nor the incentive to substantially foreclose entrants in this market. This implies that the Notifying Parties would not be able to deter entry in downstream market for retail mobile wallets.

- (528) On this basis, the Commission concludes that the operation will not likely lead to a significant impediment to effective competition, as the JV Co would face competition from a variety of other market participants. Therefore, even if the operation eliminates the potential competition between the Notifying Parties, it is not likely to significantly impede effective competition as it will not be able to deter significant undertakings (for example Google, Apple) from entering this nascent market and competing effectively with the JV Co.

#### 9.4.4. *Data analytics services*

- (529) Currently none of the Notifying Parties is individually active in the provision of data analytics services in respect of online and offline advertising and Transactions services.
- (530) The JV Co will be active in the supply of data analytics services in the United Kingdom in respect of online and offline advertising and transactions, providing reporting analytics, business development analytics and loyalty analytics.
- (531) The Notifying Parties and other Service Users are going to supply consumer data to the JV Co in the United Kingdom. Data analytics involves the analysis of data on customers and their behaviours. The JV Co intends to collect and analyse the data generated from both its mobile wallet platform services and its advertising intermediation services in order to provide its customers with valuable insights into consumer behaviour. The Notifying Parties submit that it is not envisaged that the JV Co will offer data analytics services as standalone products; rather, they will be offered to all customers of the JV Co's Transactions and advertising services. The JV Co does not anticipate allocating significant revenues to data analytics services.
- (532) The JV Co will rely on the following three data sources in particular:
- (a) basic customer data collected by the MNOs, such as age, residential status, profession, location, which will be provided to the JV Co in an anonymised form;
  - (b) data collected via the mobile wallet, [...]\*, however not from online and NFC transactions (which take place via third-party payment cards);
  - (c) data collected on the basis of contracts with merchants, for which the JV Co might consider entering into agreements with certain merchants to have access to data that they generate within their loyalty schemes or through transactions, where the customers has provided consent. This data is available to other parties also entering into contracts with merchants.



- (533) This data can be divided into five main categories of customer information that the JV Co will be using to enhance its advertising services: [...]\*
- (534) During the market investigation some participants raised the issue that the operation might lead to foreclosure of competing providers of targeted advertising services. The JV Co is expected to develop a database that would become an essential input for targeted mobile advertising and thus create a situation in which other providers of mobile advertising (intermediation) services might be dependent on the JV Co or might be unable to compete.

#### 9.4.4.1. The view of the Notifying Parties

- (535) The Notifying Parties submit that this service would not be unique and broad consumer information could also be sourced from various other major players including Google, Apple or Facebook, or card or payment schemes such as Visa or MasterCard and their issuing banks, other data analytics providers such as Experian and Acxiom, and retailers such as Amazon or eBay. According to the Notifying Parties each of these groups will have its own approach to data gathering and analytics and their own set of unique customer data, but all would hold sophisticated databases that they would analyse in order to provide targeted marketing services to advertisers.
- (536) In addition, the market for data analytics is significant and established, and the JV Co will also face competition from a range of existing providers of data analytics. Overall, the market for consumer data analytics and market research is worth about GBP 2.8 billion per year in the United Kingdom. About 90% of this is made up of market research, but according to the Notifying Parties the data analytics element is growing rapidly.
- (537) The Notifying Parties provide that, for example, the most prominent pure play data analytics providers Experian and Dunnhumby have a market share of the data analytics market in the United Kingdom of respectively [0-5]% and [5-10]%. Advertising agencies such as WPP have a market share of less than [0-5]% on the same market; big consultancy businesses and technology companies like IBM and Accenture have respectively a [5-10]% and less than [0-5]%. Moreover, market research companies like TNS Research International has less than [5-10]% and for example GfK NOP, Gartner or Nielsen have around [0-5]% market share of the data analytics and market research market. This shows how fragmented these markets are.

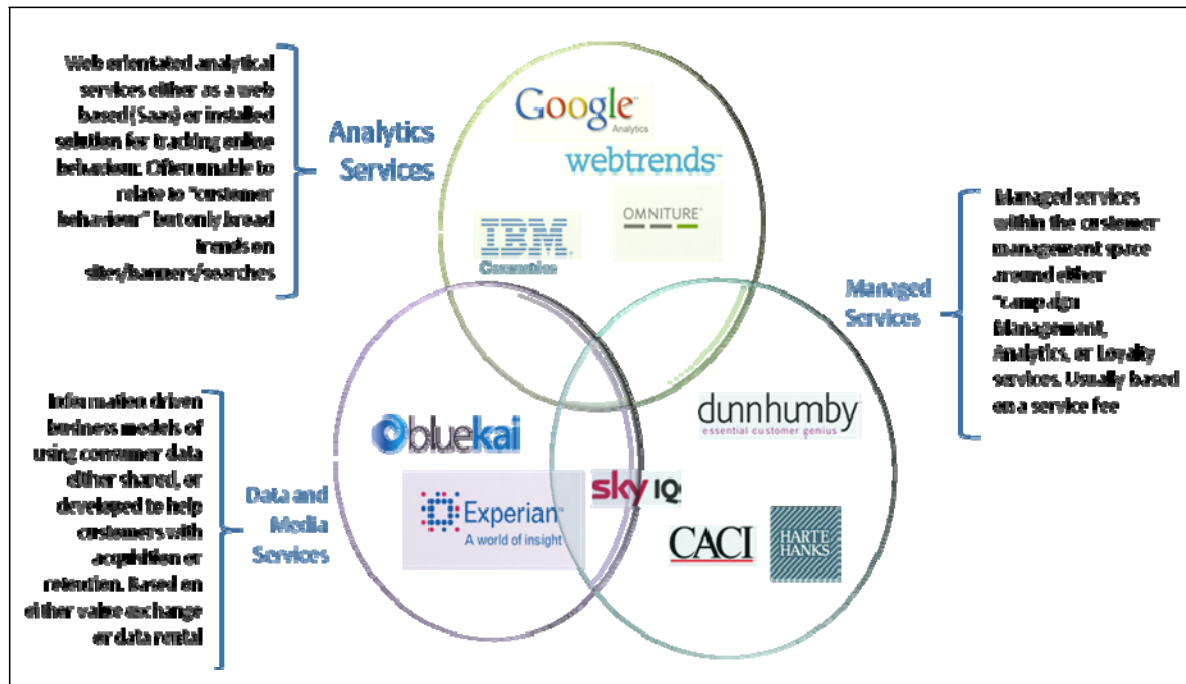
#### 9.4.4.2. The Commission's assessment

- (538) Even if none of the Notifying Parties is individually active in the provision of data analytics services in respect of online and offline advertising and Transactions services pre-operation, the Commission assessed in detail the issues raised by the respondents to the market investigation.
- (539) In particular the Commission assessed whether the JV Co would foreclose competing providers of data analytics or advertising services by combining personal information, location data, response data, social behavior data and browsing data and by so creating a unique database that would become an essential input for

targeted mobile advertising that no competing provider of mobile data analytics services or advertising customer would be able to replicate.

- (540) As regards the various providers of data analytics services, the following diagram shows the main elements in the data analytics ecosystem and the overlaps between the services offered:

**Figure 3<sup>411</sup>**



- (541) The JV Co will be providing elements of all three of these circles, thereby occupying the overlap area between the three services in the diagram above. However, the JV Co will not be providing the software which many of the "Analytics Services" companies identified in the diagram provide<sup>412</sup>, but will be providing some analytics of web trends which these companies also provide. Similarly, the JV Co will not be selling pure data (as BlueKai or Experian do), but instead will be selling the information produced by applying analytics services.
- (542) The personal data collected by the JV Co will consist for example of age, sex, residential status, profession, location, or handset characteristics. In this regard, it has to be mentioned that historically, MNOs' terms and conditions have only allowed the MNOs to send their own offers to their customers. Therefore, the Notifying Parties will have to build a largely new base of opt-in users for the purpose of data analytics and for the JV Co's advertising activity. The proportion of customers who sign a new contract is rather low (approximately [10-20]% per year) and only a subset of these customers ticks the box in new contracts that allows the use of their data for advertising purposes. Obtaining opt-ins outside the framework of new contracts requires a campaign and positive responses (opt-ins) as a result of such campaigns

<sup>411</sup> Figure 451 from the Form CO.

<sup>412</sup> [...]\*

are typically low (estimated [10-20]% of the targeted customers)<sup>413</sup>. In sum, the Notifying Parties cannot leverage their existing customer base; they need to start to convince customers to opt into JV Co's targeted advertising services.

- (543) Information available to the JV Co is however also available to a large extent to both existing and new market players such as Google, Apple, Facebook, card issuers, reference agencies or retailers<sup>414</sup>. These players are already using this information to provide targeted advertising or are in the process of developing these activities. Customers generally tend to give their personal data to many market players, which gather and market it. Therefore, this type of data is generally understood to be a commodity<sup>415</sup>.
- (544) Other ways to reach large numbers of consumers exist, such as utilities providers for instance (almost all consumers use utility providers). Additionally, Internet service providers also appear to be in a position to reach a very large number of consumers. However, it is claimed that MNOs would be "*uniquely placed to reach the consumer at a certain "right" moment.*"<sup>416</sup>. The Commission is of the view that the main relevant argument here related to (geo)location of customers.
- (545) Customers' location data will be collected by JV Co [...]\*. Apps connected to the OS can also have access to all these types of location information. Some of the most common examples of players who gather this type of information are Apple<sup>417</sup>, Facebook or Google (with Google Maps). Microsoft considers that it "*can provide the same level of granularity with respect to the data related to geo-location as the Shareholders of the JV. Both Microsoft and the JV would be on equal footing as regards the data collected via geo-location.*"<sup>418</sup> Moreover, Deloitte does "*not expect the JV to provide a unique source of information on the effectiveness of geographically-targeted advertising, and therefore anticipate no fundamental difference in the development of the analytics services that can be provided to clients over the next three years with or without the JV*"<sup>419</sup>; Deloitte is also of the view that "*there are a variety of sources of geo-spatial data that are not dependent on the mobile operators.*"<sup>420</sup>.
- (546) The JV Co may also be able to obtain response data from opted-in mobile subscribers concerning subscriber's reaction to marketing campaigns. This type of data is also available to other mobile wallet providers or payment providers like PayPal, payment schemes, card issuers or retailers. In this regard, the Notifying Parties confirmed that the JV Co will not have access to data from online or offline

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<sup>413</sup> Response from the Notifying Parties to the Commission's Request for Information of 24 May 2012, page 20, question 47.

<sup>414</sup> The absence of foreclosure in the Transaction activities is also helping to ensure that these companies will be in a position to gather the relevant data post-operation.

<sup>415</sup> Agreed minutes of telephone conference call of 15 June 2012 with PayPal and Response from the Notifying Parties to the Commission's Request for Information of 16 May 2012.

<sup>416</sup> Agreed minutes of telephone conference call of 15 June 2012 with PayPal.

<sup>417</sup> Apple is not expected to become a Service User or a Service Provider to the JV Co. Transaction-related data from iPhone users would not therefore be collected by the JV Co.

<sup>418</sup> Agreed minutes of telephone conference call with Microsoft of 2 May 2012.

<sup>419</sup> Response of Deloitte of Questionnaire R6 of 15 May 2012, question 2.2.

<sup>420</sup> Response of Deloitte of Questionnaire R6 of 15 May 2012, question 10.1.

transactions using the mobile wallet because these transactions take place via third party payment cards. To get access to basket level data, the JV Co would need to contract with merchants even if the MNOs developed their own payment cards.

- (547) Social behavior is also widely available through the consumers' activities on social networks (Facebook, LinkedIn etc). Browsing data can be traced by surfing through free browsing tools (Google), cookies, Apple iPhone browsing history or the Facebook "like" button.
- (548) Moreover, it is also acknowledged that some other companies, like RIM, would have access to a similar amount of data to the JV Co from the mobile handset<sup>421</sup>.
- (549) Several respondents to the market investigation confirmed that there will be many players such as Experian, BlueKai, Quancast, Google, Omniture and Facebook on this competitive market<sup>422</sup>. The majority of respondents to the market investigation consider that, despite the very attractive offering by the JV Co, there will be alternatives to which they could switch if the JV Co raises its prices<sup>423</sup>.
- (550) In particular, Google is active in data analytics through its Google Analytics service. Google Analytics allows marketers and webmasters to track visitors to websites and specific URLs. Google Analytics further enables advertisers to review online advertising campaigns. Google Analytics includes both free and paid-for services (the latter branded Google Analytics Premium). Google Analytics Premium launched in the United Kingdom in 2011<sup>424</sup>. Moreover, Google *"does not consider that, as a general proposition, mobile or desktop data analytics currently provides a better quality insight into consumer behavior than the other. There may be differences in the nature of information collected between these categories, but both are able to offer a range in terms of the quality of insight into consumer behavior."*<sup>425</sup>.
- (551) PayPal was concerned that the JV Co would be able to collect the data and offer these services for very competitive conditions, which they themselves will not be able to meet<sup>426</sup>. However, according to another respondent, *"customers might be most concerned about the value of the data and not specifically the price of the service"*<sup>427</sup>.
- (552) Another issue raised during the market investigation related to the ownership of the data gathered through the mobile wallets. In this regard, the JV Co will only register data on transactions carried out by Service User mobile wallets implemented with the JV Co. Even then, the data will only be "registered" through the JV Co's chosen [...]. The JV Co will not have the ability to register the data on transactions in their own right, as these transactions are made using secure protocols set and controlled by the payment card issuer and the merchant acquirer, with the mobile wallet merely being a container for what is effectively an emulation of a contactless

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<sup>421</sup> Agreed minutes of telephone conference call of 15 June 2012 with PayPal.

<sup>422</sup> Responses of Aegis Group, Boku and Experian to the Questionnaire Q2 of 7 March 2012, question 97.

<sup>423</sup> Responses to Questionnaire Q2 of 7 March 2012, question 98.

<sup>424</sup> Response of Google to Questionnaire Q2 of 8 March 2012, question 3.

<sup>425</sup> Response of Google to Questionnaire R6 of 15 May 2012, question 1.

<sup>426</sup> Agreed minutes of telephone conference call of 15 June 2012 with PayPal.

<sup>427</sup> Response of Aegis Group to Questionnaire Q2 of 7 March 2012, question, 98.

payment card<sup>428</sup>. The JV Co [...] will be dependent on reaching commercial agreements with merchants to access data it possesses and has the rights to transfer. Moreover, if another mobile wallet is used in the same mobile handset, whether using the SIM as SE or an embedded SE, the JV Co will not be able to register data on the transactions carried out through the mobile wallet.

- (553) Yet another issue raised during the market investigation was that, absent the JV Co, the Notifying Parties could have entered the (mobile) data analytics market individually, hence creating more competition.
- (554) The Commission also assessed whether absent the operation, the Notifying Parties would be able to provide (mobile) data analytics services individually.
- (555) The vast majority of respondents considered this to be possible<sup>429</sup>. Some of the respondents, who provided a more detailed explanation, consider that the Notifying Parties have all the data and technical capability to provide data analytics services<sup>430</sup>; however, they would individually lack the scale and reach of the JV Co<sup>431</sup>. Furthermore, they could have partnered with another data analytics specialist to build capability by themselves internally<sup>432</sup>.
- (556) Nevertheless, many respondents to the market investigation consider it more efficient to have the JV Co as a single point of contact<sup>433</sup> and that as data analytics is not a core business to them, the investment would not have been justified to provide this service alone<sup>434</sup>.
- (557) Considering all information available, the Commission concludes that, on all possible sub-markets, the JV Co would indeed be able to collect a broad range of consumer information, which will be very valuable for its (mobile) data analytics services and advertising services. However, many other strong and established players are also able to offer comparable solutions to the JV Co. Therefore, other providers of advertising services competing with the JV Co would not be foreclosed from an essential input and the creation of the JV Co would not have a negative effect on competition on the market for (mobile) data analytics, as well as for market research services or marketing information services. The question whether the Notifying Parties could have entered the market individually absent the operation can thus be left open.

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<sup>428</sup> Also response of Barclays to Questionnaire R1 of 7 May 2012, question 13: “*Financial institutions would be constrained, from a regulatory point of view, from sharing transactional data. Therefore transactional data would remain secure and would not be shared with the JV or MNOs.*”

<sup>429</sup> Responses to Questionnaire Q3 of 7 March 2012, question 95 and responses to questionnaire Q2 of 7 March 2012, question 101.

<sup>430</sup> Response of Mediacom to Questionnaire Q3 of 7 March 2012, question 95.1 and response of DSG International to Questionnaire Q3 of 11 March 2012, question 95.1.

<sup>431</sup> Response of Mediacom to Questionnaire Q3 of 7 March 2012, question 95.1.

<sup>432</sup> Response of Aegis Group to Questionnaire Q2 of 7 March 2012, question 101.1 and response of Experian to Questionnaire Q2 of 7 March 2012, question 101.1.

<sup>433</sup> Response of DSG International to Questionnaire Q3 of 11 March 2012, question 96; response of Kingfisher PLC to Questionnaire Q3 of 7 March 2012, question 96; response of Mediacom to Questionnaire Q3 of 7 March 2012, question 96; response of ZenithOptimedia to Questionnaire Q3 of 7 March 2012, question 96; response of A&N Media Limited to Questionnaire Q2 of 7 March 2012, question 96.

<sup>434</sup> Response of TNS UK Ltd to Questionnaire Q2 of 7 March 2012, question 101.

- (558) In light of the above, the operation is not likely to significantly impede effective competition on any of the possible markets related to the JV Co's data analytics activities.

#### 9.4.5. Advertising services

- (559) The JV Co will act as an advertising intermediary offering a variety of advertising services, among others: non-search advertising (on MNOs or MVNOs participating in the JV Co and third parties inventories), push SMS, intelligent bulk SMS and pull messaging (coupons and vouchers).

##### 9.4.5.1. The view of the Notifying Parties

- (560) The Notifying Parties claim that following the creation of the JV Co a new competitor will enter the market creating more competition to strong established players like Google, Yahoo! or Apple both for static and mobile as well as targeted advertising intermediation.

##### 9.4.5.2. The Commission's assessment

- (561) The Commission assessed the effects of the creation of the JV Co on the market for intermediation of mobile advertising and all possible sub-markets.
- (562) The market investigation revealed a nuanced position on the effect of the operation on the relevant markets for mobile advertising. Many respondents answered that depending on the success of the JV Co digital wallet, in terms of opted-in consumers, the importance of mobile advertising and data analytics for mobile advertising would become apparent<sup>435</sup>.
- (563) Many services are still nascent, even if a significant development is expected by analysts in the near future<sup>436</sup>.
- (564) None of the Notifying Parties is currently separately engaged in intermediation services for any form of digital advertising. Each of them is currently only active in the sale of its own inventory to a very limited extent. This is illustrated by Table 5 below which shows sales by each of the Notifying Parties of its mobile advertising inventory to third parties in the UK in 2010:

**Table 5: Sales of Shareholder Inventory**

Shareholder	Value (GBP m)	% of mobile advertising revenues	% of Shareholders' total revenue
Everything Everywhere	[...]*	[0-5]	[0-5]
Telefónica O2	[...]*	[0-5]	[0-5]
Vodafone	[...]*	[0-5]	[0-5]
<b>TOTAL</b>	[...]*	<b>[5-10]</b>	

<sup>435</sup> Data analytics services play a role in order to offer advertising services or in order to generate feedback to customers on how effective these campaigns are with a view to optimizing them, improving return on investment ("ROI").

<sup>436</sup> Ofcom report from August 2011, page 201-202.

- (565) The majority of each Notifying Party's own inventory is at present dedicated to their activities as advertisers in their own right: for example, advertising additional capabilities on their network, or offering specific loyalty schemes and sponsorship arrangements to their own subscribers (for example O2's sponsorship of the England rugby team allows it to send promotional offers on tickets to its subscribers). These activities are not within the scope of the JV Co, and the Notifying Parties submit that they would continue to compete using their own inventory in this way<sup>437</sup>.
- (566) Moreover, as shown in Table 6 below, mobile advertising only represents 2% of the total digital advertising<sup>438</sup>.

**Table 6: Value of the digital advertising market in the United Kingdom in 2010**

Digital advertising market in the UK (£m)	Mobile Advertising spend in UK (£m)	% of total digital advertising market attributable to mobile advertising	% of total digital advertising market attributable to online advertising	% of total advertising market attributable to digital advertising (mobile + online)
4,097 <sup>439</sup>	83 <sup>440</sup>	2.0 <sup>441</sup>	98	26% <sup>442</sup>

- (567) Under section 8.1.4, the present Decision has left open whether the relevant product market should be defined as the intermediation of mobile advertising in general or the narrower market for targeted marketing messaging and its possible sub-markets.
- (568) On an overall market for mobile advertising, the Commission considers that the JV Co would face strong global competitors like Google (DoubleClick, AdMob, Admeld), Apple (Quattro Wireless/iAd), Yahoo! (Blue Lithium and RightMedia), Microsoft (Screentonic, aQuantive), AOL (AOL Advertising), WPP (24/7 RealMedia), or independent mobile ad networks such as Millennial Media. On such a market, the JV Co would operate as an alternative to these established market players<sup>443</sup>.
- (569) On a narrower market for targeted marketing messaging and in particular, the possible sub-markets for intelligent bulk SMS and push SMS, the Commission assessed whether the JV Co would become a strong player having access to the Notifying Parties end customers and have the ability to send them targeted marketing messages.
- (570) Three UK voiced concerns with respect to targeted marketing messaging. In particular, Three UK considered that the JV Co "*would act as a central distribution channel for advertisers' offers*" and "*[m]obile subscribers who sign up would receive targeted adverts including vouchers, coupons and discounts sent via SMS or MMS or enabled over the air by the JV*".

<sup>437</sup> Form CO, paragraph 337.

<sup>438</sup> Paragraph 412 of the Form CO (data 2010).

<sup>439</sup> Ofcom Communications Market Report 4 August 2011, paragraph 4.1.1

<sup>440</sup> [...] \* Adspend Study

<sup>441</sup> [...] \* Adspend Study

<sup>442</sup> Ofcom Communications Market Report 4 August 2011, paragraph 4.1.3

<sup>443</sup> Form CO, paragraph 414, and responses to Questionnaire Q2 of 7 March 2012, question 83 and 83.1.

- (571) The market for targeted marketing messaging (and in particular push SMS and intelligent bulk SMS) is at present insignificant compared to mobile advertising<sup>444</sup>. The majority of respondents to the market investigation (including market participants like Aegis Group, Ericsson, Experian, Google, IBM or mBlox) consider that they would be able to send advertisements (including vouchers and coupons) to customers in the United Kingdom using mobile wallets targeted to the customer's precise location without the cooperation of the MNO<sup>445</sup>. Google explained that it would not require access to the proposed JV Co's advertising platform for these purposes<sup>446</sup>. One advertising agency considers that *"the JV would have an advantage but only due to the fact that MNOs might have their own messaging platform capability across bulk SMS and intelligent bulk SMS services. Each of the individual MNOs already run SMS activity and therefore have access to data and platform relationships through this activity. A competitor would be able to offer the same services but only if it partners with a mobile aggregator and has access to the relevant customer data."*<sup>447</sup>.
- (572) The Commission, in the present Decision, has analysed possible non-horizontal concerns with respect to the bulk SMS markets (see section 9.2.2) and has concluded that no significant impediment to effective competition is likely on these markets and that bulk SMS aggregators will continue to be able to compete with the JV Co<sup>448</sup>.
- (573) Moreover, the JV Co's ability to provide targeted SMS messages would not be unique, since there are various players (like Apple or Google)<sup>449</sup>, who also have the mobile numbers of (most of) their customers combined with other customer information and could easily create a similar service or provide the required data to third parties<sup>450</sup>. Other market players, like credit card issuers, payment systems, retailers, and credit reference companies, possibly in combination, could also create offerings or provide data to third parties.
- (574) Considering the market for pull advertising (including coupons and vouchers), the Commission found that loyalty cards can be managed through the mobile wallet app accessing the loyalty card issuers' systems to retrieve the information. Importantly, loyalty cards and vouchers do not depend on a SE<sup>451</sup>. Loyalty cards can be used by selecting the relevant card through the wallet and either presenting these at the point of sale for key entry, barcode scanning or tapping the phone if a contactless option is

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<sup>444</sup> See for example agreed minutes of telephone conference call of 4 May 2012 with Millennial Media.

<sup>445</sup> Responses to Questionnaires Q2 question 88 and Q3 question 83 of 7 March 2012.

<sup>446</sup> Response of Google to Questionnaire Q2 of 7 March 2012, question 88.1.

<sup>447</sup> Response of Aegis to Questionnaire R3 of 11 May 2012, question 33.2.

<sup>448</sup> The likely absence of foreclosure in the Transaction services also reduces to a significant extent the possibility for the Notifying Parties and the JV Co to hinder the development of competitors on the advertising markets.

<sup>449</sup> The Notifying Parties highlight that for instance Apple and Google collect mobile numbers when customers create their identities on iTunes or Google Play. See the Notifying Parties submission of 23 May 2012, section 3.2.2.

<sup>450</sup> The Commission understands from other market participants that Apple or Google do not currently sell this type of data directly. (See for example agreed minutes of teleconference call of 15 June 2012 with PayPal)

<sup>451</sup> Only companies that operate loyalty schemes or vouchers with potentially very high values might want to protect some data by using the SE. This is not expected to be a frequent scenario. Any access to the SE (whether embedded, SIM-based or in the cloud) is likely to have a price implication that is unlikely to be justified for straight forward loyalty schemes.



supported. Vouchers can be accessed through offers apps and offers folders within wallets. They are redeemed by presenting a voucher code at the point of sale for key entry, barcode scanning or tapping the phone if a contactless option is supported. In this latter scenario it is likely that vouchers will be stored on the smartphone but outside of the SE. Consumers can request vouchers by tapping their NFC smartphone against an NFC tag or smart poster. This uses the NFC capability of the smartphone to read the tag or smart poster and receive the voucher or a link to the voucher but does not involve the SE<sup>452</sup>.

- (575) In the United Kingdom, there are a number of existing companies providing coupon and voucher services to advertisers, such as Groupon, Foursquare, VoucherCloud, Gowalla and Google Offers, which will directly compete with the JV Co's offering of mobile coupons and vouchers. For example, Groupon is the UK's most visited coupon and reward website providing local offers reaching around 15% of the internet population<sup>453</sup>. It is available as an app for iPhones which allows users to search for nearby offers using GPS, purchase coupons and redeem them using a barcode on their phone<sup>454</sup>.
- (576) Considering all information available, the Commission concludes that, on either the overall market for mobile advertising or any possible sub-markets, the JV Co would indeed face competition from other significant market players.
- (577) A large part of the participants in the market investigation agreed that the MNOs could have entered the market for mobile advertising on a standalone basis<sup>455</sup>, even though many respondents underlined the efficiencies and economies of scale from the envisaged cooperation<sup>456</sup>. A few of them claimed also that the rationale of the operation derives from the joint economic exploitation of data analytics and mobile advertising. In this respect, a competitor stated that *"[i]ntelligence is at the heart of the fusions of these two industries"*<sup>457</sup>.
- (578) However, given that the JV Co would face competition from other significant market players on all of the possible relevant markets, the question whether the Notifying Parties could have entered the market individually absent the operation can thus be left open.

## Conclusion

- (579) In light of the above, the operation is not likely to significantly impede effective competition on any of the possible relevant markets related to the JV Co's activities in advertising services.

## Overall conclusion

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<sup>452</sup> Response of the Notifying Parties to the Request for Information of 5 June 2012, pages 3-4, question 3.  
<sup>453</sup> Ofcom Communications Market Report, pages 239-240.  
<sup>454</sup> <https://www.groupon.co.uk/how-works-groupon-mobile>.  
<sup>455</sup> See responses to Questionnaires Q2 question 93 and Q3 question 88 of 7 March 2012.  
<sup>456</sup> Responses of Boku and DSG International to Questionnaire Q2 of 7 March 2012, question 94.  
<sup>457</sup> Response of Three UK to Questionnaire Q1 of 7 March 2012, question 86.1.

- (580) On the basis of those findings, the Commission concludes that the operation is not likely to lead to significant impediment to effective competition as a consequence of horizontal effects brought about by the operation.

#### **9.5. Coordination on the retail mobile telephony market**

- (581) The Commission also analysed in accordance with Article 2(4) of the Merger Regulation, whether the JV Co would create scope for coordination among the Notifying Parties in the retail mobile telephony market, which is to be appraised in accordance with the criteria of Article 101 (1) and (3) of the TFEU. A restriction of competition under Article 101(1) TFEU is established when the co-ordination of the parent companies' competitive behavior is likely and appreciable and results from the creation of the joint venture<sup>458</sup>.
- (582) All three Notifying Parties are active and will retain their activities in the retail mobile telephony market in the UK, which is a neighbouring market to those of the activities of the JV Co.
- (583) However, the creation of the JV Co is unlikely to affect any of the key parameters of competition in the retail mobile telephony market such as the availability of different mobile handsets or the number of inclusive minutes, data volume or text messages. The Notifying Parties and other Service Users of the JV Co will continue to provide mobile voice and data services independently and these services will remain at the core of their business. The activities of the JV Co would not be directly addressed to consumers at the retail level and none of the proposed activities of the JV Co would relate to or impact directly on the provision of mobile voice or data services by each of the Notifying Parties to their customers in the retail mobile telephony market in the United Kingdom. As such the creation of JV Co will not lead to significant changes in the conditions of competition in the retail mobile telephony market in the United Kingdom.
- (584) Also, any information provided by Service Users to JV Co (about their own customer bases) will be tightly ring-fenced within JV Co and will not be shared with other Service Users.
- (585) Finally, the activities of JV Co are expected to be relatively small in value terms compared to the Notifying Parties' respective activities in the retail mobile telephony market. As explained in Recital (433) gross profits for the retail mobile telephony activities of the Notifying Parties are roughly about [...] times higher than the expected profits of the JV Co after its initial ramping-up period.
- (586) Therefore, the Commission concludes that there should be no practical scope for coordination of the Notifying Parties in the retail mobile telephony market through the JV Co.

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<sup>458</sup> See the Commission decision of 27 May 1998, Case IV/JV. 1 – *Telia/Telenor/Schibsted*, paragraph 28.

## 10. EFFICIENCIES

- (587) The overall impact of the operation will also be affected by the likely efficiencies that are brought about by the operation. While there is a lack of anti-competitive effects irrespective of efficiencies, these efficiencies form a part of the overall competitive assessment.
- (588) The Notifying Parties submit that the operation will offer a range of new and innovative Transactions services, advertising services and data analytics services which are either not currently offered or are only offered to a limited extent by the Notifying Parties.
- (589) In particular, the Notifying Parties explain that the operation will allow the individual MNOs to overcome the difficulties they face when acting independently, increasing their ability to act as credible competitors to the OTT operators. The Notifying Parties argue that the JV Co will be of a sufficient scale to develop a mobile wallet platform and services that will attract financial and other service providers to participate, driving consumer demand and take-up of mobile wallets. Furthermore, the Notifying Parties claim that the JV Co will increase the pool of opted-in customers which an advertiser can access, increasing the ability to target advertising to the most responsive customer groups and reducing the cost to advertisers of developing expertise in mobile messaging. Finally, the Notifying Parties state that the JV Co will promote the development of technology to facilitate mobile wallet portability ensuring that consumers will be able to move their mobile wallets when they choose to switch mobile handsets or MNO thereby minimising the costs of switching.
- (590) The market investigation provided indications that potential benefits could arise from the operation. For instance, market participants noted that "*[t]he JV provides a useful single POC for companies looking for mobile data analytics services*"<sup>459</sup> and "*[t]o get a scale number of users in the UK market in order to encourage the market to take off and develop. A critical mass of users will in turn provide the necessary incentive to UK businesses to invest in NFC terminals, mobile payments, etc*"<sup>460</sup>. Also, market participants believed that the rationale of the JV Co is linked to "*[e]conomies of scale, shared infrastructure costs, standardisation*"<sup>461</sup>.
- (591) Efficiencies, in order to be acceptable as a countervailing factor under the Merger Regulation must be verifiable, likely to be passed on to consumers and be merger specific to the extent that no other practicable less-anticompetitive alternatives exist to achieve the same benefits<sup>462</sup>.
- (592) The Notifying Parties have not provided a detailed analysis showing that any such efficiencies meet the criteria of the Horizontal Merger Guidelines, and in particular that they could not be achieved through less anticompetitive alternatives.

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<sup>459</sup> Response to Questionnaire Q2 of 7 March 2012, question 102.

<sup>460</sup> Response to Questionnaire Q2 of 7 March 2012, question 102.

<sup>461</sup> Response from three market participants to Questionnaire Q2 of 7 March 2012, question 66.

<sup>462</sup> OJ C265, 5.2.2008, p.6, paragraph 53.

- (593) However, it is not necessary to precisely estimate the magnitude of these likely efficiencies given the operation's lack of anti-competitive effect irrespective of efficiencies.

## **11. GENERAL CONCLUSION OF THE COMPETITIVE ASSESSMENT IN THE RELEVANT MARKETS**

- (594) MCommerce is nascent with a number of interested parties entering the sector and a number of different technologies emerging. The JV Co will not likely have the technical or commercial ability, nor the incentive, to substantially foreclose entry, or hinder expansion by competitors in relation to wholesale or retail mobile wallet platform services, advertising services or data analytics.
- (595) A sufficient number of competitors are already emerging or are very likely to emerge in the near future. Some of these competitors are companies with significant market power, customer base and expertise in their field. They include financial service providers, internet and OTT players, players already active in online payments and other M(V)NOs. The Commission does not consider that the operation may significantly raise barriers to entry, for example by making it more difficult for potential entrants to obtain the necessary inputs. Therefore, the Commission concludes that even if the Notifying Parties do not emerge individually as actual competitors because of the JV Co, a sufficient number of other competitors will remain to ensure adequate competitive pressure post-operation. Similarly, the Commission concludes that the JV Co will not likely be able to stifle innovation; indeed, the mCommerce market will likely continue to be characterised by the development of new initiatives and the emergence of a variety of possible commercial and technical evolutions in the coming years.
- (596) The Commission concludes that the operation will not likely lead to a significant impediment to effective competition within the meaning of Article 2(2) of the Merger Regulation in any of the relevant markets or potential sub-markets identified in Section 8.
- (597) The operation should therefore be declared compatible with the internal market and the functioning of the European Economic Area Agreement pursuant to Article 8(1) of the Merger Regulation and Article 57 of the EEA Agreement.

HAS ADOPTED THIS DECISION:

*Article 1*

The notified concentration whereby Telefónica UK, Vodafone Group, and Everything Everywhere would create a joint venture, namely the JV Co, of which they would have control within the meaning of Article 3(1)(b) of the Regulation (EC) No 139/2004, is hereby declared compatible with the internal market and the EEA Agreement.

*Article 2*

This Decision is addressed to:

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Done at Brussels, 4.9.2012

*For the Commission*  
*(signed)*  
*Joaquín ALMUNIA*  
*Vice-President*