**ONLINE COMMUNICATIONS SERVICES (OCS)**

**QUALITATIVE RESEARCH**

**REPORT OF FINDINGS**

**JULY 2020**

**Prepared for:**
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# Contents

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# 1. Executive Summary

## 1.1 Introduction

UK consumers continue to make use of traditional communication services to varying degrees.  These services include landline, post, mobile voice and SMS.  Increasingly, however, consumers are using online services to communicate.  These services are often referred to as 'Over the Top' (OTT) services and can include email, instant messaging and voice and video calling services.

Ofcom commissioned research to better understand consumers' usage of, and attitudes towards, traditional and online services, and whether consumers' needs are currently being served by these services.

Futuresight conducted in-depth video interviews with a cross section of fifty-six consumers, six micro-business decision-makers and nine accessibility users across England, Scotland, Wales and Northern Ireland.  The fieldwork took place in early March 2020 and was conducted remotely due to the coronavirus pandemic.

## 1.2  Summary of key insights

### 1.2.1 Traditional and Online Communications Services:  Usage preferences and changes over time

The majority of our sample still use some traditional telephony services and would struggle to reach certain people without these services.

However, widespread adoption and usage of online communication services (OCS), in particular instant messaging (IM), has had a significant impact on the way we now communicate, including our use of traditional services.  Examples of OCS discussed in this study included WhatsApp, Snapchat, Facebook Messenger, Instagram Direct, iMessage and Facetime.

Figure 1:  **Consumer types and migration to OCS**

As illustrated in Figure 1, four consumer types were identified in this research. Those on the left – OCS Newbies – are a minority, tending to be older and more wedded to traditional telephony. Their adoption of an online service, often with help from younger relatives, helps them to be included in family activities.

Those in the middle – Converts and Natives – comprise the majority. Converts are attracted to the myriad features and benefits of OCS, in particular IM, and Natives are young enough not to not know any different. For both these types, traditional services (mobile network calling and, to a lesser degree, SMS) continue to be important due to their perceived reliability and low cost. However, these services are now used primarily for shorter, administrative purposes, rather anything social (which has been taken up by OCS).

To the far right, OCS Purists are a minority but could be an indication of future behaviour. With high speed connectivity in and outside the home, and family / friends using compatible services, OCS Purists have almost entirely substituted traditional services for OCS.

Aside from email (used by all), micro-businesses varied in their usage, ranging from traditionalists, who use landline and mobile network calling, to OCS enthusiasts, who consider OCS critical for efficiency and developing client relationships. Complete substitution of traditional services by OCS would appear to be a long way off for almost all the micro-businesses who took part in this research.

## 1.2.2  Traditional Communications Services:  Usage and attitudes overall

Post for personal correspondence has all but disappeared for almost all participants in this research.

Landline calling remains important for some OCS Newbies and for those living in areas with poor connectivity (mobile and/or internet). For the vast majority of participants, however, landline usage has been replaced by mobile, with all the features and functionality that smartphones now offer.

Making calls over the mobile network continues to be seen as an essential service and the default means of communicating by voice for most in the sample. Perceived low cost, reliability, 'neutral' profile (suitable for professional and personal contexts) and an easy user experience were the main benefits mentioned.

SMS is predominantly used for short, purposeful communications. SMS tends to be used as a back-up service to avoid using data allowance or when connectivity is poor. SMS is also the default service for alerts from public service organisations, such as HMRC, banks, doctors, dentists, etc.).

### 1.2.3  Online Communications Services:  Usage and attitudes overall

Email was used by almost everyone in this sample and remains a core service for business / administrative communications.

Besides email, Instant Messaging is the most widely used online communication service and considered essential by almost all participants.  Efficiency, convenience, speed, social bonding, entertainment and networking are some of the many benefits associated with IM services.

Most consumers in this sample use at least two online messaging services and discriminate clearly between the services, selecting which one to use based on the nature of the communication and the intended audience.  Notably, reliability, privacy and security are not mentioned as considerations when adopting or using an IM service.

Video calling, prior to the Covid-19 lockdown, was used primarily for high quality interaction with family and close friends, when face to face was not possible.  Since the lockdown was imposed, the demand for video calling has increased dramatically, in particular for services that can accommodate multiple people simultaneously.

Use of online voice calls is much more limited across the sample.  Just OCS Purists use online calling regularly for making voice calls.

Overall, the vast majority of participants are very positive towards OCS services and almost no limitations or challenges are mentioned when adopting and using these services.  The take up of new services, particularly amongst those with limited digital skills, appears to show that these services offer an accessible, intuitive user experience.  Just online voice calling is perceived by some as not as reliable as calls over the mobile network.

There were some mentions about the potential dangers of these platforms.  In particular the negative impact on mental health for young females was noted and the potential for some features, such as disappearing messages, to make it difficult to identify incidences of bullying.

However, in terms of the online services that enable communication between individuals, participants in this project generally feel that they are largely in control and that they have a responsibility to regulate and control their own, or their children's, activity.

### 1.2.4  Traditional and Online Communications Services:  Substitution

The findings indicated that SMS for social communications has been almost entirely replaced by Instant Messaging services.   IM offers a wide range of features and

functionality that enable consumers to communicate and benefit in ways that were not possible previously with SMS.  SMS is still used but in a more administrative capacity – such as receiving alerts for public services, security authentication and a back-up when OCS is not available.

The adoption of OCS has also had a significant impact on the use of voice calls. Mobile network calling is still the primary service for voice, however it appears that consumers are spending less time on a call because the 'catching up' part of a conversation has already taken place via IM. To this end, mobile network calls appear to be increasingly more direct and functional than social and conversational.   Voice has also been partly absorbed into video calling, particularly when calling from home.  OCS Natives and Purists make regular use of video calling to speak to close friends, and there has been a very sharp rise in video calling during these early stages of Covid-19 lockdown.

Voice calling online appears to be much more limited however – particularly outside the home, where mobile network calling appears to offer greater benefits, in terms of reliability of connection, perceived low cost (relative to mobile data costs) and user experience.

## 1.2.5  Online Communications Services:  Features, Functionality and Data

**End-to-end connectivity….** – the ability to communicate with anyone on any network – is seen as one of the benefits of traditional services.  It is also one reason why consumers perceive these services as appropriate to use when communicating with any audience, from businesses to close friends and family, giving these services a 'neutral' profile.

When using OCS, in contrast, consumers cannot communicate across different services other than email.  The absence of end-to-end connectivity between services does not appear to be an issue for participants in this research.  These participants appear to discriminate between different OCS – they use a service for a particular communication purpose and their contact list / social network is tailored to that service.  To this end, participants do not see the need to connect across different services as they do not appear to want to send the same message to different social networks.  The separation of OCS appears to provide consumers with clarity and organisation, rather than restrictions.

In addition, the vast majority of participants are rarely limited in reaching the people they want to contact when using a particular service.   Occasionally, someone might have to join a group on a particular service to gain access, but, in almost all circumstances, they are already using the service or will be encouraged by their peers to adopt.

Micro-businesses are more varied in their response to end-to-end connectivity. Those using social media to promote their business feel they already share messages across platforms to different audiences.  For messages received from prospective clients however, several feel that the amount of communication traffic generated via different OCS has meant additional time to monitor and track and the idea of a single united 'portal' has some appeal.

**Multi-homing....** Participants, particularly younger age groups, frequently use several OCS to conduct the same tasks.   This is not seen as 'doubling up' rather they appear to be very deliberate about selecting the platform that is best suited to reaching their intended audience and meeting their communications needs.   Overall, similar to the response to end-to-end connectivity, consumers appear to like the idea of separation of services, as these different services act as a way of keeping track of multiple simultaneous conversations.

**Data Porting....** consumers already move contacts between services and are accustomed to being asked permission to do so when installing new applications. Data portability beyond contacts – e.g. message history – does not appear to be an issue for consumers or micro-businesses in this sample.  Neither audience thinks their communications on OCS, currently at least, are sufficiently important to warrant porting to a new service.  Email is the exception, but most micro-businesses (and some consumers) are already set up to store, share and port their email history.

**Privacy and security....** are not issues that consumers or micro-businesses appear to think about spontaneously in relation to OCS.  The informal, ephemeral nature of communications on OCS, in particular IM, has led most to think that their interactions are of little importance.  When prompted, some consumers appear to take data privacy more seriously, but almost all admit that it really is not something that is front of mind.

That said, most consumers are aware that their communications on some platforms are being used to target them with advertising. Whilst the volume of advertising, and the speed at which their comments / posts are turned into advertising, surprises some, the majority does not appear concerned, accepting targeted advertising as an inevitable consequence of using those services.  Notably, a few feel targeted advertising has helped them select the product they wanted.

The majority of consumers do not appear to be aware of potential data privacy issues that might affect them as individuals.  A minority do seem to understand that the services they use are made available free of charge in exchange for these services having access to their personal and communication data.  However, even amongst

these consumers, this awareness does not seem to influence service choice and/or usage.

Only one or two have ever looked at the terms and conditions when downloading a service.  Most consumers appear to use the service without much thought of how their data is being used.  Micro-businesses tend to respond in the same way, also believing their activity via OCS does not warrant much attention.

When pressed, both consumers and micro-businesses think that simple, bulleted information about how their data is collected and used would be good for overall transparency and raising awareness.  The current approach – a lot of text that most consumers say they do not understand – is thought to be deliberately obtuse.

### 1.2.6  Online Communications Services:  Issues facing consumers with a disability

The introduction of the smart phone has had a profoundly positive impact on all those people living with a disability in our sample

- Voice activation functionality has opened up a wide variety of different communications opportunities for end users with dexterity and sight impairment
- Instant messaging, in particular WhatsApp and the read notifications, has enabled some people with a hearing impairment to be independent in a way that was not previously possible
- Video calling has opened up a world of interaction and social bonding between deaf users who use sign language to communicate.

WhatsApp and Facebook Messenger were the only two OCS used and discussed by our sample of accessibility users. Both services were rated highly in terms of accessibility. WhatsApp was rated higher than Facebook, but both services were thought to have been developed in line with international accessibility guidelines[1].

Limited access to a range of services was mentioned frequently, but not in relation to the leading OCS brands.   Those with sight impairment estimate that just 5% of mobile applications are built according to accessibility guidelines[2].  Those with hearing impairments struggle with services that rely on voice communication to communicate securely and/or confidentially, such as financial services.

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[1] https://www.w3.org/standards/webdesign/accessibility
[2] ibid

# 2. Project Overview

## 2.1 Background

UK consumers continue to make use of traditional communication services in varying degrees.  These services include landline, post, mobile voice and SMS.  Increasingly, however, consumers are using online service to communicate.  These services are often referred to as 'Over the Top' (OTT) services and can include email (e.g. Gmail), instant messaging (e.g. WhatsApp, Facebook Messenger) and voice and video calling services (e.g. Facetime, Skype).

Ofcom commissioned research to better understand consumers' usage of, and attitudes towards, traditional and online services, and whether consumers' needs are currently being served by these services.

## 2.2 Research Objectives

The objectives of the research were to understand:

- **Usage of, and attitudes towards, traditional and online communication services:**  What services do consumers currently use, why, with whom, and how has this changed over time?

- **Usage of, and attitudes towards, online communication services:** What are the distinctive and unique characteristics of different online communication services that lead people to choose one service over another?

- **Potential limitations and challenges when using online communication services:** To what extent do compatibility, data portability, information (contracts, payment, privacy, security) and accessibility influence choice?

- **Potential issues consumers with disabilities have accessing and using online communications services:** What features are important to disabled consumers and what is the impact of the features not being accessible?

## 2.3 Research method

An in-depth qualitative method was used.  The initial proposed approach was to conduct mini-groups in order to benefit from individual assessment and group interaction.  However, after conducting just one mini-group out of the three

designated for the pilot phase, social distancing due to the Covid-19 virus was introduced and face-to-face fieldwork ceased immediately[3].

We adapted the approach from mini groups to online interviews, conducting them individually, in pairs and as a family (generally with parents and children separately). All interviews were conducted via video and occasionally by telephone, when video was not possible or inappropriate.

## 2.4  Sample selection

Our research sample comprised a total of fifty-six consumers, six micro-business decision makers and nine accessibility users.

The consumer sample was a full representation of UK adults, aged 16+.  We used gender, life-stage and socio-economic status as the main sampling variables and stipulated that all respondents must use at least one online communications service regularly (i.e. in the past week).

The micro-business sample comprised owners or directors of companies. These employed between two and five staff, and a range of business models and sectors was represented.  The sample of end users with disabilities included an equal split of those with sight, hearing and dexterity impairments.

We also ensured that consumers, micro-business owners and accessibility users were drawn from urban and rural locations in England, Wales, Scotland and Northern Ireland.  For a full breakdown of the sample, please see the Appendix.

The fieldwork was conducted in March 2020.

# 3. Communication Services:  Context

## 3.1  Overall

The research indicates that traditional communications services continue to be used by consumers, but to varying degrees:

- Mobile network calls remain an important service for many
- SMS is still used, but for limited purposes
- Usage of a landline has disappeared for all but a minority
- Post for personal communications is limited to a tiny minority.

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[3] On March 16th 2020, the UK government stated that non-essential contact with others and unnecessary travel should be stopped..  This was part of the UK 'lockdown' to prevent the spread of Covid-19.
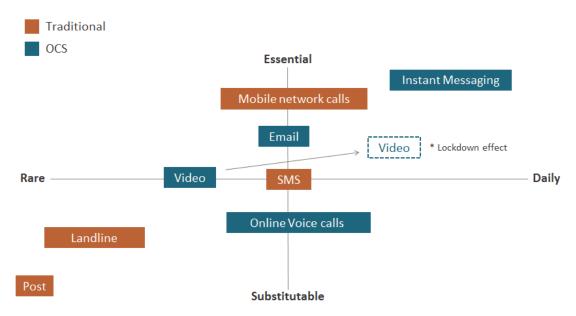
In contrast, OCS are, in the main, well established across almost all life-stages, with some services now considered to be essential:

- Email continues to be the default service for work-related / administrative communications
- Usage of IM is widespread and considered an essential service by the vast majority
- Usage of video calling has, in the past, been an add-on to IM. Since the Covid-19 lockdown, usage has grown exponentially and is currently seen as an essential service
- Online voice calling is used, but remains substitutable rather than essential.

Below is a mapping of preferences based on the majority of participants.

**Figure 2:** Mapping of Traditional and Online Communications Services



## 3.2 Factors that influence usage preferences

There are a number of different factors that appear to influence consumers' choice of communications services. These relate to:

- The nature of the communication desired
- Operational / behavioural elements associated with the interaction
- Environment / circumstances, such as connectivity, life-stage and digital skills.

The nature of the communication desired is a key determinant of the service used:

- Convenience, ease and efficiency, are generally associated with SMS, mobile network calling, email and Instant Messaging
- Social bonding, networking and entertainment tend to involve the full range of OCS features and functionalities
- Intimacy and quality of interaction are most commonly associated with landline, mobile network calling and video calling.

Operational / behavioural elements also play a part in service selection:

- Mirroring: i.e. matching the sender's service is a strong influence on the initial choice of service, though it is not uncommon for consumers to shift to a new service as the relationship develops
- Compatibility: i.e. where a contact might be listed often determines the use of a service.  In the case of elderly family, inclusion in family matters by adopting the service is a key driver
- Profiling:  selecting a service based on an assessment of what would be the most appropriate and/or efficient way of making contact.

Environment / circumstances, such as connectivity, life-stage and digital skills are also factors:

- Availability, for example, limited connectivity in a rural location - both inside and outside of the home - can restrict the choice of services used.  Conversely, high speed connectivity both inside and outside the home opens up the full range of choice
- Life-stage and digital engagement also have an impact on the choice of service, in particular the degree to which the full features and functionalities of OCS might be adopted over traditional communication services.

These differences and their impact on service selection are discussed in more detail below.

## 3.3 Consumer Types Identified

As can be seen from Figure 2, the majority of consumers still use a combination of traditional and OCS. However, beneath that summary view, there is a wide variety of usage preferences, and a shift towards greater use of OCS and reduced use of traditional services.

We identified four different types of consumers that varied in their position along a spectrum shown below - from traditional telephony users who have taken up OCS, to those who have embraced OCS to the point where traditional telephony is almost redundant.

**Figure 3**:  Four consumer types identified

**Traditional** → **Online Communication Services**

| OCS Newbies | OCS Converts | OCS Natives | OCS Purists |
|---|---|---|---|
| Typically . . . | Typically . . . | Typically . . . | Typically . . . |
| • Mid / late life-stage – e.g. empty nesters<br>• Limited digital skills<br>• Semi rural / rural location<br>• Variable mobile connectivity | • Young family and older life-stages<br>• Children at home<br>• Busy managing work and family life<br>• Digital adopters<br>• Social media natives (Facebook) | • Younger life-stages<br>• Digital natives<br>• Mobile first<br>• Social media natives (Snapchat, Facebook)<br>• Variable connectivity outside of the home | • Younger life-stages<br>• Digital natives<br>• Mobile first<br>• Social media natives<br>• Urban – high speed connection everywhere<br>• Friends / family – all using OCS |

In summary, those towards the far left still make use of traditional telephony but have begun to adopt OCS, in particular IM and video calling, as a way of keeping in touch with family.  As we move further to the right, take up and use of OCS becomes increasingly more established to the point that, on the very far right, traditional telephony is all but substituted.  The above types are described in more detail in the following section in the form of case studies that relate to a particular service used.

## 3.4 Micro-businesses identified

We identified 3 different types of micro-businesses that varied in their position along the spectrum below - from those who remain wedded to traditional telephony services to those who have embraced OCS.

**Figure 4:** Three micro-business types identified



For these businesses, the factors that influence their service selection are all related to improving their business in some way . . .

1. Engaging with current customers by mirroring their preferred means of communicating. For some of the more 'traditional' sectors, this means use of a landline, particularly for older clients. For more progressive industries, it is the opposite, i.e., the first interaction with clients/customers could be via social media, so the initial communication is more naturally linked via OCS.

2. Increasing their reach to new customers by careful profiling – i.e. using appropriate and effective means to engage. This is becoming increasingly salient amongst those businesses wanting to attract a younger audience through use of OCS (IM in particular).

3. Increasing efficiency and speed – by ensuring the communications methods accelerated communications and business flow, rather than slowing things down. Amongst the creative sectors, in particular, use of OCS for fast and efficient sharing of images and video is increasingly commonplace.

# 4. Communication Services: Usage Preferences

## 4.1 Traditional

**Post:**

Most participants claim that personal written correspondence has disappeared.  Just one or two female consumers still send personal mail (letters / cards) to their elderly relatives.  For almost everyone else, post is used for formal, administrative communications only.

For micro-businesses, particularly those in insurance or financial services, the research indicates that post is still used to send original and/or signed documents.
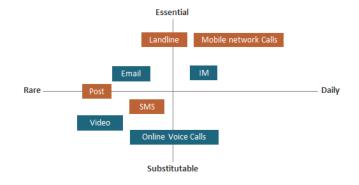
**Landline:**

For some OCS Newbies, the landline is still an important communication service.  Seen as high quality (particularly where mobile signal is poor), the landline enables them to mirror their friends' service preferences, as well as benefit from high quality interaction.

**Figure 5:**  Case study: Landline User



### OCS Newbie: Lisa (58)

Lisa lives with her husband in a semi rural location. Her children have left home and she has recently retired as a vet. She has a tablet, mobile and landline and considers herself comfortable with technology. She uses her mobile and landline about the same – the landline to talk to her friends and elderly relatives, her mobile for day to day communications, using OCS to keep in touch with her children.

**Core Essentials:**
- Landline for friends and family
- Mobile network calls for day to day arrangements
- IM for communicating with the children and some friends; also for selling online (FB messenger)

*"I still like to use the landline. It's good quality and you know when someone picks it up, they are at home and on for a chat"*

*"I use WhatsApp to communicate with my son in Australia – most of the time it's text and images, but sometime we have a call. We've been video calling more than usual over the past few days"*

**Attitudes towards traditional communications:**
- Regularly uses her landline to talk to friends and relatives
- Uses network calls also regularly – day to day business
- Likes to write a letter to friends / elderly relatives – but not regularly

However, for the vast majority, landline is seen as old technology and in direct contrast to all the features and functions that are found on a mobile device.  The landline is no longer used to call businesses, either

*"We used to use the landline to call those 08xx numbers as it is cheaper.  Now, we just use the mobile – the costs must have come down as we don't notice them anymore."*
*(OCS Convert, Male, 42)*

**Landline: Micro-businesses**

For some micro-businesses, the landline remains an important service – 2 out of 6 in our sample make regular use of their landline.  These businesses feel a landline number conveys credibility by being established (i.e. not a pop-up).  Also, both of these businesses have elderly customers and believe a landline mirrors the expectations of this client base.  In addition, one believes a local area code is important to show location, particularly for tourists and newcomers

*"Landline isn't the only service we use, in fact most of our communications is via mobile, or online via Facebook, Instagram and WhatsApp.  But I won't get rid of the landline because our older clients use it and as a local salon I think it's good to have a local number." (Micro-business, Beauty Salon)*

**Mobile Network Calls:**

Making calls over the mobile network is a core service and the default means for communicating by voice for many consumers.  For these users, calling over the mobile network offers some key benefits

- End-to-end connectivity:  consumers can make calls to any other number without the need to use a compatible application
- Reliability:  mobile network calls are generally seen as more reliable than OCS calls, (especially when out of home and not on WiFi)
- Perceived as 'free' and included in mobile packages, whereas calling via OCS eats into data allowance if used outside of WiFi spots
- Priority user experience ('UX') on a mobile device: consumers find it easy to find a contact and make a network call, taking less steps than if making a call via OCS
- 'Neutral' profile:  consumers are comfortable using mobile network calls for both professional / formal and personal / informal purposes.

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In general, mobile network calls appear to be more functional and shorter than in the past. Consumers report that much of the contextual conversation (the 'catch up') has been taken up by users' communications via IM.

There are a few exceptions – some OCS Newbies and Converts still use mobile network calls to catch up with friends and family

*"I drive for 30 mins every day from work and this is the time I use the phone to catch up and have a chat." (OCS Convert, 37, Female)*

Amongst OCS Purists and some Natives, video calling is seen as offering a richer alternative to mobile network calls, particularly in recent Covid-19 restricted times. However, for most, mobile network calls are perceived as offering a different service to video calling

*"They're not really the same. You're unlikely to video call a business or someone you don't know, whereas you would call over the mobile network." (OCS Native, Male, 21).*

Only the small minority of OCS Purists perceive mobile network calls as substitutable for online or video calls.

**Mobile Network Calls: Micro-businesses**

Mobile network calling is the primary means of communicating by voice for almost all micro-businesses in our sample. Mobile network calling is considered an essential service for communicating with new and current customers. The one exception was a holiday lettings business that is able to manage their bookings without using voice.

**SMS:**

The majority of consumers using Android-based mobile devices understand that texts via SMS are delivered over the mobile network. The distinction between iMessage (delivered over the Internet) and SMS is much less clear for many iPhone users.

SMS is used predominantly by OCS Newbies and Converts to send simple, short, direct and purposeful communications.

For these users, SMS offers a variety of benefits:

- Free and unlimited for most mobile packages
- Minimal mobile signal required to send a message (when compared with OCS)
- A core part of a mobile device's primary user experience (UX) making it easy and accessible to send a message
- End-to-end connectivity – anyone can be reached without the need to open an app or save contact details prior to sending

- Broad profile – SMS can be formal and informal and is often the default service when there is a need to communicate with someone unknown (and where IM could be seen to be overly familiar)

> *"I got one from my daughter's friend's dad – who I don't know – a WhatsApp message would have been a bit weird." (OCS Convert, Female, 37)*

Amongst younger audiences (OCS Natives / Purists), SMS usage is largely to avoid using up data allowance or where connectivity (4G) is insufficient to connect to an OCS.

For most, the lack of features and functionality means SMS has largely been substituted by IM, particularly for sharing / social engagement

> *"It costs money to send an image by SMS, but it's free with IM." (OCS Native, Female, 17)*

Overall, SMS tends to be used for short direct communications and also in the following scenarios:

- Back up for when connectivity does not allow use of OCS
- A default service for receiving verification / 2-factor authentication
- Receiving alerts (HMRC, HM Gov, banks) and appointments (doctor, dentist, etc.).

**SMS: Micro-businesses**

SMS is a primary service for just one business, as a means of confirming bookings.  For the other micro-businesses, SMS is used in much the same way as consumers – as back up when in low connectivity areas, and for receiving 2-factor authentication and alerts / appointments.

## 4.2  Online Communication Services

**Email:**

Email is seen as an essential service by almost all segments and not yet substitutable by other OCS.   Email is the default service for formal, administrative communications, such as bookings, purchase confirmations, account authentication or other correspondence with businesses.

Consumers see email as offering some unique benefits . . .

- A permanent written record, which participants believe can provide better evidence in case of legal disputes
- Easy, efficient transfer of documents and other file attachments
- Compatible with any other email service
- Non-intrusive, i.e., a passive medium that the recipient can respond to in their own time.

In contrast, these benefits are seen as disadvantages in terms of being a social channel, i.e. too formal and lacking immediacy. As a result, email is rarely used by consumers for personal interactions.

**Email: Micro-businesses**

Email is the default business communication service amongst our sample of micro-business users.

As with consumers, email offers businesses key benefits in terms of storage, filing, document transfer, security, compatibility with other email services and professional profile

*"I can't see email disappearing soon – it's the backbone to most businesses' communications by being both serious, professional and legally binding." (Business Traditionalist, IFA, Male, 57)*

OCS enthusiasts continue to use email, often as an introductory communication service before moving to voice and other OCS

*"I'll quite often email a prospective client with some information, then have a mobile network call and then move onto other OCS, such as WhatsApp, when the relationship has developed." (OCS Enthusiast, Fashion, 25)*

**Instant Messaging (IM):**

With the exception of some OCS Newbies, IM has been adopted by almost everyone in the sample and is now considered a priority channel and essential.

Consumers appear to value very highly the many and varied benefits of IM

- The features and functionality allow for different communications activities: 1-1 vs. group chats; audio and video calling; picture and video clip sharing; recorded voice messages / notes, etc.
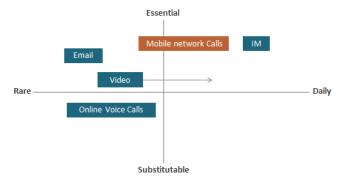
- Read notices (WhatsApp) encourage instant connectivity and the atmosphere of a virtual chatroom
- An efficient way to connect with a wide group of people through mirroring their behaviour
- The main services have such broad penetration that they are close to providing universal compatibility between most users
- Easy, accessible UX, enabling many older people to adopt a new service and realise the benefits of social inclusion.

These benefits are evident across almost all consumer types, but in particular, amongst OCS Converts, where the ability to communicate with multiple people on different topics is most keenly appreciated, as illustrated by the case study below.

**Figure 6:** Case Study: IM User

## OCS Convert: Donna (37)

Donna is married with 2 children (9, 14) and works in a salon. She is an avid user of OCS – IM in particular for friends, family, school groups. She makes network calls for day to day arrangements. She doesn't tend to use OCS voice or video much – aside from recently with her mother. She tries to regulate her children on their use of apps.



**Core Essentials:**
- IM plays a major role - for daily interaction with friends, family and children's school / clubs
- Mobile network calls – for daily arrangements
- Video calls – for contact with family (abroad)

*"I use WhatsApp all day every day – there are so many groups, but it's a brilliant way to get things done quickly, without having to speak to someone. My mother has been isolated so video calling has been a lifesaver for her"*

*"We haven't had a landline in a long time – we just use the mobile and most calls go over the network. I think calling from WhatsApp still feels a bit strange – not as reliable as the ordinary mobile calls"*

**Attitudes towards traditional communications:**
- She doesn't use the landline – it's not plugged in
- Similarly, she doesn't use post for personal communications
- Uses network calls regularly – for day to day business
- Sending SMS has been replaced by IM

## IM: Micro-businesses

A few micro-businesses - OCS Enthusiasts - are using IM as a core business communication service. In all these cases, the business owner mirrors the client's way of communicating and this can be seen as a positive step towards a closer relationship

*"It might be that we get a message through Instagram or an email, and then we have a call and then we move to IM. I can interact quickly and efficiently, send photographs and know when it's been read." (Micro-business, OCS Enthusiast, Female, 25)*

For one OCS Convert, IM had been adopted due to its perceived security

*"We've started to use WhatsApp for discussions that we don't want to put on an email – we don't want that paper trail." (OCS Convert, Property, Male, 57)*

For the remainder, there is a lack of formality / seriousness around IM such that the industry or sector they are working in is not set up to communicate in this way (and is unlikely to change quickly)

*"The insurance and financial sector doesn't accept IM as a means of communicating or sharing documents – I suspect it might take a while." (Business Traditionalist, IFA, Male, 57)*

**Online Voice Calling:**

Overall, voice calling using OCS amongst this sample appears to be limited to communicating with friends / family when on holiday. Overall usage is low – both inside or outside the home.
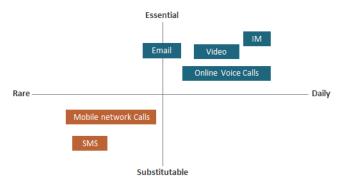
For most, reliability and cost (i.e. eating into data allowance) are the key barriers, at least to usage outside the home. There are a few exceptions – the OCS Purists - who use OCS for almost all functions, as illustrated in the case study below.

**Figure 7:** Case Study:  Online Voice Caller



## OCS Purist: Meghan (27)

Meghan works for an insurance firm. She lives on her own in Leeds and her connectivity is really good – both inside and out of the house. She has a wide circle of friends, as well as a large family network. She has trained her grandparents to use OCS (WhatsApp) and she rarely uses traditional communications services any more.

**Core Essentials:**
- IM is ongoing, all day, every day – 3 apps on the go all the time (FB, WA, SC)
- IM include text, pictures, voice recordings, video recordings
- Clear delineation between apps
- Video calls with friends and sometimes with family (frequency has increased recently)

*"The connection is exactly the same inside and outside the house – so I'm using online services all the day as my friends and family are all connected with me on these services. I haven't made a network call in a while – and that was to a business"*

**Attitudes towards traditional communications:**
- No use of landline or post
- Network calls are only used for when calling businesses or emergencies
- SMS has been replaced by IM

**Online voice calling: Micro Business**

Use of online voice calling was limited amongst the micro-business sample.  Just OCS Enthusiasts make use of online calling, moving from instant messaging to a voice call within the same app (rather than exiting and enabling mobile voice calling). However, this is infrequent and only with clients that they already have a well-developed OCS relationship with.

**Video Calling:**

For many consumers, video calling has, in the past, been used to communicate with close friends and family who live abroad. For these, video calling is valued for high quality interactions but used relatively infrequently.   Video calling has been a key driver for older people to take up OCS and become engaged with family.
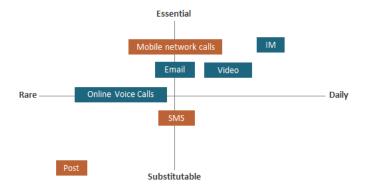
Amongst OCS Natives and Purists, video calling has been popular for some time – for ease of showing something (e.g. when shopping), and to replace face to face contact, e.g. when a girlfriend / boyfriend lives separately, as illustrated in the case study below.

**Figure 8:** Case Study: Video Caller

## OCS Native: Tim (20)

Tim is in his second year at university. He uses his mobile for pretty much all communications, aside from course work emails, which he does from his laptop. He uses a wide range of apps to communicate with his friends, family and sport groups. He loves gaming and playing online with mates.

Essential

Mobile network calls          IM

Email     Video

Rare     Online Voice Calls                    Daily

SMS

Post

Substitutable

**Core Essentials:**
- IM plays a major role - for daily interaction with friends, family, sports groups
- Mobile network calls – for daily arrangements
- OCS video calls – with girlfriend
- In game chat with mates – brings the experience to life

*"I use multiple online services everyday all, the time. Sometimes I'm having 3 simultaneous conversations with the same mates on different services"*

**Attitudes towards traditional communications:**
- He doesn't have a landline
- Post is only used for University / admin, nothing personal
- Uses network calls regularly – calling friends, day to day stuff
- Some SMS use, but this has been largely replaced by IM

During the COVID-19 lockdown, usage of video calling has increased dramatically – consumers have turned to video in order to connect and communicate across a broad network of friends and colleagues.

Video calling during the current lockdown is being used for school classes, online groups, quizzes, choirs, religious services, music concerts, virtual pub drinks. The functionality that allows for large numbers of people to connect in one place has proved extremely popular and new services appear to have been adopted in large numbers.

Overall, video calling has shifted from close family and friends to facilitate communications between a much larger and broader audience. There has also been a notable shift back to desktop to accommodate, at least visually, the large numbers of people that might take part in one session.

It appears video calling has taken the place of face to face communications, that would usually have taken place between friends and family prior to the Covid-19 lockdown. Beyond this, it is difficult to estimate the impact of the rise of video calling on other communication services.

Some consumers feel they are simply communicating more than they would usually. This appears to be a widespread response to the Covid-19 lockdown and video enables the richness of interaction consumers feel they need at this time.

Others feel video calling has starting to replace voice calls due to the richer experience and quality of service made possible due to home broadband use.  It is important to note that the research took place in the first two weeks of the lockdown and these initial behaviours might change as people adjust to the lockdown circumstances.

**Video Calling: Micro Business**

Video conferencing was limited to just one business, prior to the COVID-19 lockdown. This business uses video conferencing with clients abroad.  The other businesses do not reject the idea, simply they feel that there is no need.

That was until the COVID-19 lockdown, since when all the micro-businesses have adopted video calling.  Most use it to communicate with clients that they would usually meet face to face.   One or two have begun to develop content / courses to engage their customers during lockdown.

One Business Traditionalist questioned whether the COVID-19 lockdown might promote change amongst some of his colleagues in the financial sector

*"We've been very traditional in our approach – face to face meetings, telephone conversations and email – but notably these video calls have worked pretty well and made things a lot quicker.  It depends on whether face to face is a core part of who you are as a business I suppose." (Business Traditionalist, IFA, Male, 57)*

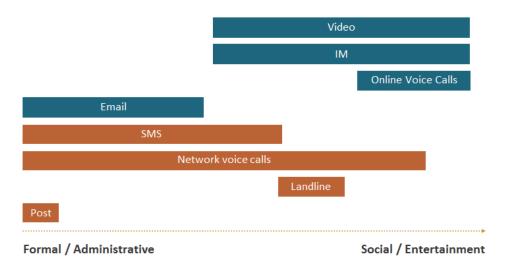## 4.3  Traditional and Online Communication Services:  Change over time

Overall, it would appear the adoption of online communications services has had a dramatic impact on consumer behaviour.

Traditional communications services – due to lack of functionality, perceived reliability and neutral profile - have become the default services for more administrative / direct types of interactions.

Excluding email, OCS – with their myriad of features and functionalities available – have become the core services for social interaction, group organisation and entertainment-related communications.

**Figure 9:** Informal vs Formal



## Change over time: Micro-Business

With the exception of email, which is the mainstay of all the micro-businesses in our sample, the shift towards other OCS appears to be much more varied.

The extent of the shift depends on the nature of the client base and the sector. For those in more traditional sectors, such as finance and insurance, take up of OCS appears to be slow, for the very reasons that consumers have adopted OCS so quickly – i.e. social interaction, group organisation and entertainment are not key drivers for these businesses.

Some micro-businesses, OCS Converts and all Enthusiasts, use social media platforms to advertise and, as a result, usage of OCS amongst these businesses is growing

> *"We are now connected to people on Facebook, Instagram, WhatsApp, landline, mobile, text – all of them – you have to be able to respond to all your customers in the way they want to talk to you. We have a very broad age range of customers and so we have to adapt." (OCS Convert, Beauty Salon, 55)*

As mentioned, video calling has increased dramatically for micro-business, with almost all making regular use of this service during the Covid-19 lockdown.

## 4.4 Traditional and Online Communication Services:  Substitution

Evidently text-based communications have changed dramatically since the widespread adoption of Instant Messaging applications.  These IM services offer such a wide range of features and functionality that consumers are able to communicate in ways that were not possible using SMS.  The benefits of IM services in terms of social bonding, speed, convenience and organisation have led to SMS being replaced almost entirely for social-based communications.

SMS does remain an important service, albeit in a much reduced capacity.  The key benefits of SMS – end-to-end connectivity and transmission in areas where there is limited online connectivity – has meant SMS is primarily used for public service alerts, security authentication and as a back-up for when OCS services are not available.  SMS, due to its 'neutral' profile, is also used in circumstances where IM services might be seen to be inappropriate as a method of communication between strangers.

Adoption of OCS appears to have affected voice communication in different ways.  Landline calling appears to have largely disappeared due to the flexibility of mobile devices.  However, the use of voice over the mobile network has not been substituted by online calling.   The perceived benefits of mobile network calling, such as reliability, low cost, end-to-end connectivity, 'neutral' profile and easy user experience, are still valuable for most consumers, particularly when calling from outside the home.

Conversely, online calling, when outside the home, is seen as somewhat unreliable, costly in terms of eating into data plans and only possible (and appropriate) if the contact is already stored in the application.  It appears that mobile network calling is only substituted by online calling in circumstances where there is high quality connectivity and compatibility amongst the user's contacts (OCS Purists).
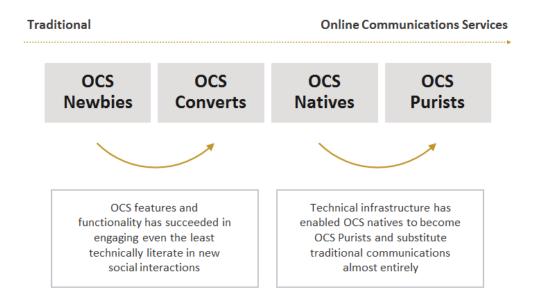
Adoption of OCS has had a significant effect on consumers' use of voice in other ways.  The frequency of IM use appears to have had an impact on voice in terms of length of call and content.  Voice calls over a mobile network are, reportedly, shorter and more business-like due to conversations (the 'catch up' parts) being taken up by IM services.

In addition, voice appears to have been partly absorbed into video calling due to its richer, more valuable interaction.  This is particularly the case when consumers are at home.  OCS Natives and Purists, essentially younger consumers, have largely substituted voice calls for video calls when communicating with very close friends using their home broadband.  There has also been a notable shift to video calling during these initial stages of the COVID-19 lockdown.  Consumers appear to have filled the void in face-to-face communications by adopting video calling.  It remains to be seen whether this trend will continue when the restrictions are lifted.

Overall, consumers do still use and value traditional communication services and many would struggle to reach certain people without these services. These include the very elderly – many of whom still use a landline – and those living in areas where mobile signal and/or broadband services are poor.

**Figure 10:** Substitution Trend



**Substitution: Micro-Business**

Almost without exception, even amongst OCS Enthusiasts, substituting traditional communication services entirely with OCS is widely rejected by the micro-businesses in our sample

- The landline is still a mainstay for some business models
- Voice calling is considered an essential service and has to be done over the mobile network, because OCS voice calling is considered to be inappropriate and/or informal
- SMS remains essential for one business, and IM has begun to be used by OCS Enthusiasts (often young creative professionals) as an efficient platform for sharing multimedia
- Email is the de facto for business. IM is too informal and could not replace email, particularly if a paper trail is required

> *"We've adapted over the years. We now have a presence on Facebook and Instagram, we use WhatsApp, but there is no way we are anywhere near losing the old ways of doing things. For one thing, the infrastructure isn't there. And our clients range from young to old." (OCS Convert, Beauty Salon, 55)*

# 5. Online Communication Services

## 5.1 Introduction

All participants were using at least one online communications service regularly, (i.e. used in the past week) and most were using at least two services[4].  The services discussed included WhatsApp, Facebook Messenger, Snapchat, Instagram Messenger, Facetime, Skype and Zoom.  In addition, several participants commented on their use of smart speakers (Alexa) and game consoles as additional communication services.

## 5.2 Service Discriminators

In general, consumers are very familiar with the OCS they are using and are able to distinguish clearly and easily the similarities and differences between each OCS.  In addition to usage frequency, the following descriptors are commonly mentioned

- Audience type: close friends and family vs. broader social circle
- Usage profile:  younger vs. older
- Focus / Functionality:   communication focus vs content focus
- Tone / Profile:   professional vs. personal; formal vs informal
- Character:  practical vs. fun

Notably, consumers do not discriminate between these different OCS in terms of speed, reliability, privacy or security.  None of these issues were mentioned spontaneously as being current priorities in terms of adopting and / or using a service.

## 5.3 Online Communication Services:  Summary of Key Aspects

### WhatsApp

WhatsApp is the default messaging app for the vast majority of the sample over the age of approximately 20.  It offers a range of features and functionalities, whereby consumers can communicate and share content easily and quickly with multiple individuals and/or groups.

Access to WhatsApp requires a telephone number, which is considered by most consumers to be personal and private.  As a result, WhatsApp is seen as primarily for close friends and family, although use extends more broadly into school clubs, sports

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[4] We have excluded email here as email's unique features have been explored in the previous chapter.

clubs, etc. A minority mention some unease that a user could be joined into a group (and their number would be shared) without permission.

Overall, participants see WhatsApp as offering several benefits - fun, social, family bonding, convenience, organisation and efficiency. The user experience is seen as easy and accessible, even for those with limited digital skills. No limitations or challenges to adopting and using the service were mentioned.

### Snapchat

Snapchat combines messaging features (text, voice and video) with features associated with a social network. Its distinguishing features, such as disappearing images, streaks, personal stories, attracted a younger audience profile (under 30s). Overall, the service is considered by participants to be fun, social, instant and visual.

No limitations or challenges to adopting the service were mentioned. However, there are concerns amongst a few parents that teenagers, in particular, are focused on accumulating social currency at the expense of their privacy. In addition, one or two parents were concerned that the disappearing images features helped shield identities where there were incidents of bullying.

### Facebook Messenger

Facebook Messenger offers similar messaging features and functions to other services. Consumers choose to use this service because they wish to engage with friends and acquaintances on the social network, many of whom dated back several years. Communications therefore tended to relate to more broadcast announcements (e.g. a birth / wedding) and/or sharing content found on the platform. The audience profile appears to be over 30, although take up amongst students is also popular as they can search and connect without the need for a telephone number.

No limitations or challenges to adopting and using the service were mentioned by users. There were a few mentions about the amount of advertising, the degree to which Facebook monitors their interactions and the speed at which very targeted advertising is delivered. We discuss this further in the Privacy & Security section on page 37.

**Instagram**

Similar to Facebook Messenger, the Instagram messaging function supports the social network and contains similar features and functions to other messaging services. Participants choose to use Instagram because it offers a rich, visual browsing experience of brands, products, celebrities and people.  The audience profile appears to be very broad (teenagers upwards) and messaging is largely used to share content (pictures / videos) found on the platform.

No limitations or challenges were mentioned in terms of adopting and using the messaging service.  There were, however, some concerns about the potential dangers of the voyeuristic / comparative aspect to the platform and the impact on mental health, particular amongst females.   One or two parents also thought young people could be exposed to unsuitable content, but this is difficult to identify as it is hidden behind the direct messaging function.

**Facetime / Skype / Zoom**

Facetime is the default video calling service for iPhone / Apple users and there were no mentions of any limitations or challenges associated with the service.

Skype and Zoom, prior to the COVID-19 lockdown, were largely used for business purposes.  Amongst our sample, usage of Skype has all but disappeared, compared with the dramatic uptake in usage of Zoom since the lockdown has been enforced.  It would appear Zoom's easy and accessible user experience, allowing multiple users simultaneously, has established it as the go-to video calling service during the lockdown period.  No limitation or challenges were mentioned in terms of adopting or using this service when the research was conducted.

**In-game chat / Discord**

Communication via in-game chat (on game consoles), and via Discord (an app designed to support communications amongst gamers using different hardware), is very popular amongst young males in the sample.  Communication in this way, reportedly, adds significantly to the gaming experience.  There were no limitations or challenges mentioned with either of these services.

## 5.4  Online Communications Services:  Overview

### 5.4.1  Key Strengths

Overall, consumers appear to be comfortable and content that they can communicate with whom they want, using the OCS available to them.  For the most part, these online services meet their needs and are seen in a positive light – providing the benefits, variously, of quality interaction, social bonding, organisational efficiency and entertainment.

Notably, with greater reliance on home broadband (and the good connectivity that generally comes with this), use of OCS amongst the sample appears to have increased dramatically.  Video calling, in particular, appears now to be considered to be essential, enabling UK consumers to benefit from high quality interaction that would otherwise not be possible.

The lockdown has highlighted the opportunity for OCS to engage and involve vulnerable groups, in particular the elderly.  Several consumers mentioned how pleased they were that they had been able to train up elderly relatives prior to the lockdown. In the main, this process had been relatively straightforward due to the intuitive and accessible user interfaces offered by these OCS

> *"It's made a huge difference to us as a family - we're spread all over the world and now we keep in touch and know what's going on. My mother is on her own and we've trained her up.  She loves being in touch with her grandchildren."*
> (OCS Newbie, 56 Female)

Micro-businesses appear to have reacted in a similar fashion to consumers, making increased use of OCS since the lockdown, in particular video calling.

### 5.4.2  Limitations and Challenges

As outlined in the previous section, there were no limitations and challenges spontaneously mentioned by consumers in terms of adopting and using OCS.

There is, however, widespread acknowledgement that OCS can be distracting to the point of being addictive, and this can have a negative impact on a young person's performance as well as their mental health.

In general, consumers see themselves as being in control and it is up to them to regulate and control either their own, or their children's, engagement with these services.

Overall, most consumers do not consider the features and/or functionality that enable private communications between individuals as deliberately promoting or encouraging negative behaviour.

These are not issues for micro-businesses, which exploit the platforms as best as they can to raise awareness of their business and use the messaging services to respond to enquiries.

### 5.4.3  Informal vs Formal:  Blurring the lines during Covid-19 lockdown

In figure 8, on page 22, we illustrated the perceived differences between traditional service and OCS in terms of formality – traditional telephony becoming largely formal, compared with the largely informal / social OCS.

Since the lockdown, it would appear that these lines – in particular the professional and personal - have started to break down.  Use of IM (WhatsApp) for work appears to have increased and video calling (Zoom), having primarily been a business service, has moved into the personal / social space.

Blurring these lines is met with mixed reactions by consumers.  On the one hand, some feel that WhatsApp is so ubiquitous and familiar that, in times of crisis at least, it made sense to be taken up by the workplace

*"We've started up work groups on WhatsApp in the past few weeks - it helps to keep our work group connected and is more dynamic and engaged than a group-wide email." (OCS Convert, Female, 37)*

Others remain unsure about bringing work into what they perceive as their primary personal / social channel

*"It doesn't feel quite right having my boss on a WhatsApp group – I'm not sure whether it will continue after this virus has gone away, I hope not." (OCS Convert, Female, 39)*

Conversely, taking Zoom from a professional environment for more social use is much less divisive.  The majority of consumers have used a video service for family and friends in the past and there appeared to be less loyalty to Zoom as a service (compared with WhatsApp)

*"I'm not sure whether we'll continue with Zoom – we'll probably go back to using the video calling function on WhatsApp as we did in the past.  Zoom has just filled an important need for multiple conversations during lockdown." (OCS Convert, Female, 43)*

**Informal vs Formal: Micro-businesses**

For some micro-businesses, the blurring of these lines has been going on for some time – the use of IM (WhatsApp) is now established amongst OCS Enthusiasts with selected clients. For these OCS Enthusiasts, relationships might start off with Facebook Messenger or Instagram and then move to a more familiar OCS, such as WhatsApp, once the relationship has developed.

Micro-businesses are less certain about whether the rapid adoption of video calling will continue post the lockdown. There is some indication that even the most traditional business models have seen some benefits from using the service however

*"It's difficult to tell how far it will go, but there's no doubt that video calling is now on the agenda and will be considered a possible route – we've all got the kit now and know how to use it." (Traditionalist, Male, 52)*

# 6. Online Communications Services: Features, Functionality and Data

## 6.1 End-to-End Connectivity

Traditional communications services – landline calling, mobile network calling and SMS- offer consumers the ability to communicate with anyone on any network. This 'end-to-end connectivity' is seen by consumers as one of the benefits of these services and is largely taken for granted.

Traditional services are used to communicate with any audience and can be used in any context - from professional and formal to personal and informal. End-to-end connectivity appears to be one reason for the perceived 'neutrality' that is associated with these services. End-to-end connectivity between OCS is not currently possible other than with email. Consumers can only communicate with other users using the same service. For almost all in the sample, this was not an issue, however.

Consumers tend to make a clear distinction between different OCS and organise their contacts / social network according to the service. To this end, the vast majority of consumers are able to contact who they want using their chosen service. Moreover, they do not see the need to connect across different services as they do not appear to want to send the same message to different social networks

*"The contacts I have on Facebook are different to the ones I have on WhatsApp, deliberately so.  I can't imagine a situation where I'd want to send a message to someone on Facebook from WhatsApp. They're different people." (OCS Native, Male, 21)*

Consumers use different OCS for different types of communications.  Each service has a different usage profile and most consumers do not see an advantage in these services overlapping

*"The chats I have on Instagram are very different to the ones I have on Snapchat.  I wouldn't want to send my friends a message from Instagram to Snapchat, it would be out of context as well as confuse the different conversations we're having." (OCS Native, Female, 24)*

In this research, most participants tended to respond to the issue of end-to-end connectivity within the context of messaging, rather than making calls.  By and large, this was because making calls via OCS was not commonplace across the sample.  That said, consumers are generally able to make calls over OCS to the people they wanted.  Just calls to elderly relatives, who have not adopted OCS, are not possible and these would have to be made over the mobile network.

Very occasionally, someone might be frustrated by not having all the same contacts within a particular messaging service and the idea of connecting to another service appealed

*"I run a book club and everyone is on WhatsApp apart from one lady, who refuses to join WhatsApp so I have to remember to send her an email, which can be a bit annoying, particularly when she takes so long to respond.  It would be much easier if we were all on the same network." (OCS Newbie, Female, 52)*

There are also circumstances where consumers – young and old – have to join particular groups on a messaging app in order not to be miss out on information – e.g. sports groups, etc.  However, this is rarely an issue as the majority of people are already using the service

*"I wouldn't be part of several groups on WhatsApp if it isn't for my children, but it's fine because it's a lot more efficient than it was before."  (OCS Convert, Female, 43)*

Overall, the idea of being able to send messages between different OCS is currently not seen as particularly valuable.  Most consumers appear to like the separation of services, as this provides them with some sense of order and structure to managing their contacts and having multiple conversations.

There was little sense that consumers would be more likely to use a particular service if they could communicate with another service.  To some extent, this lack of interest is driven by the ubiquity of WhatsApp and the fact that virtually no one in this sample would be required to download this service in order to communicate because they already have it.  For the minority not using WhatsApp, primarily younger consumers, communicating within a single service rather than across services does not appear to be restrictive.

**End-to-End Connectivity:  Micro-businesses**

Business owners tend to divide their communications into two – promotions / sales or responding to a customer / client.

Some micro-businesses use social media platforms for advertising, sending out messages to all of the contacts / followers on that service.  They also send the same messages to different audiences on different services (e.g. an Instagram post also appears on their Facebook page).  To this end, these micro-businesses feel they already have the ability to communicate across services with different contact lists.

Some traditionalists have concerns that this could contravene data privacy laws, and they are obliged only to message customers that have opted in to receive communications

> *"If I understand this correctly, the idea is that I could send the same message to someone who follows me on Instagram as the person who has signed up for my newsletter on email.  Well I'm not sure that's a good idea." (Traditionalist, IFA, Male, 52)*

However, in terms of responding to an enquiry, some micro-businesses think the idea could be interesting.  Several OCS Enthusiasts noted that different clients have different preferences for different IM services, with some often using more than one service for the same purpose.  OCS Enthusiasts have to monitor incoming communications (such as WhatsApp, FB Messenger and Instagram), which can be time consuming and, potentially, confusing

> *"I have one client who sends me stuff on Instagram as well as WhatsApp, and sometimes it's difficult to keep up with the conversation, when you factor in all the other conversations going on.  I'd much prefer everyone used one platform so I can keep track – that's why email is still so good." (OCS Enthusiast, Fashion 25)*

*"We have a landline for incoming calls, I use my mobile all the time for calls, I use WhatsApp for regular clients and FB Messenger to communicate with new clients. It's a real mixed bag and difficult to stay on top of." (OCS Convert, Beauty Salon, 56).*

In addition to the added time and effort of monitoring different services, OCS Enthusiasts noted there are increasing numbers of times where one of their customers is not using a service that other customers are using. To this end, the idea of rationalising these different services into one 'portal' had some appeal

*"I'm not sure how you could do it, but being able to look at one app and see all the messages would be really helpful – it would save a lot of time and ensure I don't miss stuff." (OCS Enthusiast, Male, 46)*

## 6.1 Use of multiple services for the same task (multi-homing)

The majority of OCS Newbies and Converts make use of one or two OCS regularly - WhatsApp and/or FB Messenger – and there are clear distinctions in how they use these two services. In general, WhatsApp is the default network for day to day interaction with close friends and family, whereas FB Messenger is used for special interest groups or a wider, less intimate audience.

Whilst consumers are using similar functionality to communicate (sending text, images or video), the nature of the communication and the intended audience are often different. To this end, consumers do not perceive that that they are 'doubling up' in terms of activity, rather that they are using the platform of their choice to achieve their communication objectives

*"I use WhatsApp and Facebook in completely different ways. WhatsApp is every day messaging with family; Messenger is communicating with school groups and sometimes stuff I'm interested in buying." (OCS Newbie, Female, 52)*

Amongst the younger audiences – OCS Natives and Purists – the distinction between the platforms and services is even more nuanced as they use multiple services for similar functions. Similar to the OCS Newbies and Converts, these younger consumers are very clear about why they would choose to use different services for the same activity. The same principle applies - the choice of service is driven by the nature of the communication and the audience they wanted to reach

*"Our group of friends – just the 3 of us – have been known to have 3 different conversations on 3 different platforms at the same time. Each of these conversations is different – it might be a football chat on Twitter, something funny found on Instagram,*

*and a social gathering on Messenger. It makes sense to us because the content is different on each and it's easy to follow that way." (OCS Native, Male 21)*

## 6.2 Data Portability

Consumers appear generally unconcerned about moving their personal data beyond their contact lists. Most are used to being asked to import their contacts when installing a new application on their mobile device.

Content was also expected to be transferred over from an older device. Where there are problems with this (e.g. if a backup hadn't been done for a while so more recent messages are lost), this was felt to be the fault of the user (i.e. them) not the OCS, and they did not expect them to provide assistance in these circumstances.

Consumers do not appear to think that moving their message history or group lists from one service to another is particularly important. There is no sense that this feature would influence their decision to adopt and/or use one service over another.

The one exception is email. As communications on email tend to be professional / administrative, most consumers would like to port messages to a new email service.

**Data Portability: Micro-businesses**

Data transfer between OCS does not appear to be a consideration for micro-businesses, either. For these business owners, the idea of stopping one online service and wanting to port the data to new service was not a situation they envisage.

The one exception is email. For all these businesses, email is the fundamental service where important data must be stored and, potentially ported, if a new email service were to be adopted.

The micro-businesses that are making use of OCS are already data sharing across different services. Most are using Facebook and Instagram and are set up to post to both platforms automatically (i.e. if posting on Instagram, then the same message would be posted on Facebook). These businesses do not appear to be concerned about porting reply messages from an IM service, as they see these communications as more ephemeral in nature and not warranting porting.

## 6.3  Privacy and Security

Across the sample, participants did not spontaneously mention data privacy and/or security as considerations when adopting or using OCS.

When prompted about data security and storage, the vast majority are not aware of what data is stored, nor the security precautions provided by the OCS they are using. Moreover, these consumers do not appear to give much thought to how their data is used, although they are aware that it is used for advertising purposes.

Several of the younger consumers are aware that Facebook owns FB Messenger, Instagram and WhatsApp and there is an expectation that their data is used in some way to market products and services.  However the vast majority do not appear to understand in what ways their data is used for marketing purposes and, for the most part, these younger consumers did not appear to be too concerned

*"It's the price you pay for the way of living and being connected." (OCS Native, Female, 18)*

A majority of the Facebook users commented on the amount of advertising and the speed at which their comments / posts are turned into advertising. Notably, however, several commented that this was not always a negative and sometimes they had found the targeted advertising helpful

*"The ads are relentless on Facebook but to be honest I don't mind as I've found some of them quite useful when I'm looking for certain products.  It's a bit annoying to see the same ads after I've bought something though." (OCS Convert, Female, 37)*

Many of the older consumers were also aware of being targeted with advertising and, to some, this was a little unnerving, particularly when it appeared to be based on private conversations rather than a search on a social media platform

*"I had a conversation with my daughter about singing lessons the other day, and about 30 minutes later, an ad appeared on social media for auditions in the local performance.  It couldn't have been a coincidence and, honestly, it was quite helpful – but a bit alarming that I think we were being listened to" (OCS Convert, Female, 43)*

Only a few consumers appear to understand that the service is free to use in exchange for that service having access to their personal and communication data. Even amongst those who are aware of this, there is little sense that this might impact their usage of a service.  Overall, most feel that the benefits derived from using OCS far outweigh any potential issues around data privacy, as they understand them.  Notably, most were not aware of the sort of issues that might affect them as individuals.

When prompted, several consumers said they wanted to protect their privacy and personal data, but, when pressed for more details, almost all admitted that they had not really given this much thought

> *"I've got 2 kids, I work, I'm running around like a mad person most of the time, just trying to keep things going. I just use WhatsApp and I love it and it really makes things easier too. I really don't give my privacy a moment's thought." (OCS Convert, Female, 37).*

Most consumers appeared to delineate their privacy and security into what they could control themselves and 'other'. Under their control are privacy settings for their social media accounts and PIN access to their devices. Beyond this, consumers appeared to be at a loss how they might address protecting their personal data. On the one hand they felt they should be concerned (as this is the responsible thing to do); on the other, they did not feel that the data they shared on OCS was private or sensitive enough to be concerned about

> *"I just think that no one is really going to pay much attention to the rubbish we talk about. I can't think why anyone would be interested and I've got nothing to hide." (OCS Convert, Female, 42)*

Only a tiny minority of the sample had glanced at any terms and conditions of service when they first installed these services. For most, this information is seen as too long and complicated to read – they just want to get on and use the service.

However, when prompted, there is some distrust about the way this information is presented – several participants feel companies make information obtuse and long-winded so that no one reads it

> *"I've never read any of these terms, so it's not as if I'm overly concerned about what's in them. But now we're talking about it, it does make you wonder why they make them so long." (OCS Native, Male, 22)*

Overall, the desire to use the service appears to override any concerns that consumers might have about how their data is used. Most consumers in this sample are not sufficiently informed or concerned about data privacy for this to stop them using the service. To this end, almost everyone is willing to accept the terms of use without question.

To some extent this 'inertia' exists because consumers do not appear to see the risks associated with not reading information about how their data is handled as clearly as, for example, handing over financial details. Notably, several consumers admit that, even if they do not like how their data is used, it probably would make no difference as to whether they would use a service or not. The potential risks from not knowing

about how their data is used do not appear to be understood nor significant enough to impact service adoption.

On balance, and after much consideration, most consumers in the sample think that a few bullets explaining the basics of how their data is used would be helpful.  This would at least provide reassurance that some safeguards were in place and would raise awareness of the potential issues

> *"Now we've talked about it, I would like to know if my private details are being sold to a 3rd party.  You hear about all these scams, and they happen because they've managed to get hold your data somehow" (OCS Newbie, Female, 52)*

The information consumers want to see includes:

- What data they collect (and how)?
- How they store it and how long for?
- What they do with it, i.e. if it's sold, to whom and for what purpose?
- Options to opt out with consequences – for example, can't use service / can't use parts of service / might have to pay for using the service.

> *"I quite like the idea of being offered to pay for the service if I can say how my data can be used.  If it was £2 and that would guarantee my data wasn't shared with 3rd parties that I didn't know, then I might go for that."  (OCS Native, Male 27)*

## Privacy and Security: Micro-businesses

Information security is a key priority for almost all in the business sample, particularly those dealing with sensitive financial information.  These businesses, in particular, go to great lengths to ensure that their email service is secure.  Their email services are outsourced to specialists with dedicated servers and all the latest security features in place. They do not use email services that are freely available to the public, such as Gmail.

OCS Enthusiasts appear to be less concerned about privacy and security in relation to OCS in general.  They use email services such as Gmail and consider these services sufficiently secure for their needs.  Similar to consumers, those micro-businesses using services such as Gmail had not read the terms of use when signing up for the services.

Aside from email, there was little awareness or understanding of the potential privacy or security risks with OCS amongst the micro-business sample.  These businesses feel that the content they share via OCS is not of a sensitive nature and is not therefore a source of concern.  If sensitive details are to be shared, then they will revert to email.

# 7. End Users with Disabilities

## 7.1 Introduction

Our sample included end users with a range of disabilities, including:

- Mobility / dexterity issues (3):  from mild to severe – all used voice activation
- Sight impairment (3):  all were registered blind and used a combination of voice activation and screen readers
- Hearing impairment (3): A combination of expert lip-readers and a British Sign Language (BSL) user (the interview was conducted over the telephone using a SignLive interpreter[5]).

## 7.2 End users with sight impairment and dexterity issues

The introduction of the smartphone has had a profound impact on people with sight impairment and those with dexterity issues.  Mobile devices have built in voice activation that is regarded as indispensable and empowering.  This has allowed users to access the different communication options – traditional and OCS – on the device

*"It has been the difference between being independent and not – the iPhone is an absolute game changer for people like me who are unable to type, particularly on a small keyboard." (Dexterity impairment, Female, 57)*

Blind users also make use of screen readers to read content, browse the web, navigate applications, search contact lists, send messages, etc.  However, the ease by which blind users can navigate apps depends on the degree to which the application had been built with accessibility in mind

*"As a blind person, any access is a positive. If you think of an app as a building, and the user as a wheelchair, then if the building has ramps, then the user can navigate around the building.  If there are no ramps, then the user is stuck.  95% of apps have not bothered to put in the ramps." (Visually impaired, Male, 42)*

WhatsApp and Facebook are the two services that are used most regularly:

- WhatsApp is rated very highly for accessibility
- FB Messenger is largely accessible, although there had been problems in the past, particularly with photo / video attachments.

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[5] https://signlive.co.uk/

## 7.3  End users with hearing impairments

Our research indicates that the introduction of OCS has had a profound impact on the deaf community.  The features and functionality associated with Instant Messaging, particularly group chat and open / read notifications, have made a big difference

*"I can now tell whether someone has read my message – this is so important for me, as I can't just pick up the phone to confirm something.  Also the immediacy has been critical – I don't have to wait for someone to respond to an email." (Hearing impaired, Male, 42)*

For BSL users, video calling has opened up the possibility to communicate with other BSL users that was not previously possible

*"I can't emphasis enough what a massive impact this has had on the deaf community – we can now operate pretty much independently and, as the infrastructure gets better and better out of the home, so we are more and more mobile." (Hearing impaired, Male, 46)*

## 7.4  Limitations and Challenges

Overall, today's technology combined with compliance with accessibility guidelines[6] means that mainstream communication services are largely accessible for end users with dexterity, sight and hearing impairments.

Blind users would like to see app developers be more mindful of the need to build in accessibility at the outset, as it is almost always too costly to re-engineer an app's accessibility once it has been built.

Deaf users tend to struggle with the large number of organisations that do not have adequate means to communicate confidentially, securely & non verbally

*"The bank won't accept it is me they are talking to just by text and when we tried video, the lighting was so poor I couldn't lip read." (Hearing impaired)*

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[6] https://www.w3.org/standards/webdesign/accessibility

# 8. APPENDIX

## 8.1 Sample

A total sample of 56 consumers, broken down as follows

- England (28); Wales (10); Scotland (10); N Ireland (8)
- Urban (n=24);  suburban (12);  semi-rural (10);  rural (n=10)
- Age / lifestage / social grade:

|  |  | ABC1 | C2DE |
| --- | --- | --- | --- |
| Life-stage | Age-range | N | n |
| Young people – students | 16-18 | 5 | 4 |
| Young people – working | 19-21 | 4 | 4 |
| 'Pre-family' / Young adults | c. 22-29 | 5 | 4 |
| Young family | c. 30-40 | 4 | 4 |
| Older family | c. 41-55 | 6 | 7 |
| Empty nesters | c. 56-65 | 5 | 4 |
|  | Totals: | 29 | 27 |

Amongst the consumer sample, we conducted 1 x face-to-face mini group with 5 students (16-18 year olds).  The remaining interviews were conducted remotely, as follows:

- 3 x family interviews (a mix of parents and teenage children)
- 14 x paired depths
- 10 x individual interviews

In addition, we conducted individual interviews remotely with

- 9 accessibility users – deaf (3), blind (3), mobility / dexterity (3)
- 6 micro-business owners

All respondents recruited to be mobile phone owners and to use at least one online communications service regularly (i.e. in the last week).

## 8.2 A note on interpretation, analysis and reporting of qualitative data

It is important to note that the findings of this report are not statistically representative of the views of the general public. Qualitative research is designed to be illustrative, detailed and exploratory and provides insight into the perceptions, feelings and behaviours of people rather than conclusions drawn from a robust, quantifiably valid sample.

## 8.3 Discussion Guide

| Key topics | Notes on our approach |
|---|---|
| **1. Our introduction** (2 mins) | |
| **2. Participant introductions** (3 mins): first name, what they do, interests, etc. | |
| **3. Develop discussion around their communication devices** (5 mins)<br><br>Focus on all devices and methods of communication (mobile, fixed landline, laptop / tablet, desktop, gaming consoles, virtual assistants, watches, etc.):<br>• General preferences / patterns of use<br>• Likes / dislikes / pain points<br><br>How preferences / patterns / likes / dislikes, etc. vary / change elsewhere: On the move, in a social setting / gathering | Warm-up. Introducing the notion of how location / setting can shape preferences and patterns of use.<br><br>Also introducing the idea that preferences will vary in relation to who they are contacting and what the purpose is for contacting them. |
| **4. Focus on devices and methods of communicating – traditional and OTT services** (10 mins)<br><br>**Moderator shows cards** one at a time, and ask participants for:<br>• Their first, immediate associations<br>• Whether used – why? Why not? What stops you? Who do they think does use it (if not them?)<br>• When / when not used – why?<br>• Where / where not used – why?<br>• Who / what used for?<br>• Personal relevance / value / importance<br><br>**Conduct Subtraction Exercise:** | Moderator will show each of these in random order on A4. Moderator will run the exercise using their own cards.<br>• Making network calls on your mobile phone<br>• Sending texts (SMS)<br>• Sending email<br>• Instant messaging (WhatsApp, Messenger, iMessage, Snapchat<br>• Making OTT calls (WhatsApp, Messenger, Skype)<br>• Making OTT video calls (Facetime, Skype)<br>• In-game chat<br>• Letters |

| | |
|---|---|
| **Explain:** If I were to take one of these away, meaning that you could never use it again, which one would you choose?<br><br>**Explore reasoning for their choice / check:**<br>• Why they feel able to sacrifice it? Why they might find it difficult to sacrifice?<br>• What does this service have (in terms of functions / features) that they can't do without (e.g. speed, convenience, reliability, security, privacy, etc.)<br><br>**REPEAT the exercise above**, for each successive card, until exercise is complete (e.g. 2-3 services are left and respondent is unable to choose). | • Landline<br><br>The focus and aim here is to explore what is **'essential'** to people, so what they actually need, as opposed to what they desire.<br><br>For video: screen share – moderator is instructed by respondent<br><br>For telephone: conduct the exercise verbally |
| **5. Online Communication Services only** (15 mins)<br><br>Explain we want to focus on online services now and to really understand the differences between these different services. Before we start, can I just understand what you think we mean when we say online communication services.<br><br>Moderator runs through each service quickly – to make sure everyone is familiar / understands the service. (Discard any services that are not used by all of the participants)<br><br>Then conduct **sorting exercises**: Hand out the cards asking them to sort the cards into different piles, using whatever 'rules' make sense to them<br><br>**For each pile**, explore the dimension used, i.e. what do we call the different piles?  What is it that makes 'this' pile different to 'this' one?<br><br>**Encourage participants to repeat the exercise as many times as possible,** to generate dimensions of difference in terms of their usage, purpose, feelings when using, use in different contexts / locations, and what **drives** the preference.<br><br>If really stuck, prompt with one or two examples, e.g. group vs 1-1; suitable for some / not others; informal vs formal, etc. | Use A5 cards:<br>• WhatsApp<br>• Snapchat<br>• FB Messenger<br>• Instagram<br>• iMessage<br>• Facetime<br>• Skype<br>• Signal<br>• Telegram<br>• WeChat<br>• Google Chat<br>• KIK, Line, Viber<br><br>Each respondents will get their own set of cards that only they will use (and discard at the end of the group)<br><br>For online: screen share the cards – moderator follows respondents instructions<br><br>for telephone, send the cards in advance via email / IM – conduct the exercise  verbally |
| **6. Repeat section 4 for Online Comms Services only** (15 mins)<br><br>Conduct **subtraction exercise.**<br><br>Listen for key differences between these services:<br><br>Explore if there are any good things by having / not having these apps?<br><br>How would they compensate if this app is no longer available? | Subtraction will pull out the key differences as well as those element that respondents value / not value |

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|---|---|
| Also, explore any mentions of change – in how they use these apps – is this to do with the app / environment / technology | |
| **7. Online Comms Services review  (5 mins)**<br><br>If not already covered, explain that we've looked at the detail of these services individually,, now let's look at them as a group<br><br>• What do they think of these services generally?<br><br>• Are things better or worse than they are?<br><br>• Do they feel that they can access what they want?   Is the choice out there limited, about right, too much?<br><br>• It seems you / some of you / use multiple services simultaneously, including different services on different devices?<br><br>Why is that?   Explore this in detail and only prompt if necessary, e.g. different features; can't contact all my contact with one service; preference for different service for some people;  mirroring other people; security; profiling | This section pulls them out of the detail and into general attitudes.   This is the best place to explore multihoming / use of different services simultaneously – if it has not already been covered. |
| **8. Explore challenges / limitations of different online services - Unprompted  (10 mins)**<br><br>**Explain:** We now want to think of potential issues / limitations with the services that we've looked at.  When thinking about these issues, include your friends and family, as well.<br><br>• Can they think of any negative aspects of these online services?<br><br>**Refer to previous discussion – pick up on any comments about having issues / pain points.   Prompt, if necessary . . .**<br><br>• Can they think of circumstances where they or their friends have had problems because of these services?  (e.g. antisocial behavior, etc)<br><br>• Are there times / scenarios when these services can be a disadvantage?<br><br>• Are there any issues they can think of that they find frustrating / limiting in terms of how they use these apps?<br><br>• Are there activities they cannot do that they want to?<br><br>• Do they have difficulty accessing different platforms? | This section is to open up the discussion about potential limitations / challenges.<br><br>We also want to understand if there are any issues relating to 'harm' – if there are any negative issues with these services |

- Do they have issues with any particular platform? In what way?

- Have they or their friends found themselves unable to do what they want in the past?

- Any other negative aspects of these services?

| | |
|---|---|
| • **Explore challenges / limitations of different online services – in detail (25 mins)**<br><br>**Explain:**   Now, we'd like to look at some specific issues and get their views.  Moderator chooses an issue – random order.<br><br>Present the issue on A4 with a brief explanation of the issue / example (see stimulus material below).  For each issue,<br><br>• Do they understand the issue?<br><br>• Is this something they are familiar with?<br><br>• Has this ever been something they have thought about? Why / in what circumstances?<br><br>**End-to-End Connectivity:**<br><br>• Do they use multiple services to contact different groups?<br><br>• How do they feel about this?  Would they prefer to be able to contact everyone with one service?<br><br>• Can they contact everyone they want to contact on online communication services?<br><br>• Or would they struggle to reach certain people without using traditional communication methods? If so- who are these people?<br><br>• Or do they value separation between services in some way?<br><br>• Would they be more likely to use X service if they could communicate with Y service?<br><br>**Data Portability:**<br><br>• Have they ever moved or wanted to move any of their personal details – contact lists / friends, message history, contact group lists, etc – from one service to another?<br><br>• Is this important / not important?  Why?<br><br>• Would they be more likely to use X service if they could transfer their data from Y service? | Our aim is to explore consumer awareness, interest and understanding of these issues – in detail.  In particular, to understand whether there are differences between traditional and online services.<br><br>See stimulus at end for A4 set of cards with  explanations |

- Does this have any effect on which supplier they use?  To what extent does this stop them moving to a new supplier?

**Service Information:**

- Do they receive information from providers before using a service?

- Do they ever open / read this information?  Why, why not?

- If not, why not? If so, is the information accessible and clear? Would they prefer to go elsewhere for this information?

- What sort of information is included do they think?  Does that include contractual terms and conditions?

- Do they receive / look at any information about payments / charges for using the service? Any information about privacy or security risks?

- If not, do they look for this information elsewhere, e.g., on a website?  Do they read the information provided?

**Privacy**

- When we think about privacy, what comes to mind?

- What precautions, if any, do they currently take?

- When you think about the examples given – eg location based services – does this seem a good exchange – information about you in return for a service?  What about the promotions example?

- Do they understand the 'price' they are paying, (i.e. personal data, exposure to targeted advertising), for 'zero-price' services?

- Do they understand what data online communication services are gathering about them?

- Do they understand how their data is being used or monetised?  Do consumers feel like they have any choice in giving up their data?

- Is privacy a relevant consideration when choosing whether or not to adopt a particular service?

**Security**

- What precautions do they take as far as security goes?  What does security mean?

- Are they concerned about the security of their data when using online communication services?

| | |
|---|---|
| • Is security a relevant consideration when choosing whether or not to adopt a particular service?<br><br>• Do they feel like they can take precautionary measures or protect themselves from privacy/security risks? | |
| **Final Review**<br><br>Thinking back over the discussion tonight, have their views changed at all in terms of online communication services?<br><br>Are there issues that they struggle with / are other issues or problems using online communication services that have not been covered?<br><br>Lastly, do you think there needs to be regulation on these services? In what way?<br><br>**Thank and close** | |

**STIMULUS**

**Section 4:  A4 card**

- Making network calls on your mobile phone
- Sending texts (SMS)
- Sending email
- Instant messaging (WhatsApp, Messenger, iMessage, Snapchat
- Making OTT calls  (WhatsApp, Messenger, Skype)
- Making OTT video calls (Facetime, Skype)
- In-game chat
- Letters
- Landline

**Section 5:  A4 card**

- WhatsApp
- Snapchat
- FB Messenger
- Instagram
- iMessage
- Facetime
- Skype
- Signal
- Telegram
- WeChat
- Google Chat
- KIK, Line, Viber

**Possible Prompts (sorting exercise)**

- Convenient vs inaccessible
- High quality vs poor / limited
- Visual / expressive vs verbal / textual
- Unique versus replaceable
- Free versus costly
- Compatible vs incompatible with other's devices / data
- Suitability for particular purposes / people / types of conversation
- Fun / informal vs formal / authoritative
- Reliable vs insecure / unpredictable
- Peers vs non-peers
- Business vs friends
- Annoying interruption vs engaging chats
- Trustworthy vs untrustworthy
- Safe vs not safe
- Tested vs not tested

**Section 9:  To be read out**

**Compatibility:  Using the same service on any device.**

For example, most online services will be compatible with smartphones, but not all of them will be compatible with laptops/ computers.

**End-to-End Connectivity:  Reach anyone with my preferred service**

Traditional telephone services allow you to make calls to any other telephone – landline or mobile.  Or if you have an online email account like Gmail or Hotmail you can use this to send and receive emails from any other email account. So you can send an email from a Gmail account to a BT account.  If you have a Skype account you can use this to make calls to any phone number (if you pay a fee).

If you have a WhatsApp account you can only send messages to other WhatsApp users; if you have Facebook Messenger you can only send messages to other Facebook messenger accounts.

**Data Portability:  being able to move my chats and contacts to a new service**

When you sign up and use an online communications service that service will typically collect and hold some data about you – for example, your name, log-in details, contact lists, address books, frequent contacts, message history etc.

Online service typically hold more data about than a traditional telephone service would (with a traditional telephone service, your call records and contacts list will typically be stored on your handset, rather than by the network).

If you decided that you wanted to use a different service at present in most cases it is not possible, or very difficult, to transfer all of this data to the new service. For example if you wanted to stop using WhatsApp and use Facebook messenger instead you would be starting from scratch, as a new user.

**Privacy & Security:**

Communications services can collect and store a large amount of personal information – the content of our text messages, photos, videos, time spent on messaging services, location data, in some cases 'search' history.

This information can be used in various ways.  For example:

You decide to add a music subscription onto your mobile contract. It includes new terms and conditions. You accept the terms and conditions that include receiving messages and adverts from not just the mobile operator, but also 3rd parties. You then receive personalised text messages about concerts tickets near your home, underground gigs, new releases, and also special deals from retailers like amazon, HMV or similar.

Recently, you have been using my mobile phone to look at a lot of websites that are related to travel and holidays. You now notice that there seem to be more travel related adverts when you are using the mobile internet – even on non-travel related websites.