Digital Consumer's Online Trends and Risks

Modern consumers live a full-scale digital life. Their virtual assets like personal photos and videos, work documents, passwords to access social networking and online banking credentials are of the utmost importance and users are very concerned about safety of such data. We at Kaspersky Lab maintain and expand the leading expertise in IT security risks, malware and vulnerabilities in order to protect consumers in the best possible way. To better understand our customers, their computer and Internet usage patterns and attitudes towards security and the safety of data, we initiated a study into this valuable information.

The research was performed in partnership with Harris Interactive. More than 8000 consumers from the USA, Western Europe and Russia took part in the survey. Slightly more than a half of them were not only active users of Internet and modern technologies, but also gave advice to their friends and relatives about technology matters. At the same time, 32% of the users surveyed try to stick with their existing devices for as long as possible. Only 12% of users said that they are somewhat scared of new technology. Overall, such a diverse audience allowed us to better understand the attitudes of different types of consumers, both technology enthusiasts and relatively conservative people. Here is what we found.
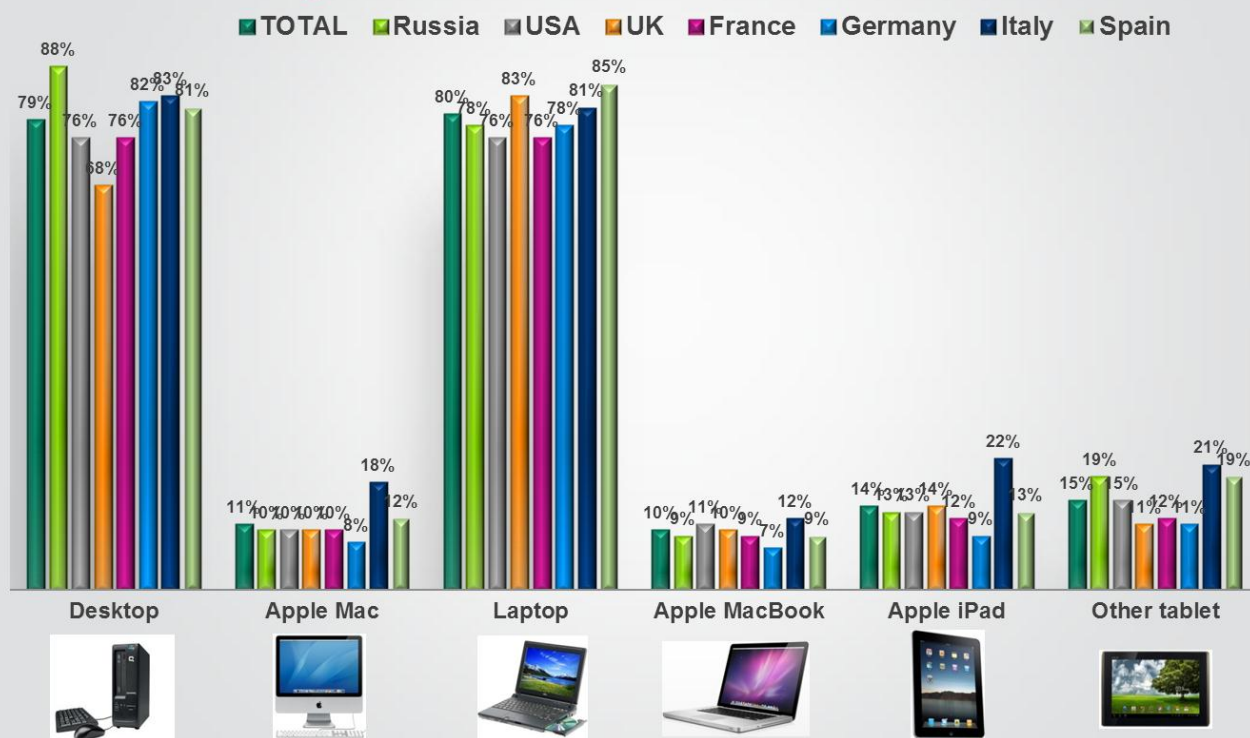
Main findings

The majority of consumers worldwide nowadays use several devices to go online, exchange e-mails with friends and colleagues, and store their personal and work data. The most popular devices are traditional computers, both desktops and laptops, with a noticable portion of Apple computers. Mobile devices like smartphones and tablets are on the rise, and they are used heavily for all types of activities. At the same time the level of protection for Macs, smartphones and tablets is noticeably poor. This is an alarming fact, because such devices sometimes store the most sensitive data.

Consumers mostly understand that security threats in the computer environment and especially online do exist, and tend to be cautious when using online services like social media. Still, the level of knowledge of particular issues is alarmingly low. The most popular way to go online using a mobile device is a public Wi-Fi hotspot, which puts users' data into direct danger. A significant share of users does not really care about the safety of online banking transactions. But when people think about protecting their devices, they want to enjoy the highest level of security. At the same time most people prefer to use free antivirus software with limited functionality and a mediocre level of security, rather than purchase a fully-featured commercial solution.

Usage of devices: desktops and laptops are still the most widely used

Household devices for personal use – at least 1 *(% yes)*
➢ *Slightly more people now own laptops rather than desktops, while Italians own the widest range of devices*

Legend: ■ TOTAL ■ Russia ■ USA ■ UK ■ France ■ Germany ■ Italy ■ Spain

Desktop: 79%, 88%, 76%, 68%, 76%, 82%, 83%, 81%
Apple Mac: 11%, 10%, 10%, 10%, 10%, 8%, 18%, 12%
Laptop: 80%, 78%, 76%, 83%, 76%, 78%, 81%, 85%
Apple MacBook: 10%, 9%, 11%, 10%, 9%, 7%, 12%, 9%
Apple iPad: 14%, 13%, 13%, 14%, 12%, 9%, 22%, 13%
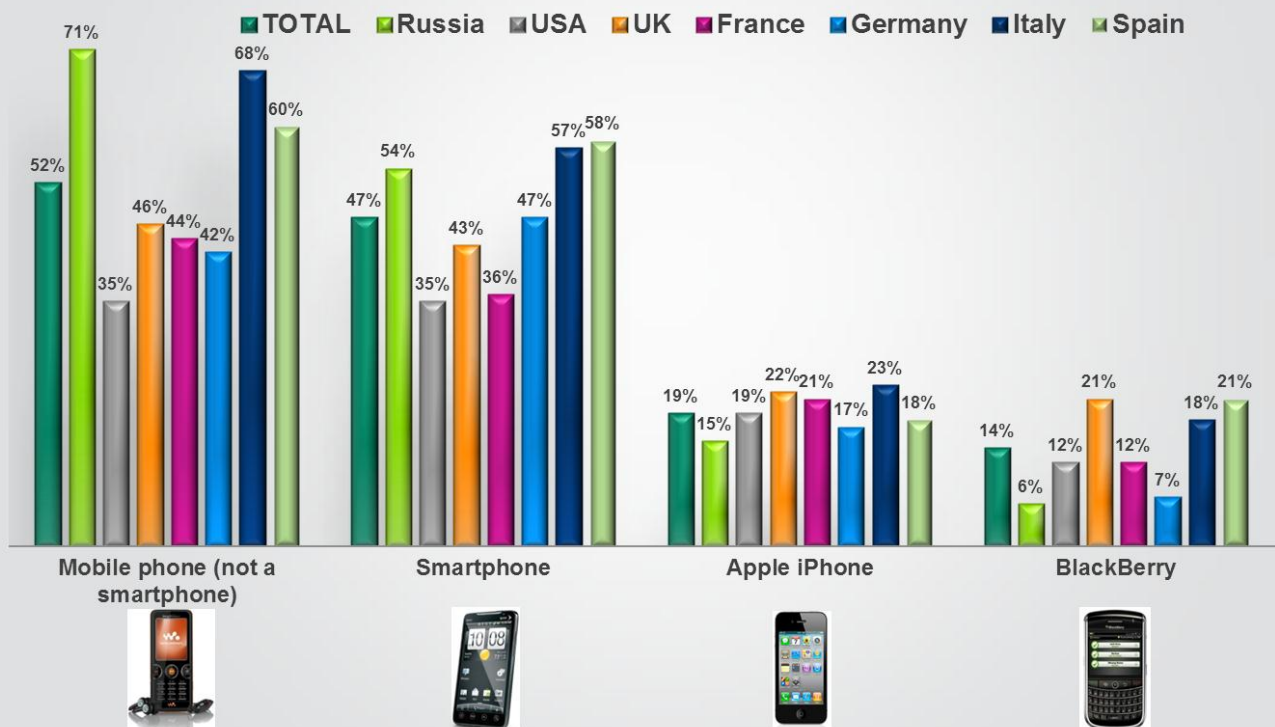**Other tablet:** 15%, 19%, 15%, 11%, 12%, 11%, 21%, 19%

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Desktops and laptops (excluding those produced by Apple) are still the most widely used computer devices. The share of desktop and mobile computers is almost equal, while the share of devices from Apple is quite significant: 11% for desktop Macs, 10% for Macbooks and 14% for iPads. When it comes to tablets only, the share of the Apple iPad is slightly lower than the share for similar devices from other vendors. In general, 14% of consumers worldwide own an iPad and 15% own at least one other tablet (including those based on the Android platform).

Modern digital devices are used heavily: 19% of consumers surveyed own two or more desktops for their personal use; 25% use two or more mobile laptops.

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Household devices for personal use – at least 1 *(% yes)*

> *Smartphones are becoming the most popular type of mobile phone – but mobile uptake in France and the USA is below average*

Legend: ■ TOTAL ■ Russia ■ USA ■ UK ■ France ■ Germany ■ Italy ■ Spain

Mobile phone (not a smartphone)
- 52%
- 71%
- 35%
- 46%
- 44%
- 42%
- 68%
- 60%

Smartphone
- 47%
- 54%
- 35%
- 43%
- 36%
- 47%
- 57%
- 58%

Apple iPhone
- 19%
- 15%
- 19%
- 22%
- 21%
- 17%
- 23%
- 18%

BlackBerry
- 14%
- 6%
- 12%
- 21%
- 12%
- 7%
- 18%
- 21%

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The usage of mobile devices is of course not limited to tablets. Mobile phones are still the most widely used (52% of consumers own them), although the numbers for smartphones are very close (47%). Since most consumers own at least one mobile or desktop computing device, it is important to understand, what data is stored on them. Let's find out.

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Data stored on devices – By Device

➤ *Computers, with their larger storage capacity, hold the widest range of data. Tablets are widely used as e-book readers*

Data stored on device	All Devices	All Computers	All Tablets	All Mobiles	Online data storage
Personal email messages	46%	59%	33%	33%	16%
Photos/Videos/Music created by you	41%	51%	30%	33%	20%
Files for personal use (documents, spreadsheets etc)	39%	54%	26%	16%	21%
Photos/Videos/Music created by other people	35%	43%	27%	26%	19%
Address book/phone contacts	35%	33%	28%	50%	16%
Files for work use (documents, spreadsheets etc)	30%	41%	20%	13%	20%
Work email messages	27%	33%	20%	20%	14%
Passwords, account details	25%	33%	18%	17%	12%
Coursework, study materials	23%	31%	18%	10%	15%
Banking details	23%	31%	15%	12%	11%
E-books	20%	23%	35%	16%	13%
None of these	16%	13%	14%	17%	28%

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Although the main data storage facility for users is a computer, other devices are widely used to store important information as well, including tablets and smartphones. Given the fact that mobile devices are generally less protected from unauthorized access, this is an alarming fact. Therefore, the most popular types of data stored on smartphones and mobile phones, such as phone contacts, personal and work e-mails, personal photos and videos, documents for personal and work use, are particularly in danger. Another notable example of highly sensitive data is banking details: 31% of consumers store them on computers, 15% on tablets and 12% on smartphones and mobile phones. Data is more frequently stored on devices, rather than online data storage or cloud services. Even so, at least one fifth of consumers surveyed use a cloud for personal and work documents as well as photos and videos. But what do consumers themselves consider to be the most valuable data?

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Data that would cause most extensive suffering

➤ *However, users believe that their banking details and passwords should be the top security priority*
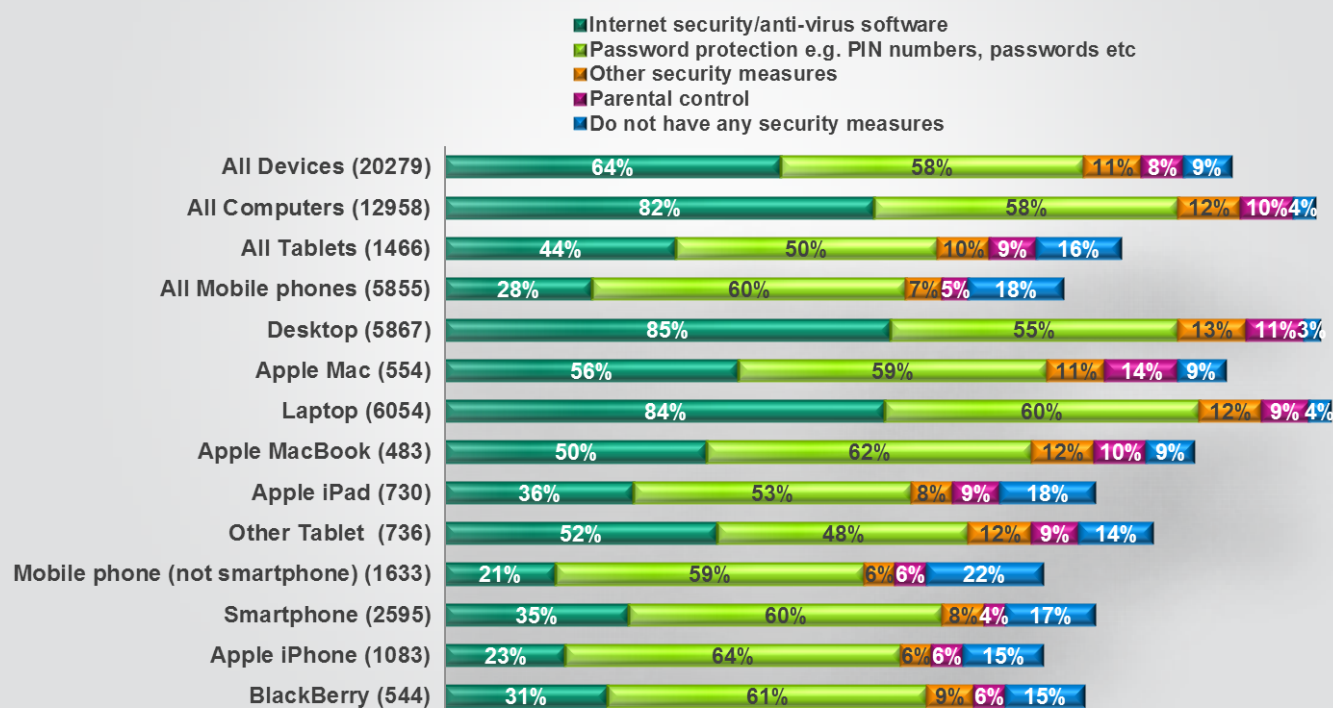
Data	TOTAL	Russia	USA	UK	France	Germany	Italy	Spain
Banking details	60%	55%	68%	68%	62%	57%	47%	60%
Passwords, account details	58%	64%	66%	63%	50%	55%	51%	54%
Personal email messages	37%	29%	32%	39%	44%	39%	41%	34%
Files for personal use (documents, spreadsheets etc)	28%	22%	32%	25%	22%	35%	30%	29%
Address book/phone contacts	25%	32%	25%	28%	26%	19%	24%	24%
Photos/Videos/Music created by you	25%	21%	19%	23%	30%	24%	28%	30%
Files for work use (documents, spreadsheets etc)	18%	22%	14%	12%	15%	22%	24%	19%
Software installed (on devices)	14%	17%	15%	11%	14%	17%	13%	11%
Work email messages	13%	15%	10%	10%	14%	14%	18%	12%
Photos/Videos/Music created by others	10%	9%	11%	9%	13%	7%	11%	14%
Coursework, study materials	7%	8%	5%	8%	5%	8%	8%	9%
E-books	4%	5%	3%	3%	4%	3%	5%	4%

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Banking details and a wide range of login credentials are considered to have the most impact on user well-being if they are lost or stolen. Almost two thirds of users consider this type of information to be the most sensitive. Following them are e-mail messages, personal documents, address book and personal photos and videos. Work files and e-mail messages, if lost, would certainly harm the company, but consumers do not value this data so highly. How do users protect this valuable information? We already know that a significant number of consumers store the most crucial data, such as banking details, on their smartphones and tablets. Given the frequency of usage of security suites and the growth of threats for mobile devices, we can conclude that **the most sensitive data is frequently stored on devices with the worst protection.**

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Security measures users take

Security measures

➢*Most have Internet security for desktops and laptops, but this is far less likely to be the case on tablets and mobiles*
➢*Apple users are far more reliant on their device's in-built protection*

Legend:
- ■ Internet security/anti-virus software
- ■ Password protection e.g. PIN numbers, passwords etc
- ■ Other security measures
- ■ Parental control
- ■ Do not have any security measures

Device	Internet security/anti-virus software	Password protection	Other security measures	Parental control	Do not have any security measures
All Devices (20279)	64%	58%	11%	8%	9%
All Computers (12958)	82%	58%	12%	10%	4%
All Tablets (1466)	44%	50%	10%	9%	16%
All Mobile phones (5855)	28%	60%	7%	5%	18%
Desktop (5867)	85%	55%	13%	11%	3%
Apple Mac (554)	56%	59%	11%	14%	9%
Laptop (6054)	84%	60%	12%	9%	4%
Apple MacBook (483)	50%	62%	12%	10%	9%
Apple iPad (730)	36%	53%	8%	9%	18%
Other Tablet (736)	52%	48%	12%	9%	14%
Mobile phone (not smartphone) (1633)	21%	59%	6%	6%	22%
Smartphone (2595)	35%	60%	8%	4%	17%
Apple iPhone (1083)	23%	64%	6%	6%	15%
BlackBerry (544)	31%	61%	9%	6%	15%

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The most widely used feature to protect users' personal assets is password protection, although, in most cases, this is not enough. Security software is used by 85% of desktop and 84% of laptop owners, leaving about one sixth of computer users completely unprotected from modern threats. For other devices security software is used even less frequently. Only half of those who own Apple laptops install security software on their MacBook. The same applies to tablets, and only 35% of those who own a smartphone protect it with a security suite.

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5 most worrying Internet security problems
➢ *Most consumers worry about financial info being intercepted, but in Russia virus-ridden attachments are the biggest concern*

Experience	TOTAL	Russia	USA	UK	France	Germany	Italy	Spain
My financial information being intercepted when banking or shopping online	40%	30%	44%	45%	47%	40%	38%	37%
Computer being infected by a virus after opening an e-mail attachment	34%	32%	37%	35%	36%	36%	32%	29%
Someone accessing personal information stored on my device without my permission	30%	27%	30%	31%	30%	34%	30%	32%
Installing an application which gains control of my device sharing my location/private information	27%	24%	28%	32%	26%	28%	25%	29%
Someone accessing my e-mail account without my permission	26%	25%	24%	23%	28%	28%	29%	29%
Entering personal/financial details on a suspicious web page	25%	27%	22%	25%	22%	26%	24%	28%
Unwanted software being installed on my computer when downloading music, software, videos etc	24%	21%	28%	27%	24%	29%	18%	19%
My device (laptop, smartphone, tablet etc) being lost or stolen	23%	20%	20%	21%	29%	21%	23%	28%

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When asked about their top security concerns, users once again regard the loss of financial information as the most dangerous threat. 34% feel concerned about computer infection as a result of opening an e-mail attachment. This suggests that many consumers are not really aware of up-to-date computer threats, since this 'old-school' form of infection is no longer the most commonplace. The next most common concerns are related to accessing personal information without permission, which is especially relevant for mobile devices.

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The single biggest Internet security worry

➢*When asked for the biggest problem, financial security is by far the biggest headache, especially in France*

Experience	TOTAL	Russia	USA	UK	France	Germany	Italy	Spain
My financial information being intercepted when banking or shopping online	21%	11%	23%	24%	30%	20%	21%	20%
My children being abused/groomed/stalked online (e.g. in chat rooms, on Facebook) *(NB: asked only of those with children in household)*	10%	5%	14%	17%	12%	6%	6%	14%
My device (laptop, smartphone, tablet etc.) being lost or stolen	7%	9%	6%	7%	8%	6%	6%	10%
Someone accessing personal information stored on my device without my permission	7%	7%	7%	7%	6%	10%	7%	8%
Computer being infected by a virus after opening an e-mail attachment	7%	7%	10%	7%	7%	8%	7%	3%
Installing an application which gains control of my device sharing my location/private information	6%	5%	6%	7%	5%	6%	6%	7%
My device being damaged	5%	4%	5%	5%	6%	5%	4%	5%
My children seeing inappropriate content on websites *(NB: asked only of those with children in household)*	5%	4%	3%	7%	6%	4%	6%	6%

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When consumers are asked to choose one security problem that concerns them most, we see a slightly different picture. Loss of financial data is still the most popular, but second place goes to parents who worry about their kids' experience on the Internet. In third place comes the fear of a mobile device being lost or stolen.

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Security problems experienced

Experience of Internet security problems
➢ *Spam is not a big concern for consumers, but it is a problem they experience regularly. Russian users face the widest range of problems*
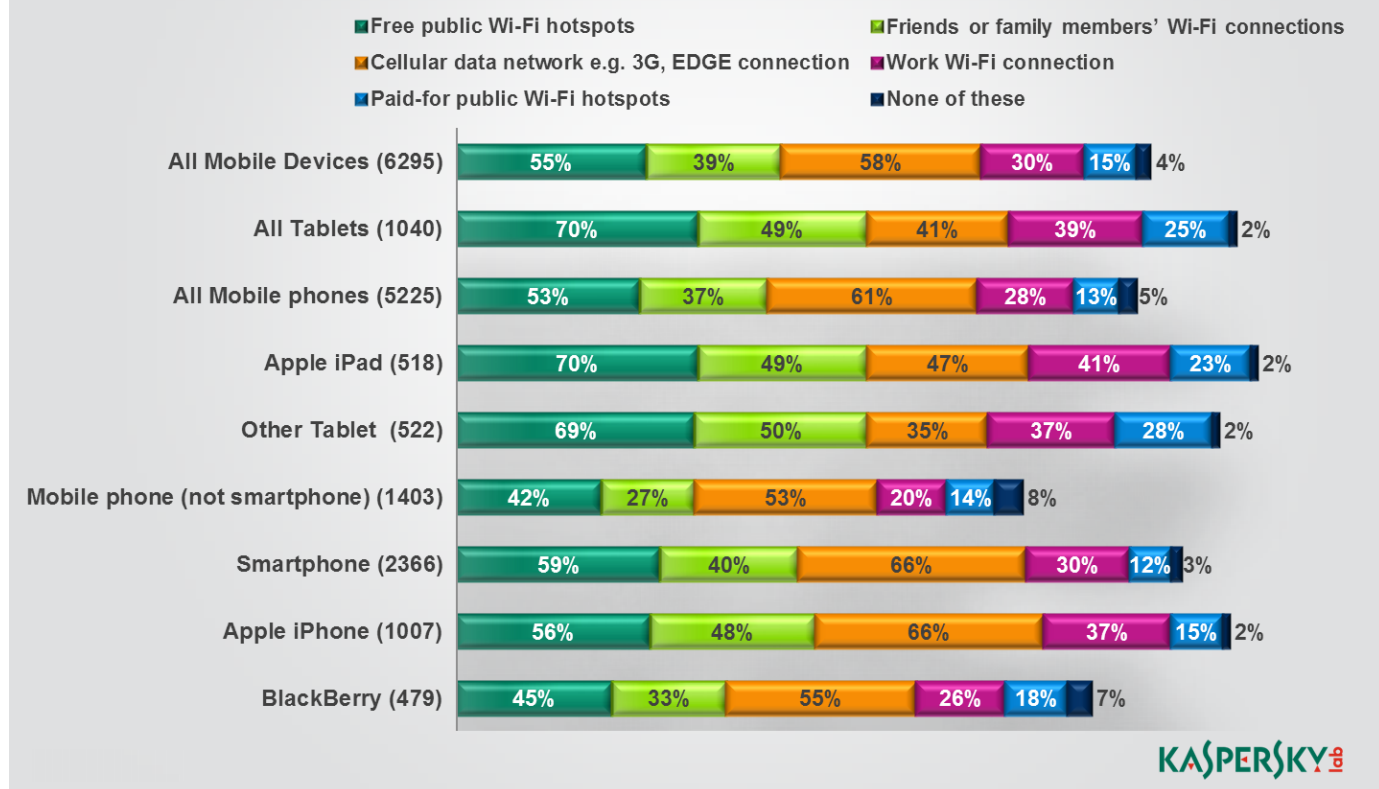
Experience	TOTAL	Russia	USA	UK	France	Germany	Italy	*Spain*
Mailbox full of spam messages	31%	37%	39%	34%	20%	24%	26%	36%
Receiving anonymous/unsolicited email or social network messages with suspicious attachments/links	27%	34%	34%	31%	23%	17%	23%	27%
Pop-ups interfering with how I use the Internet	26%	52%	30%	27%	19%	11%	18%	27%
Browser pop-up telling that my device is infected and recommends buying a special (fake) anti-virus software	24%	48%	34%	28%	14%	10%	13%	21%
Device operating poorly or not operating at all because of viruses	24%	41%	29%	22%	14%	19%	20%	22%
Uninvited inappropriate websites automatically displayed	23%	46%	21%	18%	18%	15%	20%	25%
Receiving an e-mail on behalf of a bank/social network/other website asking me to send a password/other details	23%	15%	30%	34%	24%	15%	22%	20%

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And what are the problems that users deal with in real life? The most frequent problem is having a mailbox full of spam. That is not a surprise, taking into account that in March 2012, for example, 75% of world e-mail traffic was spam. Suspicious messages in social networks or e-mail were received by 27% of users worldwide. Cybercrime connected with distributing fake antivirus software has proved to be very widespread, with slightly less than a quarter of users dealing with such incidents. 24% of consumers did experience computer problems because of malicious apps and 23% have at least once seen phishing messages, trying to steal their banking, social network or other credentials.

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Types of Internet connection used for mobile devices

■ Free public Wi-Fi hotspots ■ Friends or family members' Wi-Fi connections
■ Cellular data network e.g. 3G, EDGE connection ■ Work Wi-Fi connection
■ Paid-for public Wi-Fi hotspots ■ None of these

Device	Free public Wi-Fi hotspots	Friends or family members' Wi-Fi connections	Cellular data network e.g. 3G, EDGE connection	Work Wi-Fi connection	Paid-for public Wi-Fi hotspots	None of these
All Mobile Devices (6295)	55%	39%	58%	30%	15%	4%
All Tablets (1040)	70%	49%	41%	39%	25%	2%
All Mobile phones (5225)	53%	37%	61%	28%	13%	5%
Apple iPad (518)	70%	49%	47%	41%	23%	2%
Other Tablet (522)	69%	50%	35%	37%	28%	2%
Mobile phone (not smartphone) (1403)	42%	27%	53%	20%	14%	8%
Smartphone (2366)	59%	40%	66%	30%	12%	3%
Apple iPhone (1007)	56%	48%	66%	37%	15%	2%
BlackBerry (479)	45%	33%	55%	26%	18%	7%

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The alarming fact is that, despite this tendency, 70% of tablet owners and 53% of smartphone/mobile phone users use free public Wi-Fi hotspots, making this way to go online the most popular. The well-known security problems associated with this type of connection make mobile devices even more vulnerable, especially when most of them are not protected by security software. Since data sent through public Wi-Fi can be easily intercepted, most mobile device users are in real danger. Another surprising outcome of the survey is that even though tablets are mobile devices, they are mostly used to connect at home.

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Internet activities – by Device

➤ *Computers are still used for a wider range of activities covering communication (e.g. e-mail), entertainment, shopping and banking*

Internet activities	All Devices	All Computers	All Tablets	All Mobiles
E-Mailing	70%	79%	52%	53%
Social media	56%	61%	46%	47%
Watching online videos	52%	62%	42%	32%
Downloading free software	49%	55%	41%	39%
Shopping	47%	63%	30%	16%
Listening to music/radio	47%	51%	34%	44%
Banking	44%	57%	23%	19%
Instant messaging	44%	45%	30%	45%
Uploading photos music, videos etc	36%	43%	26%	25%
Talking to other people using VoIP	32%	39%	23%	19%

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Social networking is the second most popular online activity after e-mail exchange, used by 56% of users worldwide. Computers (desktop and laptop) are still the most popular devices for accessing social networks, but tablets and mobile phones are closing the gap. Meanwhile, people tend to use mobile devices for instant messaging as frequently as traditional computers.

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Attitudes to social networking
➢*Many consumers see danger on social networks – and Germans are the most concerned*

Attitudes to social networking	TOTAL	Russia	USA	UK	France	Germany	Italy	Spain
I would never click on links sent via social networks from an unknown sender	68%	56%	78%	77%	73%	68%	62%	66%
I would never add people I don't know to my social networking sites	63%	48%	71%	70%	72%	66%	52%	62%
I would never put personal information on social networking sites	56%	38%	61%	62%	64%	60%	48%	60%
Social networking sites carry many threats	55%	48%	61%	58%	69%	64%	36%	50%
Cyber bullying is a problem on social networking sites	53%	30%	62%	61%	56%	62%	39%	61%
I am concerned about using social networking sites	41%	31%	46%	41%	48%	54%	29%	36%
I would never post photos on social networking sites	37%	24%	34%	36%	49%	47%	33%	38%

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Most people in all countries are already aware of the threats related to social networks. The most widely-recognized danger is from suspicious links sent via social networks from senders, especially unknown ones. In fact, 63% of users worldwide never add people they don't know to their social accounts, and 56% refrain from posting sensitive personal information like their home address or phone number in online services. Overall, more than a half of consumers surveyed understand that many threats can spread via social networking websites.

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What do people expect from security solutions?

Considering the vast number of problems people expect when they are online, what are their requirements to security solutions? First, let's see what the overall attitude to different means of protection is:

Attitudes to protection

➢ *Consumers generally believe they are doing all they can to protect themselves, but there are significant regional variations: in Russia, encryption is relatively common, while in the UK insurance is far more popular than elsewhere.*

Attitudes to protection	TOTAL	Russia	USA	UK	France	Germany	Italy	Spain
I take as much protection as possible to prevent facing any Internet security threats	62%	57%	63%	63%	62%	66%	60%	60%
I don't store passwords on any device (e.g. in a password manager or in notes)	53%	46%	52%	58%	57%	52%	47%	60%
I password protect all my devices	49%	39%	54%	52%	49%	50%	50%	50%
I back up all my devices	46%	42%	46%	48%	50%	47%	46%	44%
I never let programs "remember" my passwords	41%	34%	40%	38%	41%	46%	47%	42%
I password protect all my documents	32%	32%	32%	28%	30%	30%	39%	36%
I encrypt my sensitive files	30%	42%	26%	23%	22%	35%	29%	31%
I never worry about using my credit card/debit card to purchase items online	27%	21%	28%	30%	44%	24%	24%	21%
My devices are covered by insurance from theft/damage etc.	24%	17%	26%	38%	21%	24%	18%	24%
I would open a spam e-mail attachment if it looked interesting	17%	34%	11%	12%	14%	13%	16%	21%

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The main finding is that most consumers tend to use as much protection as possible to secure themselves from various computer threats. Even so, the share of users who, for example, back up their data, is relatively low – less than 50% worldwide. Even fewer people use encryption, although different security suites, like Kaspersky PURE 2.0, offer such functionality. What is even more alarming is that 27% of users do not understand the dangers of uncontrolled and unprotected usage of online payment services.

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Attitudes to Internet security

➤ *Two out of three users are confident that they can use Internet security software, and half feel prepared to face security threats*

Attitudes to Internet security	TOTAL	Russia	USA	UK	France	Germany	Italy	Spain
I understand how to use Internet security software	67%	68%	71%	72%	63%	71%	60%	65%
I feel equipped to deal with Internet security threats	51%	53%	56%	59%	43%	53%	44%	50%
I would have to ask friends/professional advice if faced with a threat	39%	53%	40%	35%	37%	33%	36%	40%
I worry about my own Internet safety when others in my household/my children use my devices	38%	48%	33%	22%	47%	26%	41%	49%
I am happy for my computer to perform slower as a result of Internet security/antivirus software working	37%	20%	31%	47%	42%	44%	34%	39%
I worry when others in my household/my children use the Internet	30%	36%	29%	22%	28%	25%	32%	41%
Using the Internet worries me	19%	18%	18%	11%	18%	16%	13%	35%
I think the threat of viruses is over exaggerated by the media	19%	21%	16%	17%	20%	14%	20%	26%
I find it hard to differentiate spam e-mail from real e-mail	18%	19%	14%	12%	30%	14%	18%	22%

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Most users feel confident when using Internet security software, but only 51% of consumers feel prepared for online threats. In the face of a direct threat, a significant share of users would ask for advice from friends or professionals. Overall, there is a high awareness of security threats in general, but as we have seen in the previous statistics, the understanding of particular risks like public Wi-Fi is not so reassuring.

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Dangers of free antivirus products
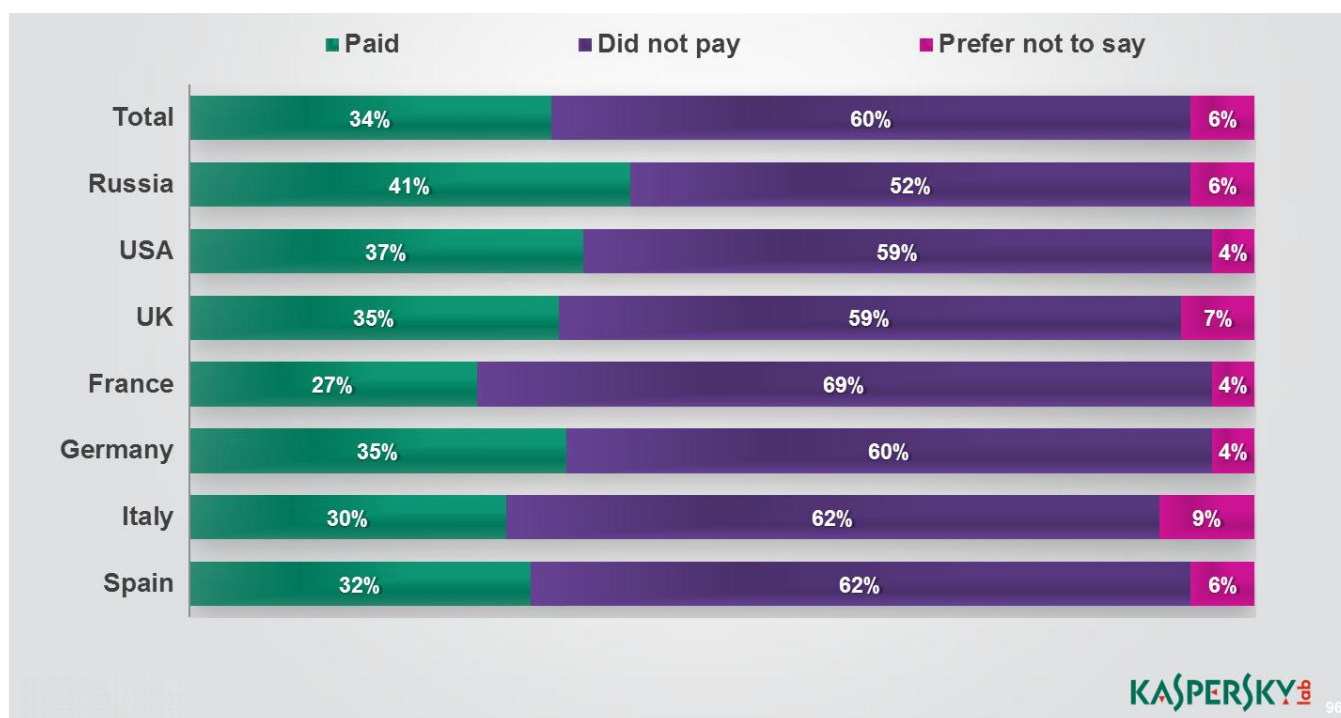
Although there's a high level of understanding among users that computer threats do pose a real problem, most consumers tend to use free antivirus software, therefore limiting the level of protection provided to them to a dangerously low level. In independent testing conducted by the reputable AV-Test.org testing lab in October 2011, free antivirus solutions did not even come close to the results of Kaspersky Internet Security 2012 in terms of protecting users from widespread threats. Although the price of commercial security software is not that high, the survey shows that most of the users prefer to pay nothing at all, therefore leaving them vulnerable to danger.

Conclusions

The main result of the consumer survey is that users worldwide are increasingly educated about modern computer threats, even as the variety of online devices increases. But in many areas we see poor and even reckless attitudes towards security. So, let us once again summarize the most important findings:

► Traditional computers are still the first choice to surf the web and other activities. The share of new devices like tablets is relatively low, although fully-functional and Internet-enabled smartphones are used by almost half of those surveyed.

► Highly sensitive data like personal and work documents and e-mails, personal photos and even banking credentials are frequently stored on devices with inferior protection. This applies to Apple computers and tablets – most Mac users expect these devices to protect themselves - but also to other tablets and smartphones, with low take-up of security software.

► Free Wi-Fi hotspots present a real danger to users of mobile devices:they are the most popular means of mobile Internet connection, despite almost nonexistent security.

► Social media is the second most popular online activity. This new approach to online communication is still less popular than the oldest one – e-mail. At the same time, consumers have had enough time to understand the dangers of online communities: they are suspicious of strangers and strange links, and of sharing personal information in the open.

► Although users acknowledge the existence of various online threats, a significant share of them are reckless in terms of security. Even now 16% of laptop owners, 50% of Macbook users and 65% (!) of smartphone owners do not use any kind of security software on their devices.

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► The majority of users do care about protecting themselves, and search for a solution which will provide them with maximum protection. But those who actually use security software would rather pay nothing to protect themselves, which results in insufficient security when free antivirus solutions are used.

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