



CONSUMER SECURITY AND PRIVACY ATTITUDES IN A POST-COVID WORLD

F-Secure research whitepaper for service providers



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DIGITALIZATION: THE BOOM AND THE GLOOM

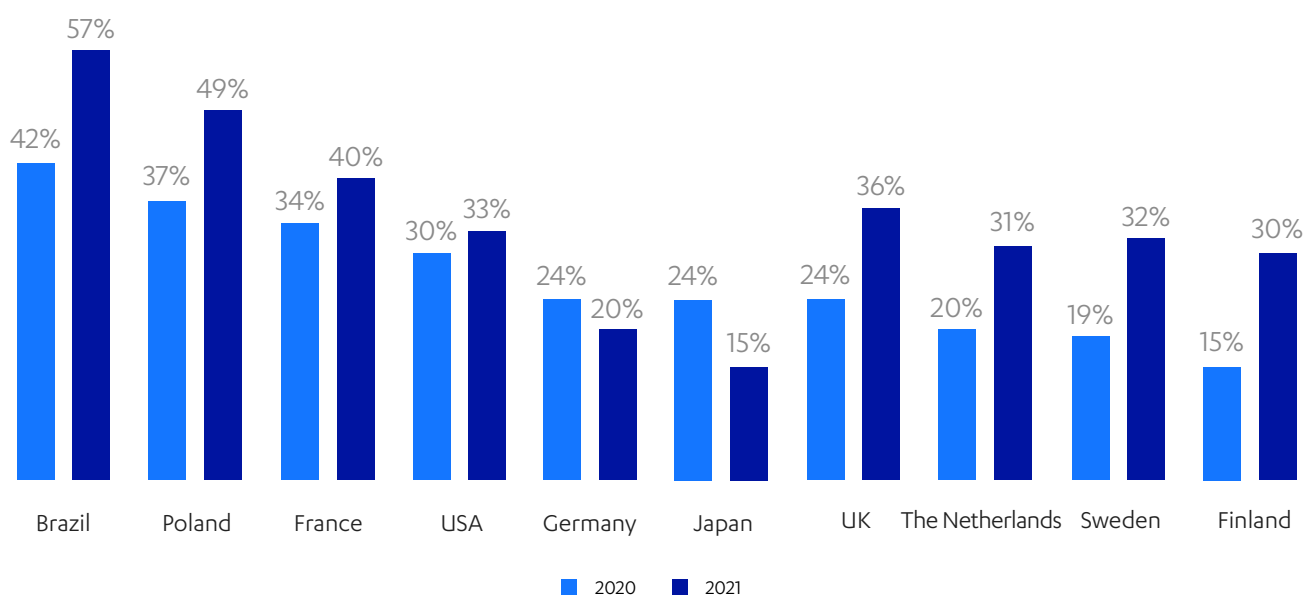
The COVID-19 pandemic triggered a global digitalization leap that changed our lives – the way we work, study, shop, and interact with each other. As countries went into lockdown, many consumers were prompted to learn new digital skills and were introduced to various technologies, products, and online services for the first time.

According to McKinsey*, consumers and companies covered a "decade in days" in terms of digital adoption. Online deliveries saw 10 years' worth of growth in just eight weeks. Telemedicine grew by 10 times in 15

days, and there were 20 times more participants on videoconferencing platforms in the space of three months.

The sudden masses of consumers using online services created opportunities for cyber criminals. With consumers' elevated levels of online exposure, and with more sensitive information being transacted online than ever before, attackers have more opportunities to digitally victimize people, especially given the glut of new and thus more vulnerable users.

CYBER CRIME HAS INCREASED DURING THE PANDEMIC IN NEARLY ALL COUNTRIES



Recent research bears this out. According to F-Secure, the percentage of consumers reporting they experienced a security incident in the previous 12 months

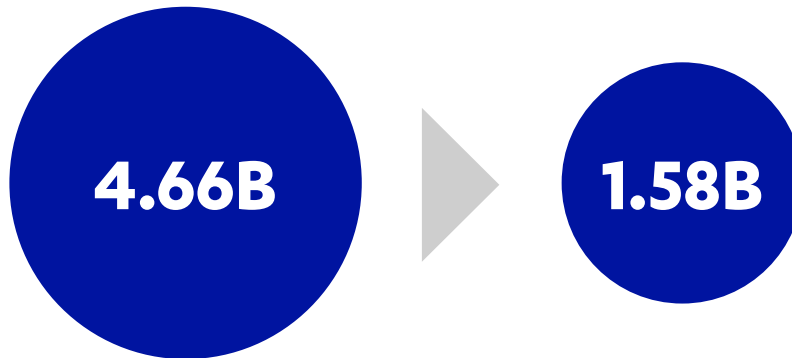
jumped from 29% in 2020 to 34% in 2021. Put into the context of active internet users, 34 percent amounts to 1.58 billion victims of cyber crime.

<https://www.mckinsey.com/-/media/mckinsey/industries/retail/our%20insights/how%20covid%2019%20is%20changing%20consumer%20behavior%20now%20and%20forever/how-covid-19-is-changing-consumer-behavior-now-and-forever.pdf>

CYBER CRIME INCREASED FROM 29% TO 34% IN ONE YEAR

Active internet users
globally in January 2021

Global number of **cyber crime victims** during past 12 months*



*Hypothetically, if 34% would represent the global share of victims of cyber crime

YEARS OF CONSUMER RESEARCH

Since 2014, F-Secure has surveyed consumers about their attitudes and behavior related to online security and privacy. Over four waves of research, we have interviewed over 27,000 consumers. In addition, we have conducted research related to specific themes such as identity protection and product packaging.

This report summarizes the findings of our latest study, conducted in June 2021, and compares those findings with those of our previous studies, conducted in 2015, 2018, and 2020. In these comparisons, we have used data from countries that were included in all studies: Brazil, France, Germany, the UK, and the USA.

F-SECURE CONSUMER SURVEYS

	"WAVE 1" (2014)	"WAVE 2" (2015)	"WAVE 3" (2018)	"WAVE 4" (2021)
Country coverage	5 countries: USA, UK, Germany, Brazil, Philippines	11 countries: USA, UK, Germany, France, Brazil, Sweden, Mexico, Argentina, Columbia, India, Italy	8 countries: USA, UK, Germany, France, Brazil, Mexico, Sweden, Japan	9 countries: USA, UK, Germany, France, Brazil, The Netherlands, Mexico, Sweden, Japan
Sample size	5 countries x 800 respondents - 4800 respondents	11 countries x 800 respondents - 8800 respondent	8 countries x 800 respondents - 6400 respondent	9 countries x 800 respondents - 7200 respondent

CHANGING ONLINE HABITS

There's no doubt the pandemic accelerated the adoption of digital skills. Many of these new skills and behaviors can be expected to stick. F-Secure's latest research highlights certain behaviors that have seen increases since the onset of the pandemic.

One third of the respondents to our study said they have used their mobile phone or tablet to make **online**

purchases one to three times a week. This is an increase from 18.3% in the pre-pandemic study of 2018.

Mobile banking is another area where a clear COVID effect is visible. In 2021, 47.4% of respondents had used their mobile phone or tablet for online banking one to three times a week, up from just 26.4% in 2018.

INCREASE IN MOBILE SHOPPING AND BANKING

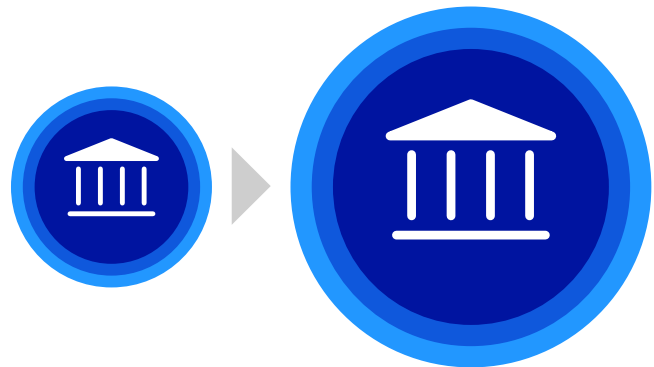
Online purchases



18.3%
in 2018

33.3%
in 2021

Online banking



26.4%
in 2018

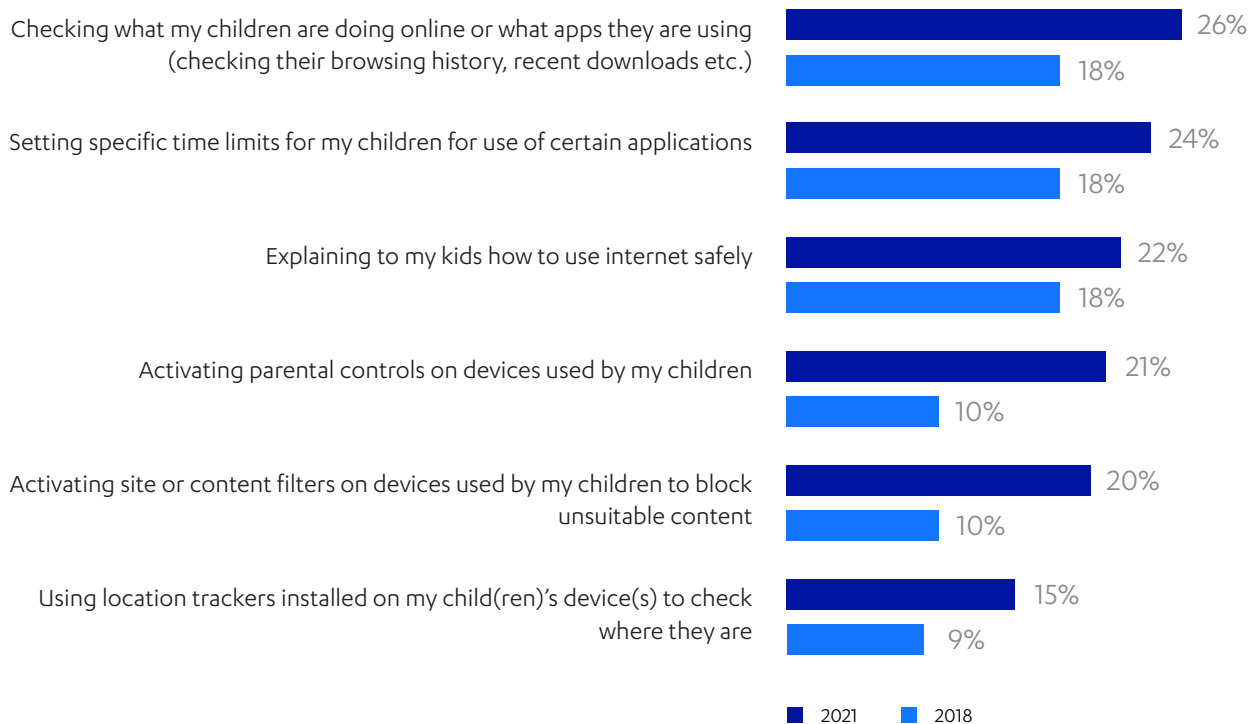
47.4%
in 2021

Remote learning and the need to keep kids entertained during lockdown have increased children's usage of digital devices. Our research also shows that **keeping children safe online** has become more important for

consumers who have kids: Usage of parental controls and content filters has doubled from pre-pandemic levels.



GROWING IMPORTANCE OF KEEPING KIDS SAFE ONLINE

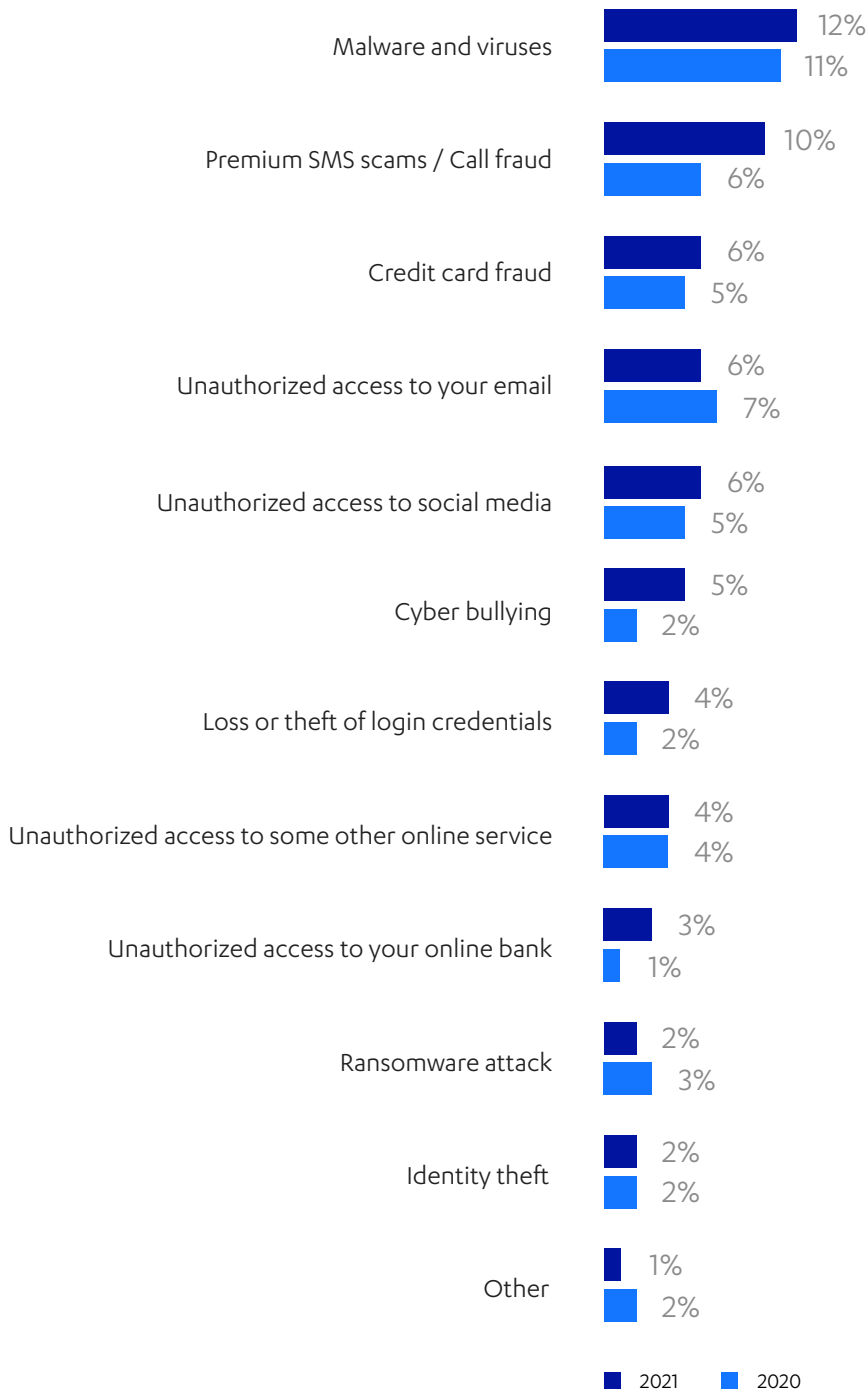


THREATS AND ATTACKS STILL ABOUND

Digitalization may have forced some consumers to learn new skills, but cyber criminals have been honing their tactics in the online world for decades. **Malware and**

viruses are still the most dominant threat, with new variants introduced daily. We see increases in threat categories nearly across the board.

TRADITIONAL MALWARE AND FINANCIAL MOTIVES DOMINATE THE THREAT LANDSCAPE



With cyber crime primarily motivated by money, **threats related to finances and financial accounts** are on an upward trend. These include stealing credit card information and cryptocurrency, bank account fraud, and theft of personal information that can be monetized in identity scams, account takeover, or by selling to others.

The complexity of today's threat landscape and the creativity of cyber criminals make it difficult for the average consumer on their own to stay protected. And the fallout from cyber crime can have lasting consequences: Attackers can exploit critical personal information in crimes taking place months or even years later, which can cause long-term stress, anxiety, and financial harm to the victims.



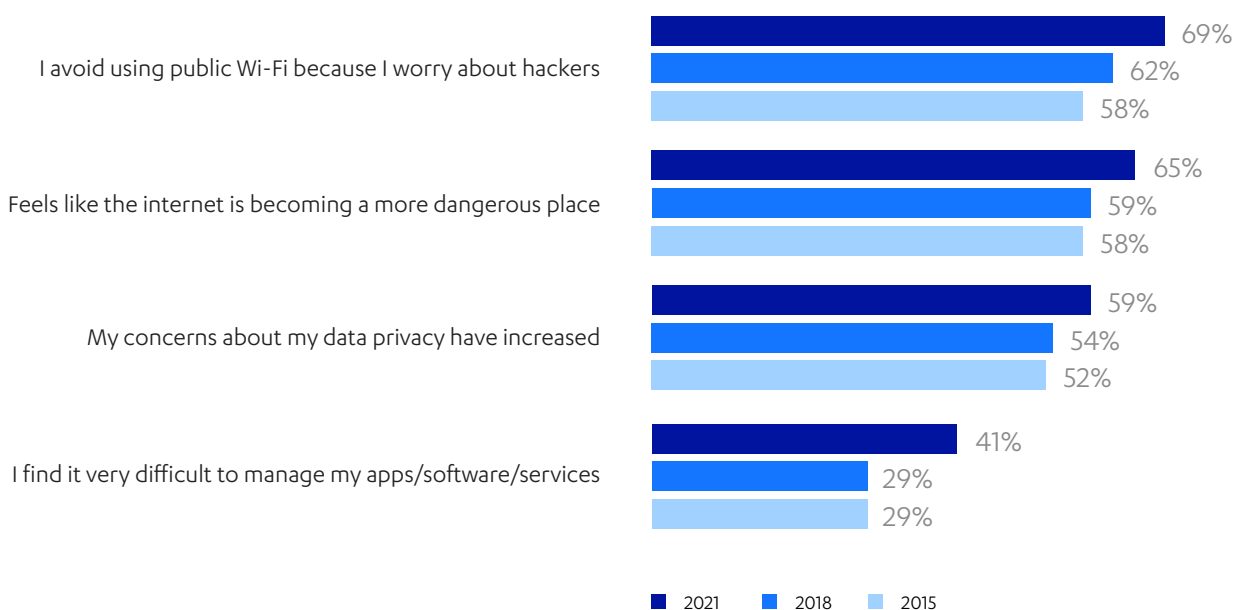
WORRY PROMPTING CHANGES IN ONLINE BEHAVIOR

Digital transformation has impacted the way consumers perceive technology. 65% of survey respondents feel like the internet is becoming a more dangerous place, compared to 62% in 2018. And as their dependency on devices and connectivity has increased, almost two thirds of consumers find themselves increasingly worrying about online security and privacy, even if nothing is wrong. **The most tech-savvy segment is the most**

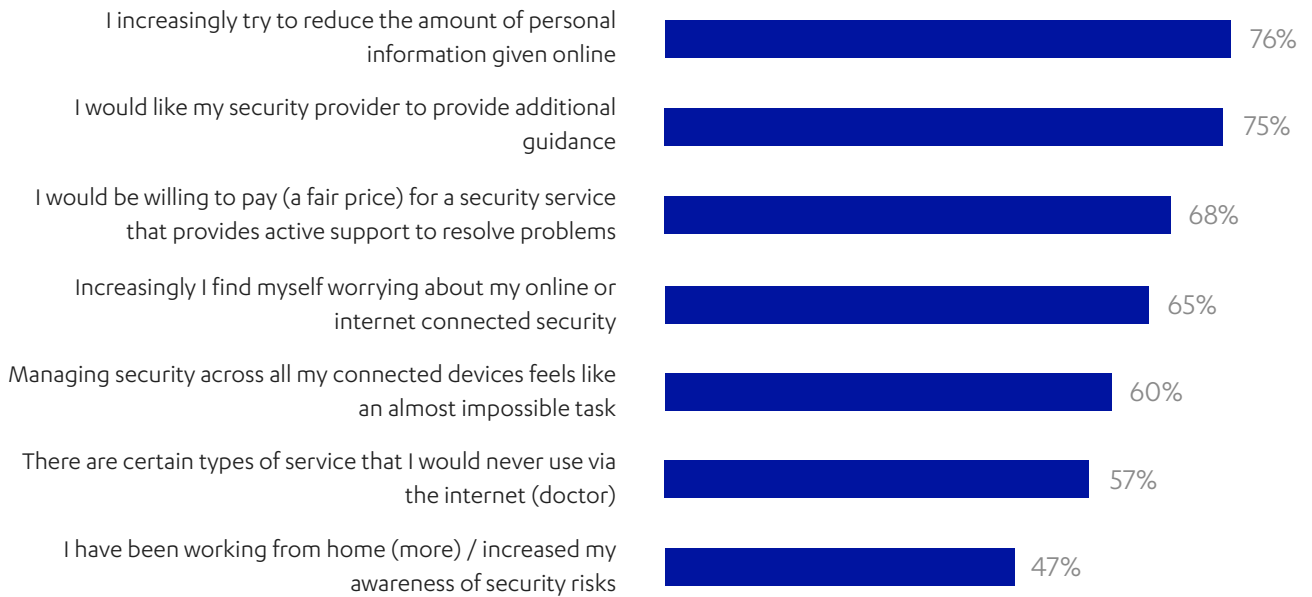
concerned (80%) – they know about the threats and risks of the digital world.

Many consumers report that their concerns about online security have prompted them to make changes in their online behavior. 76% increasingly try to reduce the amount of personal information they give when filling in online registration forms or when making online purchases. 69% avoid connecting to public WiFi.

SECURITY AND PRIVACY CONCERNS INCREASING



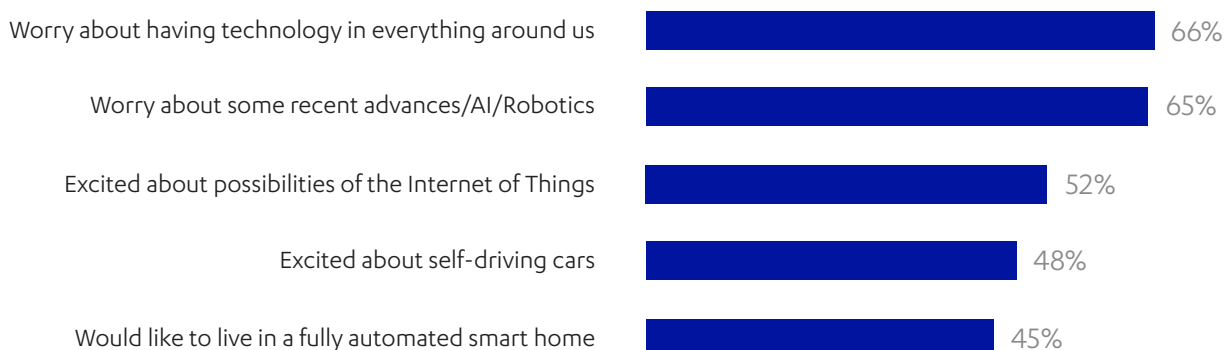
NEW ONLINE SECURITY ATTITUDES MEASURED IN 2021



Although people are excited about certain technologies, worry also emerges as a dominant emotion. Two thirds of respondents often worry about the degree to which technology is being integrated into everything around

us. 65% worry about recent technological advances, such as the long-term implications of artificial intelligence or robotics.

WORRY DOMINATES THE RELATIONSHIP TO TECHNOLOGY



SECURITY FEELS COMPLICATED

When it comes to consumers' relationship with security, the **feeling of being overwhelmed is increasing**. 61% say that trying to manage security across all their connected devices feels like an almost impossible task.

Interestingly, even **the most tech-savvy segment struggles with protecting all their devices**. In this

segment, 72% feel that managing security of their devices feels almost impossible. The tech-savvy segment is also the most interested in getting additional guidance from their security provider and the most willing to pay for a security service with active support.

SECURITY ATTITUDES OF ALL RESPONDENTS VS. TECH SAVVY CONSUMERS



61%

Managing security of all my connected devices feels impossible

75%

I would like my security and privacy provider to provide additional guidance

68%

I would be willing to pay (a fair price) for a security service that provides active support to resolve problems



72%

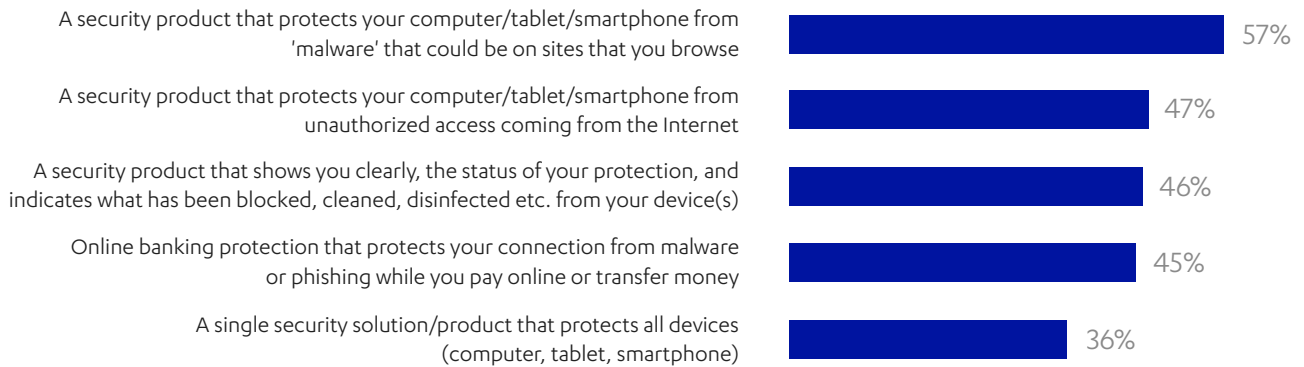
85%

82%

Basic security solutions remain attractive among consumers. Survey respondents seem to understand the value of core security product benefits, such as browsing protection, protection from unauthorized access and banking protection.

Increased worries and the struggle to protect all connected devices are highlighted in consumers' interest in **all-in-one security**: 36% find a single security solution that protects all devices attractive.

THE MOST APPEALING BENEFITS IN A SECURITY SOLUTION



CONSUMERS LOOK TO SERVICE PROVIDERS

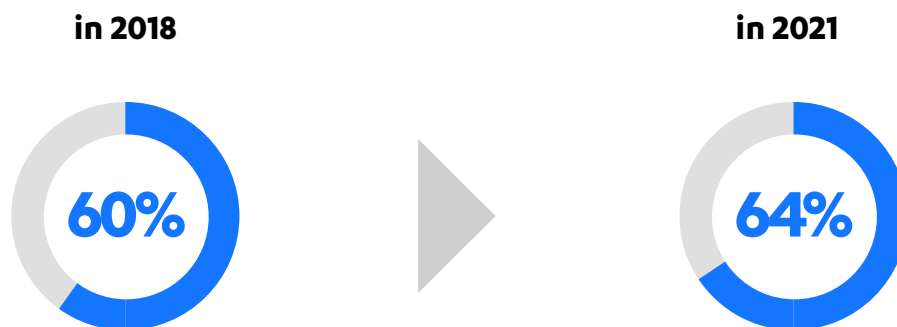
Regardless of free options available on the consumer security market, 60% of respondents pay for their main security and privacy solutions or use a combination of free and paid solutions. Willingness to pay for security is even higher within the tech savvy segment (70%).

When asked why consumers pay for security and privacy software or applications, 27.6% cited **trust as the primary reason**. 13.7% said the paid version included an important feature that the free version lacked.

Consumers consider service providers as their IT partners – a natural source for connectivity, devices, and security. 64% of respondents would be **willing to purchase security and privacy services from their internet service provider**, up from 60% in 2018.

Being on the receiving end of positive consumer attitudes puts service providers in a great position to help customers, increase ARPU and reduce churn. Giving customers a sense of security and control over their digital lives will only elevate their trust – and ensure their stickiness.

CONSUMERS WANT TO BUY SECURITY FROM THEIR INTERNET SERVICE PROVIDER





REDUCE COMPLEXITY FOR YOUR CUSTOMERS WITH ALL-IN-ONE SECURITY

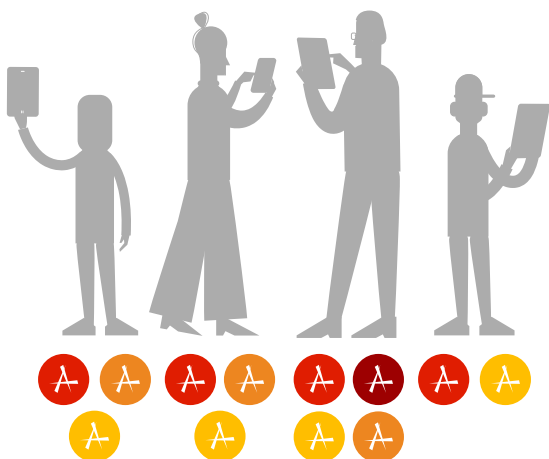
Increased dependence on technology has impacted our attitudes about security and privacy. Worries about digital threats have grown, and security feels complicated. In a world filled with uncertainty, consumers want an easy-to-use solution to protect every aspect of their digital life.

Today's complex threat landscape requires protective layers beyond traditional antivirus. F-Secure TOTAL is

the most simple and comprehensive security, privacy, and identity protection solution on the market. Your customers will only need one app to protect their whole family.

F-Secure TOTAL includes protection against malware and viruses, safe browsing, banking protection, privacy protection, WiFi security, digital parenting, identity monitoring and a password manager.

ONE APP, LESS INSTALLATIONS



Typical situation today: 10-20 installations

vs.



F-Secure: 4 installations

COMPLETE SECURITY, PRIVACY AND IDENTITY PROTECTION FOR YOUR CUSTOMERS



BROWSING & BANKING PROTECTION

Let users explore the internet with worry-free online banking and shopping



PRIVACY PROTECTION

Stop trackers and ensure your customers' online privacy



PROTECTION ON THE GO

Protect phones, tablets, PCs and Macs everywhere, even on public Wi-Fi



MALWARE PROTECTION

Keep your customers' devices safe from viruses, trojans, spyware and ransomware with award-winning virus protection



MONITORING OF PERSONAL INFORMATION

Protect your customers' identities with industry-leading breach detection and underground web monitoring



PERSONAL INFORMATION BREACH ALERTS

Real-time alerts and guidance for your customers when their personal information has been a part of a breach or data leak



STRONG PASSWORD MANAGEMENT

Allows your customers to create and synchronize passwords across all their devices



FAMILY RULES

Lets parents set healthy online boundaries for their children at home and on the go

Offer our award-winning security, privacy and identity protection in a single application or select the protection features to match your desired value propositions. Choose to offer as-is, or customize with your own name and branding.

Reduce complexity for your customers – and yourself. Partner with the global leader in the service provider channel. Respond to real consumer concerns and attract new customers with a broad, compelling security offering. Get in touch with us to learn more:

f-secure.com/operators

ABOUT F-SECURE

Nobody knows cyber security like F-Secure. For three decades, F-Secure has driven innovations in cyber security, defending tens of thousands of office, homes, and millions of people. F-Secure shields enterprises and consumers against everything from advanced cyber attacks and data breaches to widespread ransomware infections. F-Secure's AI-driven solutions also help to protect the connected devices and homes of your customers. The unique combination of technology and world-class Business Services supporting the entire customer lifecycle is what makes F-Secure an excellent fit for the service provider channel. F-Secure's products are sold globally by more than 200 service providers and thousands of resellers.

f-secure.com/operators

