

2018

# BEYOND<sup>®</sup> THE PHISH

Report



wombat<sup>™</sup>  
security  
a division of proofpoint

#BeyondthePhish



# 2018 Beyond the Phish® Report

Exploring end-user knowledge levels about phishing... and beyond



You'll get no argument from us that email-based phishing attacks are a serious threat to organizations worldwide. Anti-phishing training should be the foundation of any security awareness training program — but it's critical to think beyond email (in more ways than one) in order to effectively strengthen end-user defenses.

## SIMULATED ATTACKS VS. KNOWLEDGE ASSESSMENTS AND TRAINING

Simulated phishing attacks — that is, email tests designed to mimic real-world social engineering attacks — are a staple of anti-phishing education programs. Given that Wombat Security's cofounders pioneered this form of risk assessment, we are big believers in the use of these tools. But we know that they don't tell the full story of susceptibility, nor can they alone be relied on to effectively educate end-users about the myriad of cybersecurity threats they are likely to face in their day-to-day jobs.

### Simulated Phishing Attacks

- Click/no-click measurements of end-user susceptibility to a specific message
- Single-instant assessments of phishing vulnerability
- Awareness activity rather than education activity

### Knowledge Assessments and Training

- Visibility into multiple questions and topics that end-users understand and don't understand
- The opportunity to introduce and assess understanding of a wide variety of threat vectors
- The ability to build knowledge over time and educate users about cybersecurity best topics and good behaviors

### WHAT WE COVER

- Data from nearly **85 million questions** asked and answered by end users between **January 1 and December 31, 2017**
- **Twelve topic categories** related to end-user risk, including identification of phishing threats
- Results from **CyberStrength® Knowledge Assessments and training challenges** completed by end users via Wombat's Security Education Platform, a cloud-based learning management system
- Comparison of end-user knowledge levels across **16 industries**

HELP KEEP TOPICS  
BEYOND THE PHISH TOP OF  
MIND FOR YOUR END USERS WITH  
OUR NEW COMIC BOOK-THEMED  
AWARENESS VIDEO CAMPAIGNS,  
"THE W FILES:  
#BEYONDTHEPHISH".



COMIC BOOK AND POSTERS



VIDEOS



The clearest representation of the differences between phishing tests and question-based evaluations is seen when we compare simulated attack click rates — courtesy of our 2018 *State of the Phish™ Report* — with the *Beyond the Phish* data from our **Identifying Phishing Threats** category. What these data points show is that simulated attacks and question-based assessments, when used together, give a fuller representation of end-user knowledge levels than phishing tests alone.

**Average Phishing Test Click Rate**  
(all users, all industries)  
**9%**



**Average % of Phishing Questions Answered Incorrectly**  
(all users, all industries)  
**24%**

Find additional industry click rate data and insights into the actions infosec professionals are taking to minimize impacts from phishing attacks in our *State of the Phish™ Report*.

wombatsecurity.com/  
state-of-the-phish



**Telecommunications\***

**15%**

Average click rate on simulated phishing attacks



**24%**

Questions answered incorrectly in Identifying Phishing Threats category

**Technology**

**12%**

Average click rate on simulated phishing attacks



**22%**

Questions answered incorrectly in Identifying Phishing Threats category

**Manufacturing**

**9%**

Average click rate on simulated phishing attacks



**26%**

Questions answered incorrectly in Identifying Phishing Threats category

**Transportation**

**6%**

Average click rate on simulated phishing attacks



**26%**

Questions answered incorrectly in Identifying Phishing Threats category

**Defense Industrial Base\***

**3%**

Average click rate on simulated phishing attacks



**22%**

Questions answered incorrectly in Identifying Phishing Threats category

\* Telecommunications and Defense Industrial Base had the highest and lowest click rates, respectively, as measured for our 2018 State of the Phish Report.



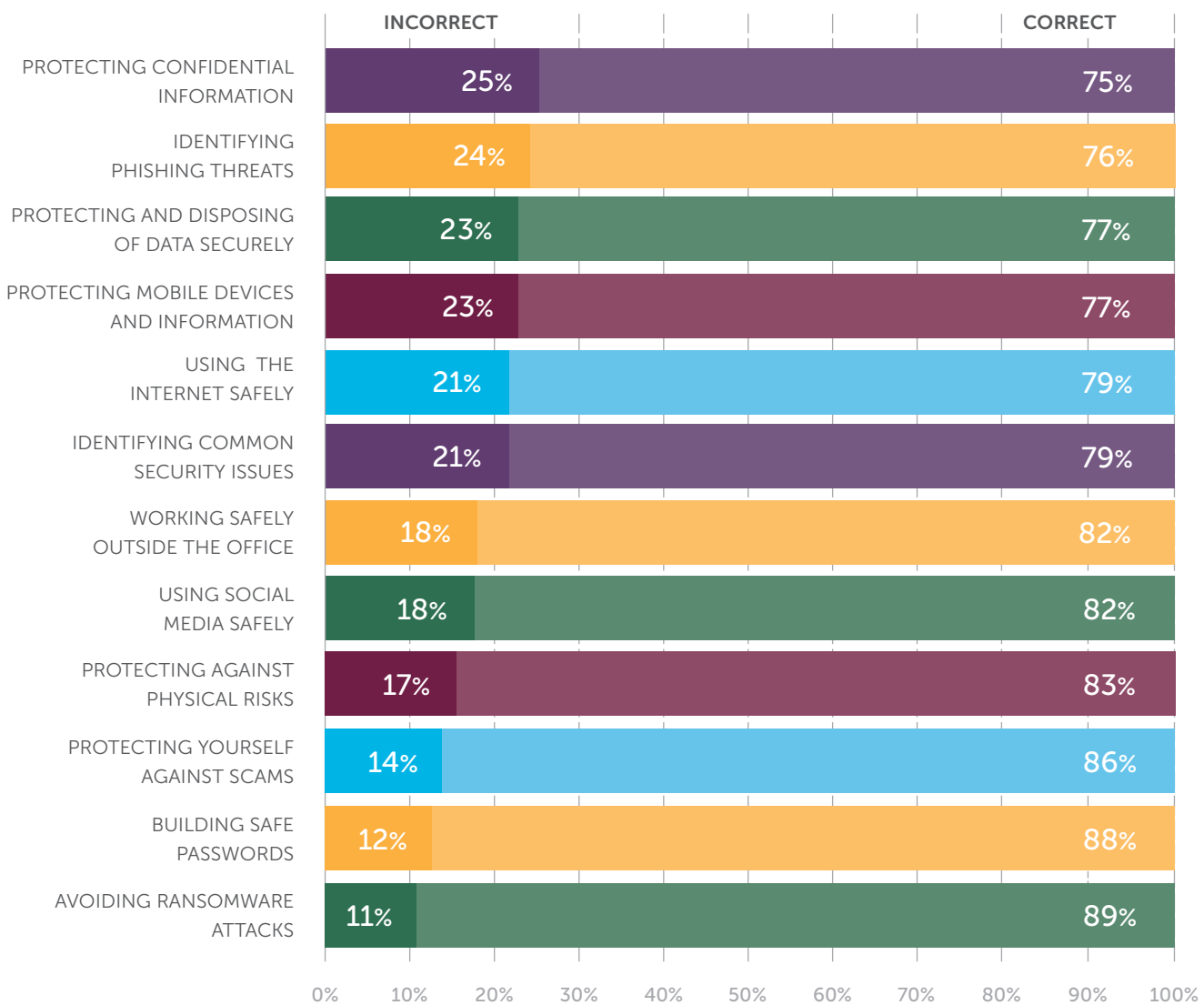
# Knowledge Levels Across All Categories



Our customers' end users **answered an average of 19% of questions incorrectly** across all 12 of the categories we analyzed — a modest improvement from the 20% rate we saw in our 2017 *Beyond the Phish Report*. But however modest, an improvement is a move in the right direction and an indication that end users continue to absorb and apply the knowledge that our customers are teaching them.

Below, you will see a breakdown of the average percentage of questions answered incorrectly by category and, in the subsequent sections, how users shape up in each industry. Check out page 4 to learn more about the types of questions we ask in each category.

Average Percentage of Questions Answered Correctly and Incorrectly



It's heartening to see that our customers' end users appear to have a good understanding of password hygiene and are fairly well-versed about the threat of ransomware and the types of scams social engineers are perpetrating. However, continued education is needed about some of the more pressing threats facing organizations across all industries: secure data management, email-based phishing tactics, and compliance-related cybersecurity requirements.



# What Do Our Categories Cover?



Though some of our category designations border on self-explanatory, some might seem a little more mysterious. Here are the types of questions and topics covered within the Wombat CyberStrength Knowledge Assessments and interactive training modules related to these categories:

## Avoiding Ransomware Attacks



- What ransomware is and the implications of a successful attack
- Best practices for fighting malware-based phishing threats

## Building Safe Passwords



- Differences between strong and weak passwords
- Best practices for password creation and application

## Identifying Common Security Issues



- Understanding of common cybersecurity concerns
- High-level recognition of essential cybersecurity protections

## Identifying Phishing Threats



- What phishing is and the implications of a successful attack
- Recognition and avoidance of common phishing techniques

## Protecting Against Physical Risks



- Understanding and application of physical security safeguards
- How to identify and prevent physical security breaches

## Protecting and Disposing of Data Securely



- General techniques for handling personally identifiable information (PII) throughout the data life cycle
- Proper management and destruction of sensitive electronic and paper files

## Protecting Confidential Information



- Best practices related to GDPR, PCI DSS, and HIPAA compliance
- Requirements for data management within these specific standards

## Protecting Mobile Devices and Information



- Best practices for securing mobile devices and mobile data
- Recognition and avoidance of unsafe mobile applications

## Protecting Yourself Against Scams



- Understanding of common social engineering techniques across a range of attack vectors
- How to identify and avoid scams in electronic communications, on the phone, and in person

## Using the Internet Safely



- Recognition and avoidance of unsafe online content
- Best practices for safer web browsing

## Using Social Media Safely



- Principles of "safe sharing" on social media platforms
- How to identify and avoid social media imposters and unsafe content

## Working Safely Outside the Office



- Best practices for remotely accessing corporate networks and systems
- How to identify and avoid threats when working remotely



# Industry Comparisons



In this section, we'll explore how end users fared within individual industries. We offer comparison data across **16 industries**, as well as an examination of how each industry performed within each category.\*

As in years past, we see a lot of commonality across different industries, which shows that the average level of end-user cybersecurity knowledge is not likely to vary wildly from industry to industry.

## Average Percentage of Questions Answered Incorrectly by Industry



\* Note that though these breakdowns cover the majority of organizations and end users from our full data set, not all are represented within these industry categories. Many organizations self-designate as being from an industry other than those identified here.





### Best Category Performance by Industry

These industries were tops, with their end users answering the lowest percentage of questions incorrectly in their respective categories.

Avoiding Ransomware Attacks	Government	8%
Building Safe Passwords	Education	8%
Identifying Common Security Issues	Technology	18%
Identifying Phishing Threats	Technology	22%
Protecting Against Physical Risks	Hospitality	13%
Protecting and Disposing of Data Securely	Defense Industrial Base	13%
Protecting Confidential Information	Education	20%
Protecting Mobile Devices and Information	Consumer Goods	19%
Protecting Yourself Against Scams	Education	11%
Using Social Media Safely	Telecommunications	12%
Using the Internet Safely	Technology	18%
Working Safely Outside the Office	Hospitality	9%



### Worst Category Performance by Industry

With high marks come low marks. These industries' end users struggled with knowledge assessments and training questions in the categories noted, answering the highest percentage of questions incorrectly.

Avoiding Ransomware Attacks	Telecommunications	14%
Building Safe Passwords	Defense Industrial Base	21%
Identifying Common Security Issues	Education	26%
Identifying Phishing Threats	Consumer Goods	26%
Protecting Against Physical Risks	Telecommunications	20%
Protecting and Disposing of Data Securely	Hospitality	32%
Protecting Confidential Information	Defense Industrial Base	33%
Protecting Mobile Devices and Information	Hospitality	35%
Protecting Yourself Against Scams	Manufacturing	17%
Using Social Media Safely	Manufacturing	24%
Using the Internet Safely	Telecommunications	24%
Working Safely Outside the Office	Manufacturing	20%



# Category Performances for All Industries



In these sections, we are accentuating the positive. We start with each industry's best-performing category and work through to the topic that end users struggled with the most. You might find it helpful to consider how your end users knowledge compares to their industry peers, and how lower knowledge levels in specific area could negatively impact your organization's data integrity, business operations, and overall security posture.

## CONSUMER GOODS

Building Safe Passwords	9%
Avoiding Ransomware Attacks	10%
Protecting Yourself Against Scams	14%
Using Social Media Safely	17%
Working Safely Outside the Office	18%
Protecting Mobile Devices and Information	19%
Protecting Against Physical Risks	19%
Protecting and Disposing of Data Securely	21%
Identifying Common Security Issues	22%
Using the Internet Safely	23%
Identifying Phishing Threats	26%
Protecting Confidential Information	26%

## DEFENSE INDUSTRIAL BASE

Working Safely Outside the Office	12%
Avoiding Ransomware Attacks	12%
Protecting and Disposing of Data Securely	13%
Protecting Against Physical Risks	14%
Protecting Yourself Against Scams	17%
Identifying Common Security Issues	19%
Building Safe Passwords	21%
Using Social Media Safely	21%
Using the Internet Safely	21%
Identifying Phishing Threats	22%
Protecting Mobile Devices and Information	25%
Protecting Confidential Information	33%

## EDUCATION

Building Safe Passwords	8%
Avoiding Ransomware Attacks	10%
Protecting Yourself Against Scams	11%
Using Social Media Safely	12%
Protecting Against Physical Risks	15%
Working Safely Outside the Office	16%
Using the Internet Safely	19%
Protecting Mobile Devices and Information	20%
Protecting Confidential Information	20%
Protecting and Disposing of Data Securely	22%
Identifying Phishing Threats	24%
Identifying Common Security Issues	26%

## ENERGY

Avoiding Ransomware Attacks	9%
Protecting Yourself Against Scams	14%
Using Social Media Safely	15%
Building Safe Passwords	15%
Protecting Against Physical Risks	17%
Working Safely Outside the Office	19%
Protecting and Disposing of Data Securely	19%
Protecting Mobile Devices and Information	20%
Identifying Common Security Issues	20%
Using the Internet Safely	22%
Identifying Phishing Threats	24%
Protecting Confidential Information	29%



## ENTERTAINMENT

Avoiding Ransomware Attacks	9%
Building Safe Passwords	13%
Working Safely Outside the Office	13%
Protecting Yourself Against Scams	13%
Protecting Against Physical Risks	14%
Using Social Media Safely	15%
Identifying Common Security Issues	20%
Using the Internet Safely	21%
Protecting Mobile Devices and Information	21%
Protecting Confidential Information	23%
Identifying Phishing Threats	25%
Protecting and Disposing of Data Securely	27%

## FINANCE

Avoiding Ransomware Attacks	10%
Building Safe Passwords	12%
Protecting Yourself Against Scams	13%
Using Social Media Safely	15%
Working Safely Outside the Office	17%
Protecting Against Physical Risks	17%
Using the Internet Safely	20%
Identifying Common Security Issues	21%
Protecting Mobile Devices and Information	23%
Protecting and Disposing of Data Securely	23%
Identifying Phishing Threats	23%
Protecting Confidential Information	24%

## GOVERNMENT

Avoiding Ransomware Attacks	8%
Building Safe Passwords	9%
Protecting Yourself Against Scams	11%
Working Safely Outside the Office	14%
Using Social Media Safely	15%
Protecting Against Physical Risks	18%
Identifying Common Security Issues	19%
Using the Internet Safely	20%
Protecting Confidential Information	23%
Identifying Phishing Threats	23%
Protecting Mobile Devices and Information	24%
Protecting and Disposing of Data Securely	27%

## HEALTHCARE

Avoiding Ransomware Attacks	10%
Building Safe Passwords	12%
Protecting Yourself Against Scams	14%
Using Social Media Safely	16%
Protecting Against Physical Risks	16%
Working Safely Outside the Office	18%
Identifying Common Security Issues	21%
Using the Internet Safely	21%
Identifying Phishing Threats	24%
Protecting Confidential Information	26%
Protecting Mobile Devices and Information	27%
Protecting and Disposing of Data Securely	28%

# Category Performances for All Industries



## HOSPITALITY

Working Safely Outside the Office	9%
Avoiding Ransomware Attacks	10%
Protecting Against Physical Risks	13%
Protecting Yourself Against Scams	15%
Building Safe Passwords	18%
Using the Internet Safely	20%
Using Social Media Safely	22%
Identifying Common Security Issues	23%
Protecting Confidential Information	23%
Identifying Phishing Threats	25%
Protecting and Disposing of Data Securely	32%
Protecting Mobile Devices and Information	35%

## INSURANCE

Avoiding Ransomware Attacks	9%
Building Safe Passwords	13%
Working Safely Outside the Office	15%
Protecting Yourself Against Scams	16%
Protecting Against Physical Risks	16%
Using the Internet Safely	19%
Identifying Common Security Issues	20%
Using Social Media Safely	20%
Protecting and Disposing of Data Securely	21%
Protecting Mobile Devices and Information	22%
Identifying Phishing Threats	25%
Protecting Confidential Information	27%

## MANUFACTURING

Avoiding Ransomware Attacks	12%
Building Safe Passwords	15%
Protecting Against Physical Risks	15%
Protecting Yourself Against Scams	17%
Working Safely Outside the Office	20%
Using the Internet Safely	22%
Identifying Common Security Issues	22%
Protecting and Disposing of Data Securely	22%
Using Social Media Safely	24%
Protecting Mobile Devices and Information	26%
Protecting Confidential Information	26%
Identifying Phishing Threats	26%

## PROFESSIONAL SERVICES

Avoiding Ransomware Attacks	10%
Protecting Yourself Against Scams	15%
Building Safe Passwords	15%
Protecting Against Physical Risks	17%
Using Social Media Safely	18%
Working Safely Outside the Office	18%
Identifying Common Security Issues	19%
Protecting Mobile Devices and Information	21%
Using the Internet Safely	21%
Identifying Phishing Threats	25%
Protecting and Disposing of Data Securely	25%
Protecting Confidential Information	26%



## RETAIL

Avoiding Ransomware Attacks	10%
Building Safe Passwords	10%
Working Safely Outside the Office	13%
Protecting Yourself Against Scams	13%
Using Social Media Safely	16%
Protecting Against Physical Risks	19%
Using the Internet Safely	19%
Protecting and Disposing of Data Securely	20%
Identifying Common Security Issues	23%
Protecting Confidential Information	25%
Identifying Phishing Threats	25%
Protecting Mobile Devices and Information	28%

## TECHNOLOGY

Avoiding Ransomware Attacks	10%
Building Safe Passwords	13%
Protecting Yourself Against Scams	14%
Using Social Media Safely	17%
Protecting Against Physical Risks	18%
Working Safely Outside the Office	18%
Identifying Common Security Issues	18%
Using the Internet Safely	18%
Protecting Mobile Devices and Information	21%
Identifying Phishing Threats	22%
Protecting and Disposing of Data Securely	22%
Protecting Confidential Information	25%

## TRANSPORTATION

Working Safely Outside the Office	10%
Avoiding Ransomware Attacks	11%
Building Safe Passwords	12%
Protecting Yourself Against Scams	15%
Protecting Against Physical Risks	18%
Identifying Common Security Issues	20%
Using Social Media Safely	21%
Protecting Mobile Devices and Information	22%
Using the Internet Safely	22%
Protecting Confidential Information	25%
Identifying Phishing Threats	26%
Protecting and Disposing of Data Securely	29%

## TELECOMMUNICATIONS

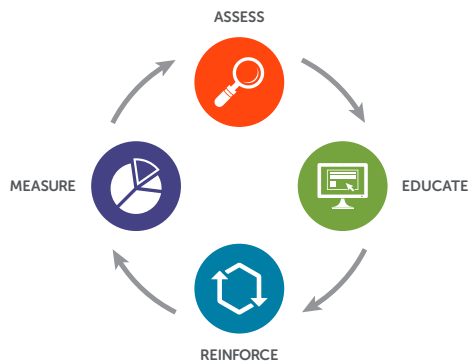
Building Safe Passwords	12%
Protecting Yourself Against Scams	12%
Using Social Media Safely	12%
Working Safely Outside the Office	13%
Avoiding Ransomware Attacks	14%
Protecting and Disposing of Data Securely	16%
Identifying Common Security Issues	20%
Protecting Against Physical Risks	20%
Protecting Confidential Information	24%
Using the Internet Safely	24%
Identifying Phishing Threats	24%
Protecting Mobile Devices and Information	25%

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## About Wombat Security, a division of Proofpoint

Wombat Security, a division of Proofpoint, is the leading provider of information security awareness and training software that helps organizations teach their employees secure behavior. Our Security Education Platform is a purpose-built learning management system that integrates knowledge assessments, simulated attacks, libraries of interactive training modules and reinforcement materials, and dynamic reporting tools.

Wombat was founded in 2008 based on research at the world-renowned Carnegie Mellon University, where its co-founders led the largest national research project on combating phishing attacks. Their goal was to address the human element of cybersecurity and develop novel, more effective anti-phishing solutions. These technologies and research provided the foundation for our Security Education Platform and our unique Continuous Training Methodology. The methodology, comprised of a continuous cycle of assessments, education, reinforcement, and measurement, has been shown to deliver up to a 90% reduction in successful phishing attacks and malware infections.



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