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Why Data-driven Personalized Journeys Are The Future Of Security Training

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Autodesk

Masha Sedova

Co-Founder
Elevate Security
@ModMasha

ABOUT AIKA SENGIRBAYEVA

Trained in Cyber Security

Leading Security Awareness Programs

Background in Incident Response & Red Team

Passionate about **building security culture**

ABOUT MASHA SEDOVA

Computer security meets behavioral science

Elevate Security

Co-Founder, building security behavior change platform

salesforce

Built and ran Salesforce trust engagement team

Passionate about transforming security behaviors from “have to” to “want to”

TRANSFORM EVERY EMPLOYEE TO SECURITY SUPERHUMAN

95% OF DATA BREACHES ARE CAUSED BY THE HUMAN FACTOR

WHY THE OLD WAY WAS BROKEN

PREVIOUS STATE

Compliance

Check the box security

PREVIOUS STATE

Compliance
Check the box security

One Size Fits All

Same training for everyone

PREVIOUS STATE

Compliance
Check the box security

One Size Fits All
Same training for everyone

Unquantified

Unmeasured,
no improvements

PREVIOUS STATE

Compliance
Check the box security

One Size Fits All
Same training for everyone

Unquantified
Unmeasured, no improvements

No Replay-ability

Not dynamic, no personalization, heavy churn

THE RESULTS

Disengaged

THE RESULTS

Disengaged

Poor choices

THE RESULTS

Disengaged

Poor choices

No change

THE OPPORTUNITY OF “MAKING BETTER”

AUTODESK®

NEW APPROACH -> NEW GOALS

1. Make it relevant

NEW APPROACH -> NEW GOALS

1. Make it relevant
2. Recognize employee's existing skill level

NEW APPROACH -> NEW GOALS

1. Make it relevant
2. Recognize employee's existing skill level
3. **Respect employee's time**

NEW APPROACH -> NEW GOALS

1. Make it relevant
2. Recognize employee's existing skill level
3. Respect employee's time
4. **Recognize employee's progress**

NEW APPROACH -> NEW GOALS

1. Make it relevant
2. Recognize employee's existing skill level
3. Respect employee's time
4. Recognize employee's progress

5. Motivate further improvement

WHAT DID WE DECIDE TO BUILD?

WE BUILT

THE INDIVIDUAL SECURITY SNAPSHOT

Flimsy Tenuous Sturdy Fortified Indestructible

THE SECURITY SNAPSHOT:

1. Focuses on our prioritized security behaviors

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2. **Identifies individual strengths and weaknesses**

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2. Identifies individual strengths and weaknesses
3. **Provides individualized recommendations for training**

THE SECURITY SNAPSHOT:

1. Focuses on our prioritized security behaviors
2. Identifies individual strengths and weaknesses
3. Provides individualized recommendations for training
4. **Rewards when successful**

WE PARTNERED WITH ELEVATE SECURITY

BEHAVIORAL SCIENCE MEETS SECURITY

Why?

Training != Behavior Change

STEP 1
CREATE MASTER LIST OF DESIRED BEHAVIORS

THE MASTER LIST

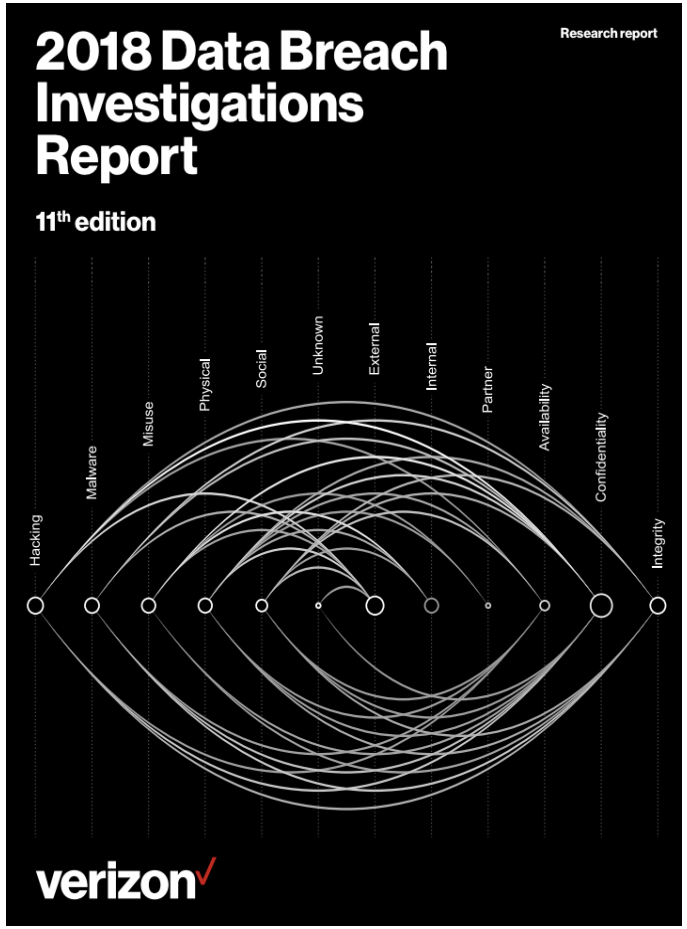
- Sensitive Data Handling
- Using Password Managers
- Patching
- Phishing Susceptibility
- Increase Reporting
- Malware Infection
- 2FA Adoption
- USB Usage
- VPN Usage
- Safe Browsing

STEP 2
PRIORITIZE VITAL BEHAVIORS

PRIORITIZE BEHAVIORS

1. What are your most frequent incidents?
2. What would be the most damaging to your company?
3. What are easy wins?
4. What's the most visible?
5. What would have the greatest impact on your security posture?
6. What does your team already have metrics on?
7. What do your stakeholders care most about?

USE THREAT INTELLIGENCE TO PRIORITIZE



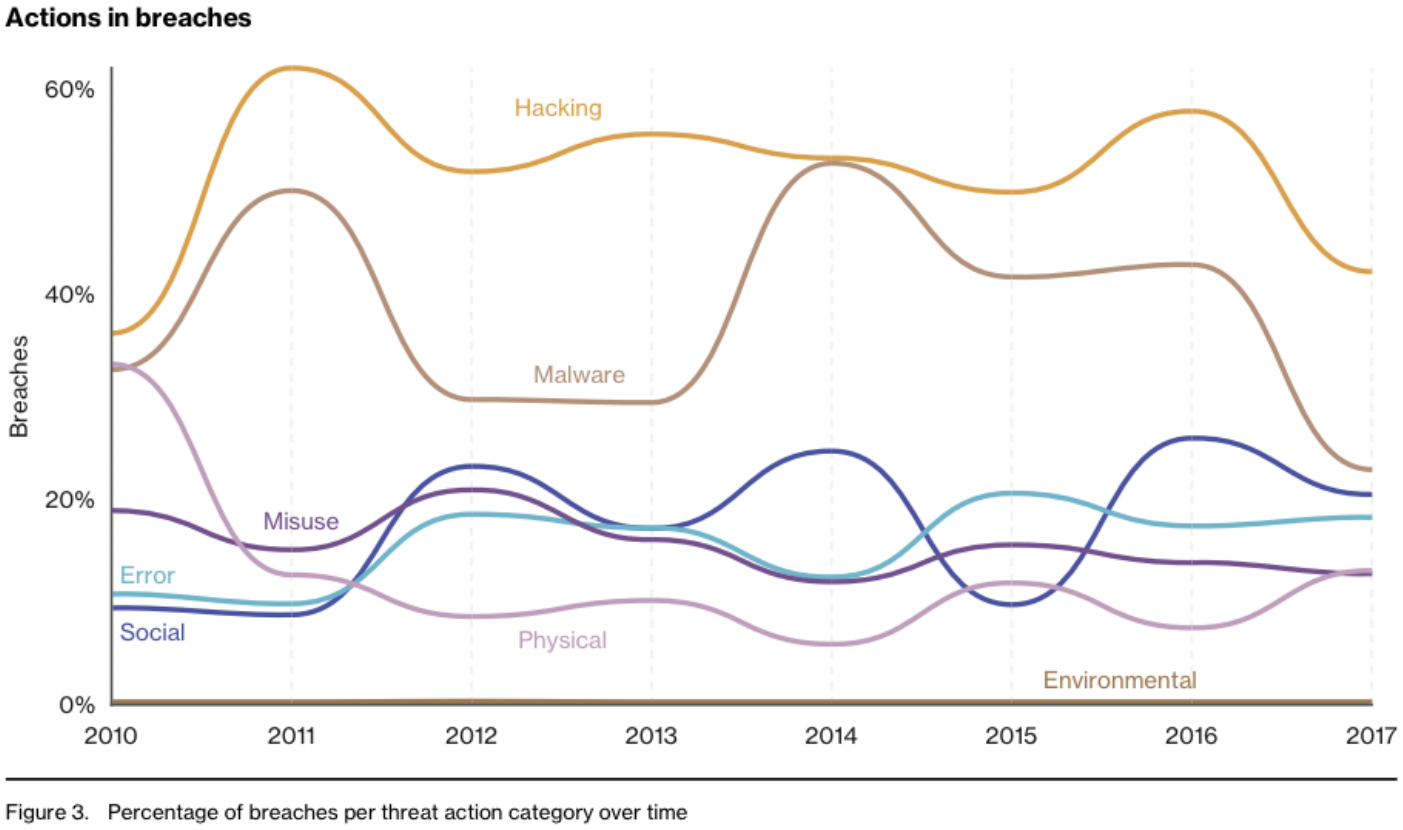


Figure 3. Percentage of breaches per threat action category over time

AUTODESK'S TOP SECURITY BEHAVIORS

Phishing - compromised creds

Password management adoption

Reporting suspicious emails

Training

STEP 3
FINDING THE DATA

DATASETS

Phishing:

run internal assessments

Reporting suspicious emails:

work closely with IR & email teams

Passwords Management:

pull from the enterprise device admin

Training completion:

pull from Learning Management Tool

STEP 4
DEFINE THE INDIVIDUAL'S SUCCESS

DEFINING SUCCESS

Phishing:

No compromised credentials

Reporting:

Sent in a report via appropriate channels

Passwords Management:

Installed

Active (in the last 30 days)

Training completion:

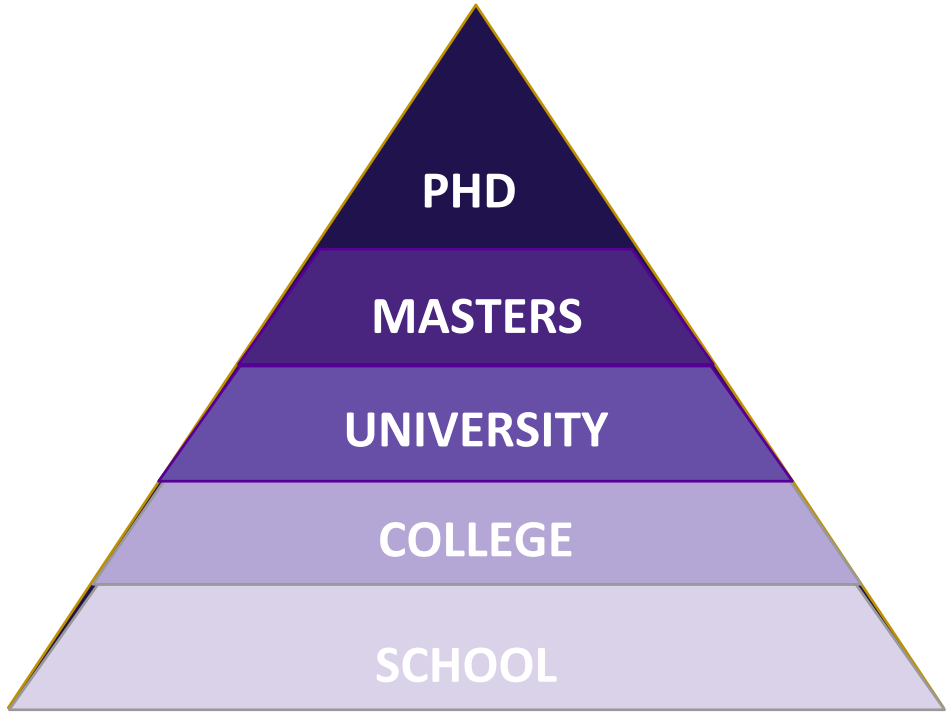
Completed

STEP 5
DESIGNING FOR:
CULTURAL RELEVANCE,
THE FUTURE,
IMPACT

DESIGN: STATIC VS. DYNAMIC

Flimsy Tenuous Sturdy Fortified Indestructible

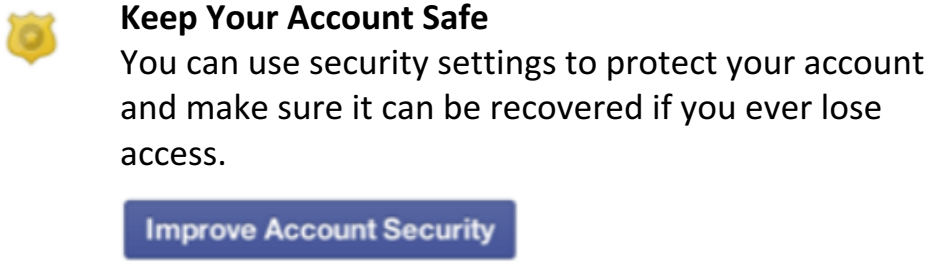
EDUCATION LEVELS (STATIC) VS. CREDIT SCORE (DYNAMIC)



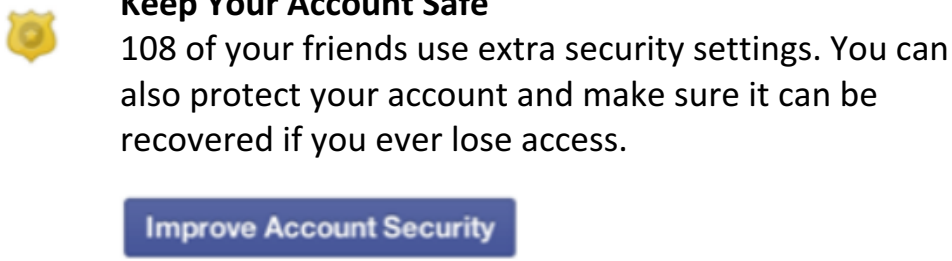
SOCIAL PROOF

The study of Sauvik Das of Georgia Institute of Technology found that a Facebook prompt to install security controls was 1.36x more successful when using social proof.

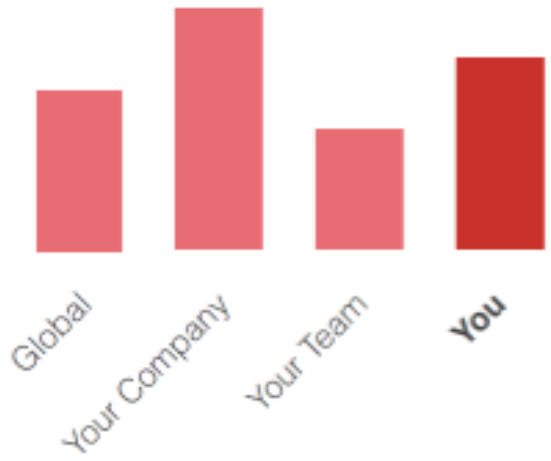
Control



Social Context



COMPROMISED



You were **1.2x** more likely to be compromised than people in your department.

Strengthen skills

LastPass Use

Password managers are the best way to have unique and strong passwords across all your accounts - both personal and work!

Autodesk CEO Andrew Anagnost uses LastPass too!

You earned a badge!

12% of your department has installed LastPass

Installed LastPass

Used LastPass

INTRINSIC MOTIVATION- ACHIEVEMENT

Your Achievements

First Phishing Detection Pass

First Phishing Reporting Pass

Installed and Activated LastPass

Completed All Trainings

SHOW ME THE SNAPSHOT

Here's your

SECURITY SNAPSHOT

Keep up the good work!

Nice Work!

You're **Indestructible**! The rest of your company is Sturdy. Thank you for doing your part to keep Autodesk safe.

Flimsy Tenuous Sturdy Fortified Indestructible

Here's your

SECURITY SNAPSHOT

Make all your red sections green, and you'll be **Indestructible** in no time!

Eeeek!

You're **Flimsy**. The rest of your company is Sturdy. Your security skills need some attention to keep you and Autodesk secure.

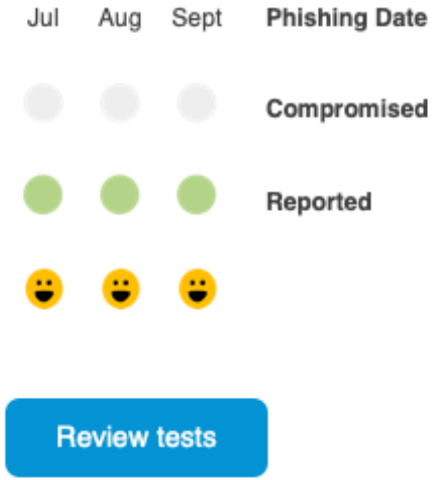
Flimsy Tenuous Sturdy Fortified Indestructible

HERE'S A BREAKDOWN:

Phishing & Reporting

Over the last quarter, we've sent you a few mock phishing emails to see if you were able to detect them!

Phishing is the fraudulent practice of sending malicious emails that try to steal your credentials or download malicious software.



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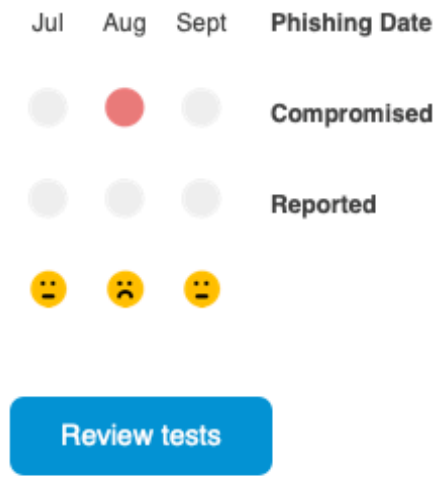
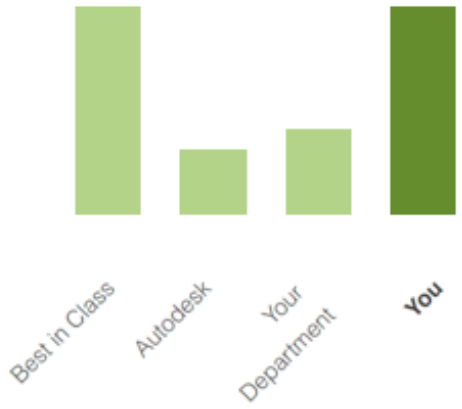


COMPROMISED

You detected **all** of the phishing emails this quarter! Good job!

You earned a badge!

REPORTED



Good job! You're **2.5 times** more likely to report than the rest of your department!

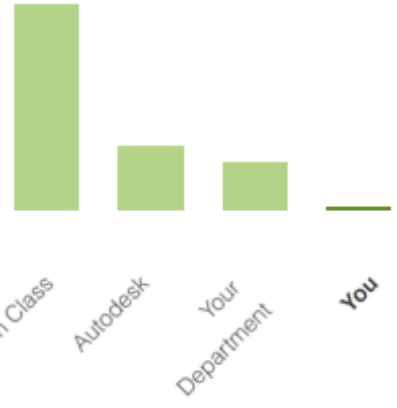
You earned a badge!

COMPROMISED

Oh no! You are **2.6 times** more likely to fall for a phish and submit your credentials than people in your department. You can do better!

Strengthen skills

REPORTED



While your department reported 21.9% of the links, you didn't report any. You can do better!

Learn to report

LastPass Use

Password managers are the best way to have unique and strong passwords across all your accounts.

Autodesk CEO Andrew Anagnost uses LastPass too!

You earned a badge!

15.6% of your department has installed LastPass

Installed LastPass

LastPass Use

Snapshot recommends installing LastPass before a company-wide rollout in Q1.

Autodesk CEO Andrew Anagnost uses LastPass. You should too!

Install LastPass

15.6% of your department has installed LastPass

Installed LastPass

Trainings Done

In order for us to meet our compliance requirement to auditors and customers, every employee is required to complete an annual security training.

89% of your department has completed their trainings

Annual Security Training

You earned a badge!

Trainings Done

In order for us to meet our compliance requirement to auditors and customers, every employee is required to complete an annual security training.

89.3% of your department has completed their trainings

Annual Security Training

Sign up for Trainings

Your Achievements

First Phishing Detection Pass

First Phishing Reporting Pass

Installed LastPass

Completed Required Training

Your Achievements

First Phishing Detection Pass

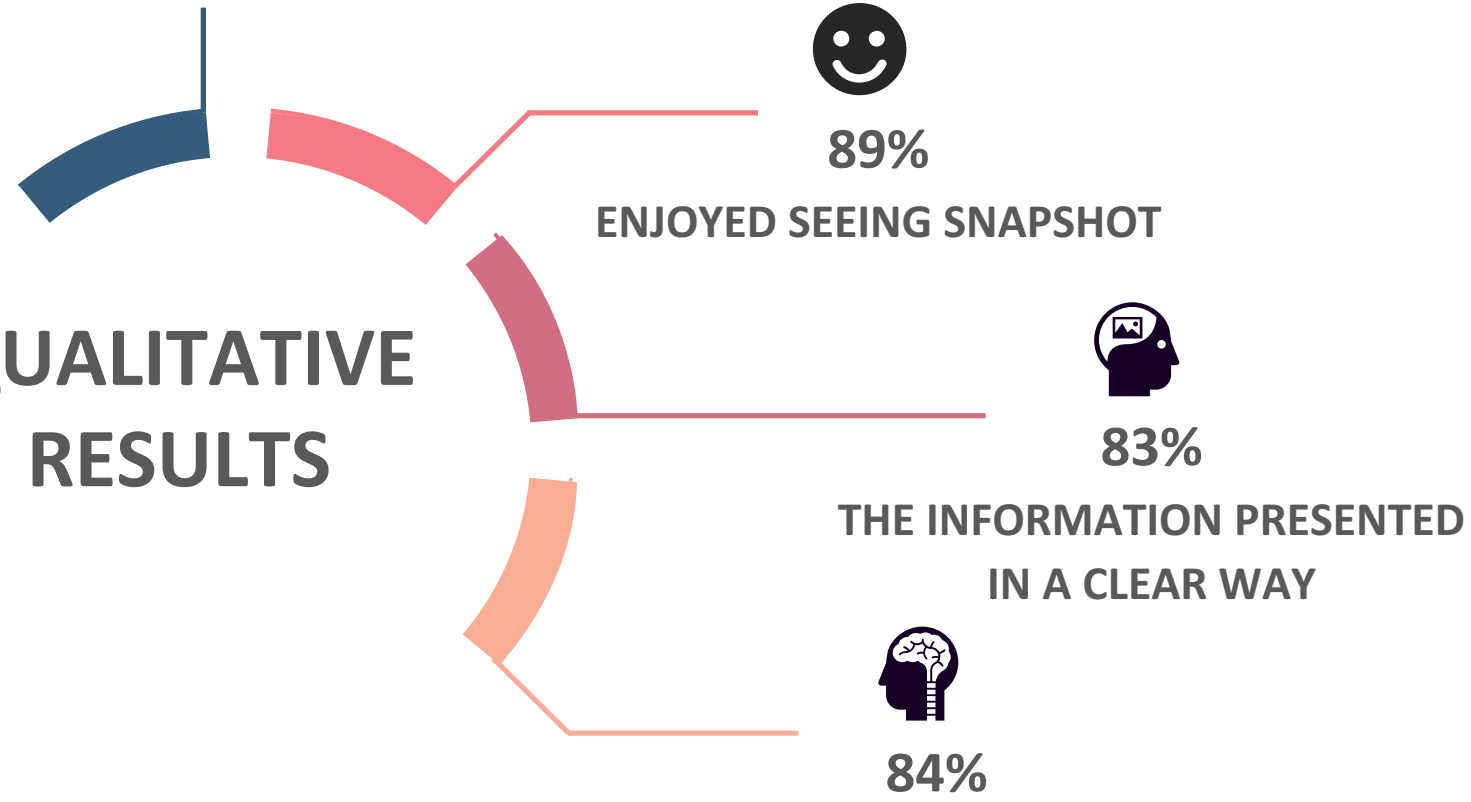
First Phishing Reporting Pass

Installed LastPass

Completed Required Training

AFTER THE LAUNCH

QUALITATIVE RESULTS



60%
REVIEWED SNAPSHOT

89%
ENJOYED SEEING SNAPSHOT

83%
THE INFORMATION PRESENTED IN A CLEAR WAY

84%
MOTIVATED TO CHANGE SECURITY BEHAVIORS & INTERESTED TO LEARN MORE ABOUT SECURITY

AUTODESK | Elevate Security

SURVEY FEEDBACK

“This is the best security email ever! I really love the initiative. Clear, gives me an idea of where I stand and helps me see what else I can do. Plus, I can rub my colleagues noses in it a bit :P “

“I didn't realise that I had to report phishing emails...will do going forward “

“It's really fun, and I'm happy to be earning achievements. Really appeals to the gamer in me!“

“Great, simple and concise overview. If this eventually replaced one off annual training as well, you'd have won in my eyes”

QUANTITATIVE RESULTS

1800+
ENGAGED TRAINING RESOURCES

26%
PASSWORD MANAGER INCREASE

REPORTING INCREASED

PHISHING CLICKS DECREASED

TIME SAVING

Reported:

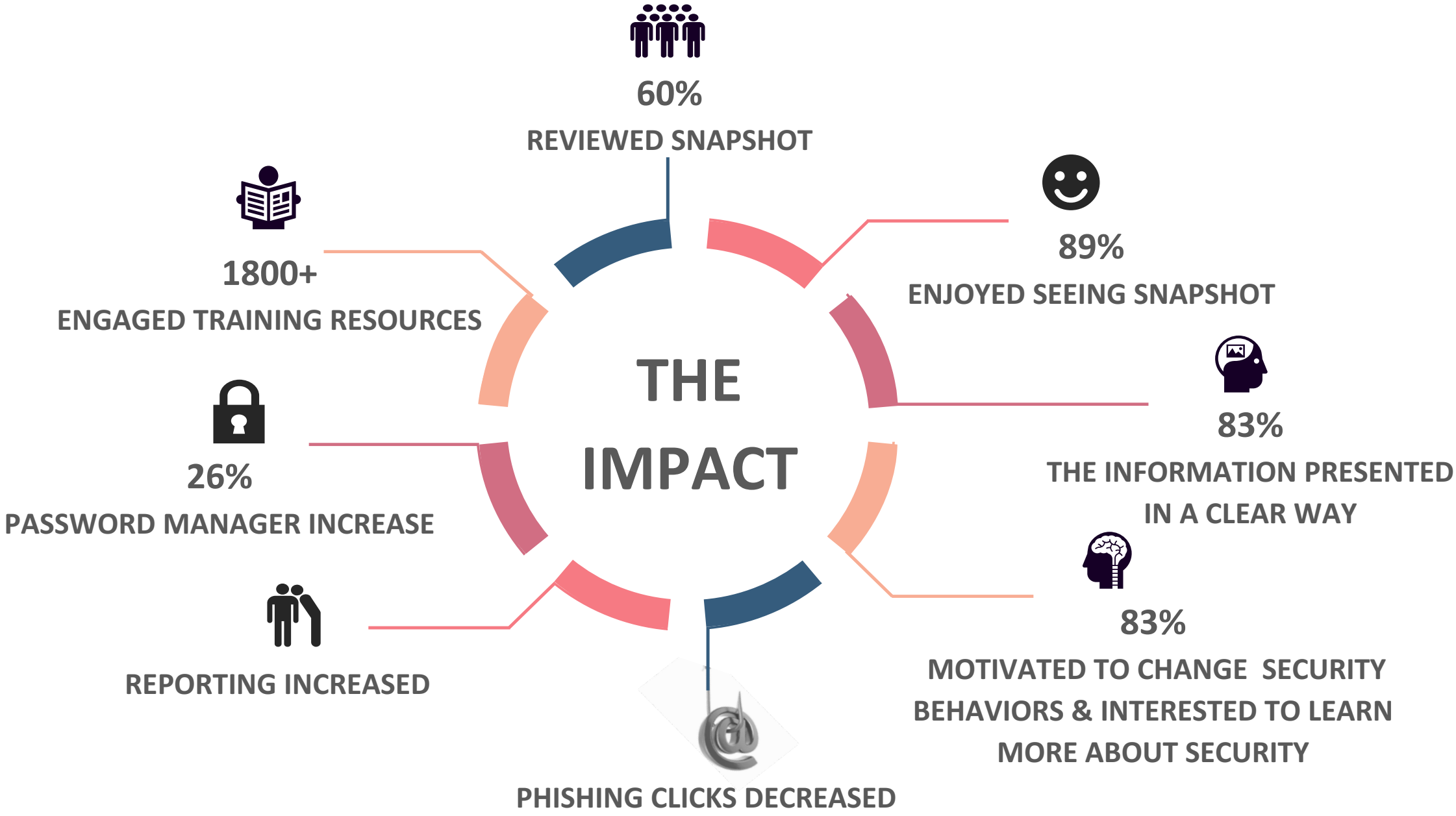
60% of company demonstrated “successful” criteria and didn’t need the training

445 hours saved

Phishing:

69% of the company successfully withstood giving up their credentials and didn’t need the the training.

512 hours saved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REPORTING INCREASED
26%
PASSWORD MANAGER INCREASE
1800+
ENGAGED TRAINING RESOURCES
THE IMPACT

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CHALLENGES & LESSONS LEARNED

INTERNAL STAKEHOLDER BUY-IN

CSO/CISO

Security Team

Legal

Human Resources

Teams with Datasets

RUN A PILOT

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WHAT IS NEXT

NEXT

Replace annual security training

Identify & address more complex data sets

Department specific Snapshots

User access to evolving security Snapshot

Company-wide view

Badge program/ Champion program

HOW TO APPLY THIS TO YOUR ORGANIZATION

TAKE-AWAYS

1. **Find your top 3 behaviors**
2. **Find the data sources for them**
    a. Partner with other members of the security team
    b. Start small and expand
3. **Do trend analysis (in spreadsheets)**
4. **Find culturally engaging ways of communicating findings**
    a. Leaderboards, Intranet sites, Emails
5. **Reward top behavior and focus on the bottom**

THANK YOU!

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Masha@elevatesecurity.com

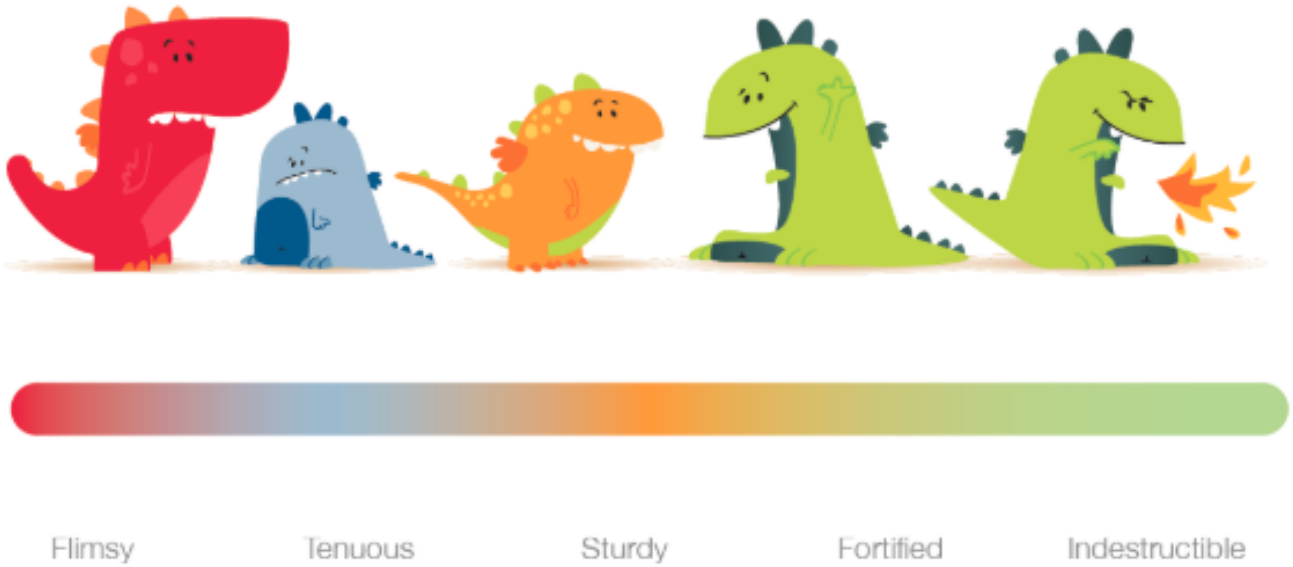
APPENDIX

SNAPSHOT ECOSYSTEM

INTERNAL FAQ & TRAINING RESOURCES

Overview

Security Snapshot is a personalized dashboard for employees to measure and improve upon general workplace security behaviors. Featuring recommended security trainings, comparisons, and action items, the report empowers employees to be aware and more secure to better protect the company and themselves. Autodesk Security identified four opportunities for general security improvement company-wide: phishing, reporting, LastPass password management, and required training.

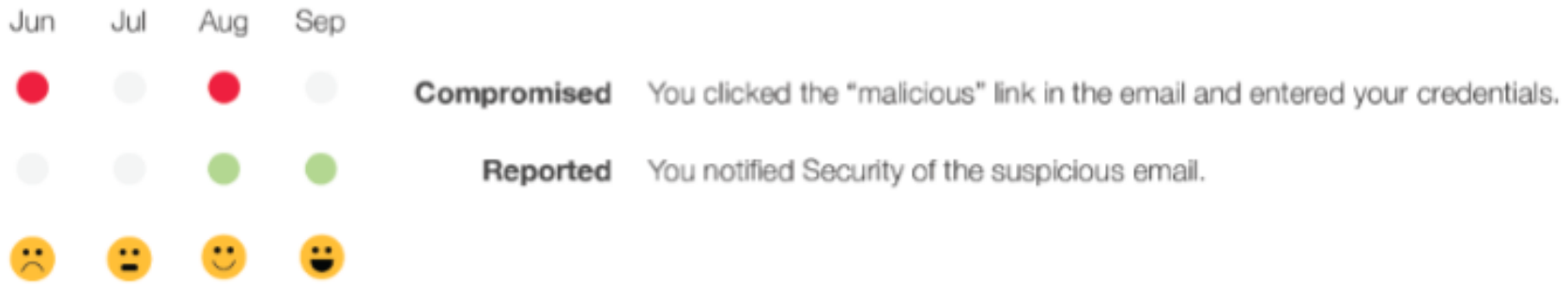


INTERNAL FAQ & TRAINING RESOURCES

1

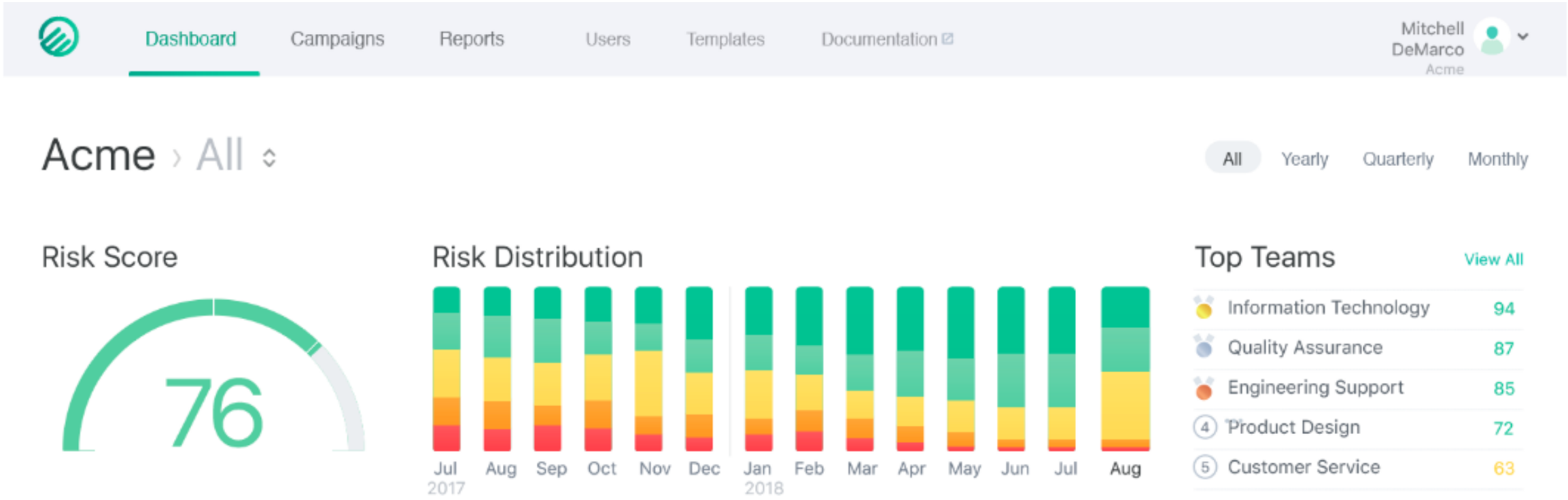
PHISHING

Autodesk Security conducts internal phishing assessments to assess the company's security awareness needs on a regular basis. Inspired by real-world phishing attempts, these internal campaigns aim to inform and educate employees on potential risks to company and personal sensitive information.



★ *Learn more about phishing*

i Review previous phishing test campaigns


Dashboard
Campaigns
Reports
Users
Templates
Documentation
Mitchell DeMarco
Acme
Acme › All
All
Yearly
Quarterly
Monthly
Risk Score
76
Risk Distribution
Jul 2017
Aug
Sep
Oct
Nov
Dec
Jan 2018
Feb
Mar
Apr
May
Jun
Jul
Aug
Top Teams
View All
Information Technology 94
Quality Assurance 87
Engineering Support 85
4 Product Design 72
5 Customer Service 63

Behavior Map

Sort by Best Performing

EXECUTIVE KUDOS

Andrew Anagnost, CEO:
"This is awesome."

Scott Herren, CFO:
"This is cool! What is behind it (in terms of products/technologies)?"

Prakash Kota, CIO:
"Cool stuff. Congrats!"