

INVASION OF THE KILLER PHISH FROM PLANET UX: APPLYING PRINCIPLES OF MARKETING TO PHISHING ATTACKS

By Erica Castilho-Grao

ericacastilho@ucf.edu

PhD candidate Industrial Engineering and Management Systems, 2023

MSc Information Technology, 2012

BSc Information Systems Technology, 2006





About me

More than 20 years of experience in R&D (research and development) in the **software** industry.

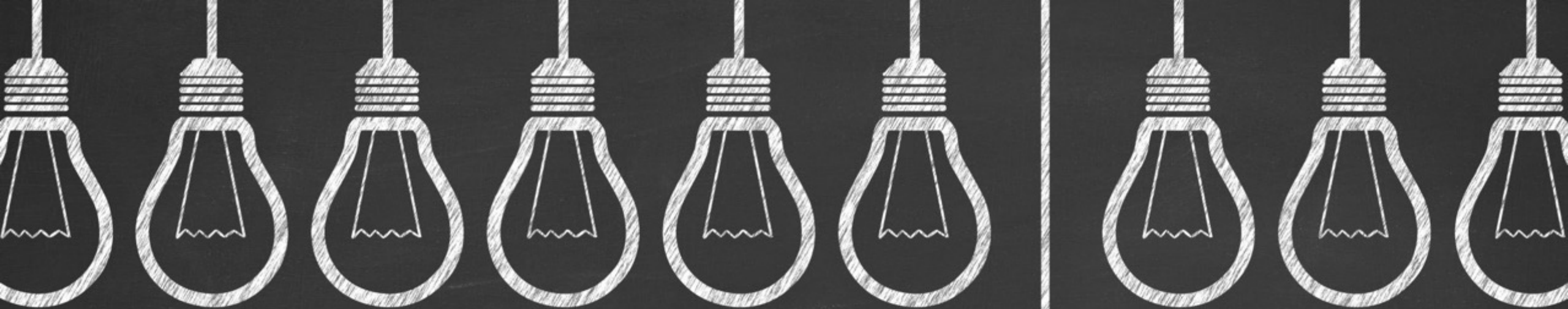
Specialized in UX, UI, and customer satisfaction in SaaS solutions related to eCommerce, CRM, email marketing, and customer support.

Expertise in product design, as well as project and team management.

PhD candidate in Industrial Engineering and Management Systems at UCF

Agenda

- Phishing
- Marketing strategies
- Phishing simulations
- Case study



Phishing

and its impacts



- Ana engaged with a phishing email attack and lost money.
- Billions of people around the world, like Ana, suffer phishing email attacks.

A person wearing a dark hoodie is shown from the chest up, facing right. Their face and the hoodie are overlaid with vertical columns of glowing blue and green binary code (0s and 1s). The background is dark with faint, falling lines of white and blue code, reminiscent of the 'Matrix' effect. A large, semi-transparent white circle is positioned on the left side of the image, containing text.

Phishing email

- sent by a scammer with the goal of getting sensitive data



Email report

- recent industry reports informed that an average person sends and receives **121 business emails per day, with 1.2% being malicious** (Chang, 2021)

1 trillion
problem

- Cybersecurity has grown into a \$1 trillion problem with companies of all sizes investing more in security tools

Morgan, 2020



What is #1 crime type in
terms of \$ lost?
Business email crimes =
phishing emails.
(FBI)

Where is the phishing?



CHASE - Alerts <manage27478office9392amsdk34o434@9n8n2ve0s3r6a94e.xyz>
Para: ericacastilho@yahoo.com.br

Para sua segurança, desativamos todas as imagens e links neste e-mail. Se você acredita que é seguro recebê-los, marque esta mensagem como 'não é spam'. [Mostrar imagens](#)

Dear Customer,

We're letting you know that we've detected some unusual activity on your card on Sat, June 25, 2022 7:31 AM. For your security, please verify the following transaction(s) so that you can continue to use your card :

Do you recognize all of these transaction(s)?

- Approved transaction at SQC*CASH APP for \$224.39 on Sat, June 25, 2022 7:31 AM
- Declined transaction at TOP UP B.V for \$638.11 on Sat, June 25, 2022 7:31 AM
- Approved transaction at AMAZON for \$127.53 on Sat, June 25, 2022 7:31 AM

YES, I recognize all of these transaction

YES will make you card immediately ready to use again.

NO, I don't recognize one or more of these transaction

NO will allow you to complete the verification process and file a fraud claim in Online or Mobile Banking.

Please do not reply to this automatically generated message. If you have any question, please call us at number located at top of your statement.
Copyright © 2022 Chase Corp. 1 Infinite Loop, Cupertino, CA 95014, United States All Rights Reserved
Your privacy is important to us. See our online Security Center to learn how to protect your information. Chase Privacy Operations, PO Box 650752, San Antonio, TX 78265-0752.

© JPMorgan Chase Bank, N.A. Member FDIC

Amazon.com <order-update@amazon.com>



HI JORDAN,

Your package has been delivered!

How was your delivery?

It was great

Not so great

[A photo of your delivery location](#)

[Track your package](#)

Order info

1 item


Order #111-8060624-3669003

Return or replace items in [Your Orders](#).

This email was sent from a notification-only email address that cannot accept incoming email. Please do not reply to this message.

© 2019 Amazon.com, Inc. or its affiliates. All rights reserved. Amazon, Amazon.com, and the Amazon.com logo are registered trademarks of Amazon.com, Inc. or its affiliates. Amazon.com, 410 Terry Avenue N., Seattle, WA 98109-5210

Where is the phishing?



CHASE - Alerts <mar...@chase.com>
Para: ericacastilho@yahoo.com

Para sua segurança, desativamos todas as imagens e links neste e-mail. Se você acredita que é seguro recebê-los, marque esta mensagem como 'não é spam'. [Mostrar imagens](#)

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Your privacy is important to us. See our online Security Center to learn how to protect your information. Chase Privacy Operations, PO Box 650752, San Antonio, TX 78265-0752.
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Amazon.com <order-update@amazon.com>

amazon

HI JORDAN,
Your package has been delivered!

How was your delivery?

It was great **Not so great**

[A photo of your delivery location](#)

Track your package

Order info
1 item
Order #111-8060624-3669003
Return or replace items in [Your Orders](#).

This email was sent from a notification-only email address that cannot accept incoming email. Please do not reply to this message.

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Where is the phishing?

Subject: Document shared with you

From: DropBox Admin <support@dropbox-notifications.com>



Someone from your address book just shared IMPORTANT document with you.

You can view or download your document below.

[View or download](#)

 Unverified **I sent a shared file. Please acknowledge receipt**



 **John Archer** <jarcher@bizconsulting.com>

Today at 3:44 PM

To:  Md Mamunur Rashid

Hi there,

My boss instructed I send you this doc in furtherance with what you discussed on telephone. He is presently out of office.

For security reasons, I sent this document via share drive. [view here](#)

Regards,
John Archer

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Where is the phishing?

LinkedIn Jordan Williams

5 top courses for skills you're interested in



COURSE
Emotional Intelligence for Project Managers (Blinkist Summary)
By: Blinkist
1 person with similar job titles are learning this week

Save

Our recommendations are based on the skills you're interested in. You can always [edit your skills](#) to improve content recommendations.

[Unsubscribe](#) | [Help](#)

You are receiving LinkedIn notification emails.

[Learn why we included this.](#)

LinkedIn

Action Needed: Your payment was not approved

ST Shari Taylor <shari.taylor@payment-process.com>
To: Erica Castilho-Grao Tue 6/28/2022 9:29 AM

Payment to you was not sent

Hello ericacastilho@ucf.edu,
Please validate your address to receive your payment.

[Validate Today](#)

To Your Success,
Shari Taylor


To change your subscription options:
[SUBSCRIPTION DETAILS](#)

Where is the phishing?



LinkedIn Jordan Williams

5 top courses for skills you're interested in



COURSE
Emotional Intelligence for Project Managers (Blinkist Summary)
By: Blinkist
1 person with similar job titles are learning this week

Save

Our recommendations are based on the skills you're interested in. You can always [edit your skills](#) to improve content recommendations.

[Unsubscribe](#) | [Help](#)

You are receiving LinkedIn notification emails.

[Learn why we included this.](#)

LinkedIn

Action Needed: Your payment was not approved

ST Shari Taylor <shari.taylor@payment-process.com>
To: Erica Castilho-Grao Tue 6/28/2022 9:29 AM

Payment to you was not sent

Hello ericacastilho@ucf.edu,
Please validate your address to receive your payment.

[Validate Today](#)

To Your Success,
Shari Taylor

To change your subscription options:
[SUBSCRIPTION DETAILS](#)

Where is the phishing?

Philip T. via United Nations <philipt@maill-yahoo.com>

To: Erica Castilho-Grao



Fri 5/27,

Good Day Beneficiary,

This is to inform you that we have tried several times to get hold of you concerning your winning sum of \$8,000,000.00 USD, which has been approved by the United Nations. Please click [here](#) for more details.

Congratulations!
Philip

Subject: A Delivery Attempt Was Made

From: UPS <UPSTracking@ups-us-shipping.com>



*** Do not reply to this e-mail. UPS will not receive your reply.

Important Delivery Information

Where is the phishing?

Philip T. via United Nations <philipt@maill-yahoo.com>

To: Erica Castilho-Grao



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Subject: A Delivery Attempt Was Made

From: UPS <UPSTracking@ups-us-shipping.com>





*** Do not reply to this e-mail. UPS will not receive your reply.

Important Delivery Information

Where is the phishing?

Your review & feedback is required on the attached file "IDENTIBRANDS BY PROFORMA INC.pdf"

 **Greg Marks from Proforma** <noreply@exchange-notification.com>
To:  Erica Leite De Castilho Grao
Mon 10/24/2022 12:16 PM

 IDENTIBRANDS BY PROFOR...
107 KB

Greg Marks at IDENTIBRANDS BY PROFORMA shared a file with you.

Business Proposal Offer & Project Introduction Letter.pdf 304.MB

[Preview Document File](#)

This encrypted file has been sent to you via secured document safeguard.

Suspicious charges

 **Amazon** <amazon@orders-accounting.com>
To:  Erica Leite De Castilho Grao
Mon 10/24/2022 12:16 PM



Hello Erica Castilho-Grao,

Please click on the following link to for a message about several suspicious charges:

<https://business.amazon.com/asldkrjeaw/help/customer/alsdkfas49234>

Questions? Visit [Amazon Support](#) to find assistance.



PROFORMA INC Confidentiality Note:
The information contained in this message is confidential and protected by legal privilege. This document is meant solely for the use of the individual(s) to whom it is addressed. Viewing or the use of this information without our permission is prohibited. We request you take immediate action to notify the sender of any error

Where is the phishing?

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Greg Marks from Proforma <noreply@exchange-notification.com>
To: Erica Leite De Castilho Grao
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IDENTIBRANDS BY PROFOR...
107 KB

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Business Proposal Offer & Project Introduction Letter.pdf 304.MB

[Preview Document File](#)

This encrypted file has been sent to you via secured document safeguard.

PROFORMA INC Confidentiality Note:

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Suspicious charges

Amazon <amazon@orders-accounting.com>
To: Erica Leite De Castilho Grao
Mon 10/24/2022 12:16 PM

amazon

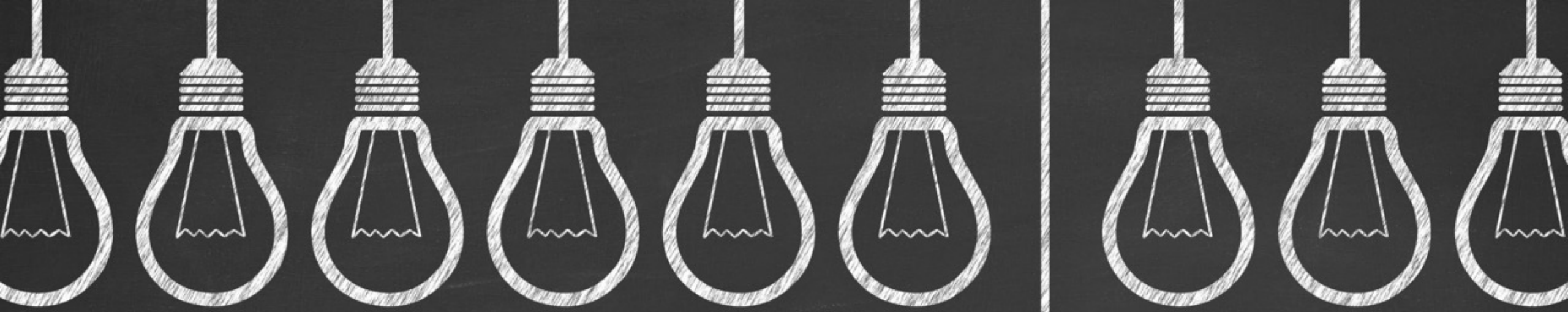
Hello Erica Castilho-Grao,

Please click on the following link to for a message about several suspicious charges:

<https://business.amazon.com/asldkrjeaw/help/customer/alsdkfas49234>

Questions? Visit [Amazon Support](#) to find assistance.

amazon.com



Marketing strategies

How email marketing specialist work



*“Scammers may be using email marketing techniques in phishing emails. We need to prepare for that.”
(Erica Castilho)*

Example of a real phishing email



● **Warren Buffet Foundation** <oliverkisakye2016@gmail.com>

Para:

Cco:



seg., 4 de abr. às 18:59



It has been brought to my notice that you are yet receive your fund due to your lack of money to meet up with the payment demands.

Contact my secretary with your info:

Daniel Kumar
officemessa444@gmail.com

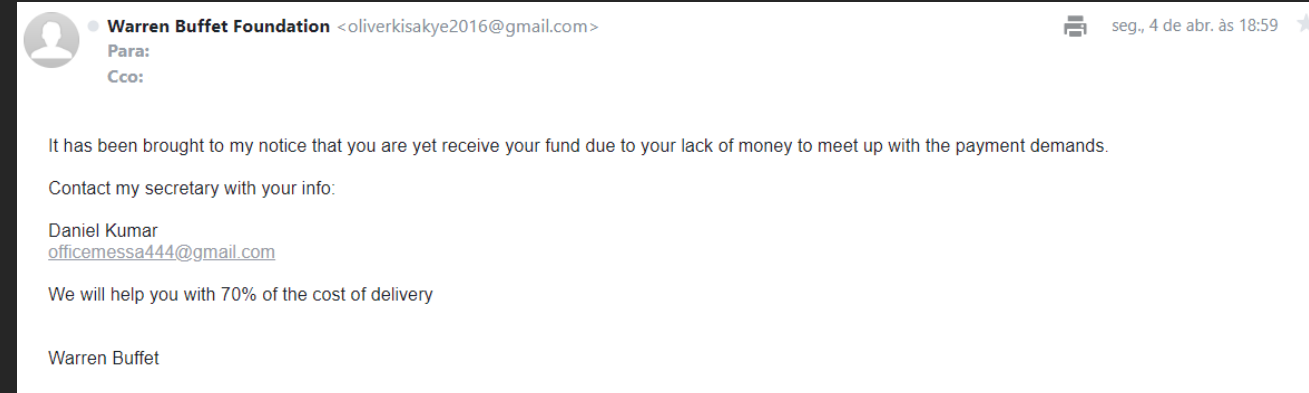
We will help you with 70% of the cost of delivery

Warren Buffet

- This phishing email has many cues, signals that the email may be a phishing email.
- These cues are, in part, related to low usability quality.



In email marketing the quality matters



The example phishing email shown in last slide would not be used in email marketing, as it exhibits low usability quality.

Research Question

What are the factors that lead to phishing email clicks?

- Understanding is essential to combat this threat.

Might email marketing techniques and expertise be used by hackers and scammers to be successful in their endeavor?

- Given my background, I am curious



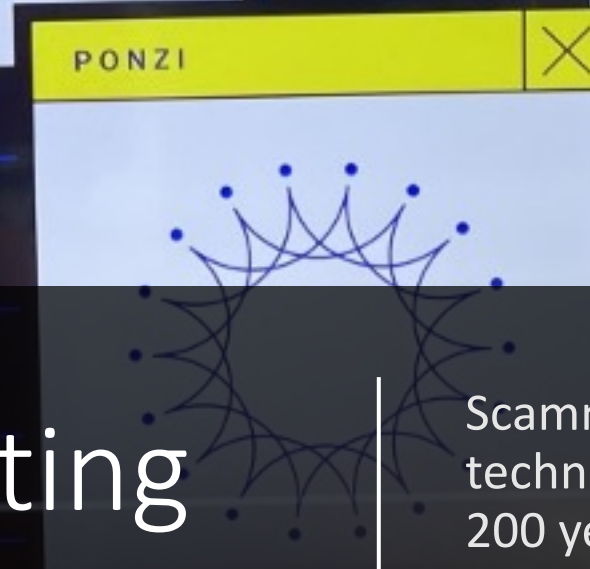
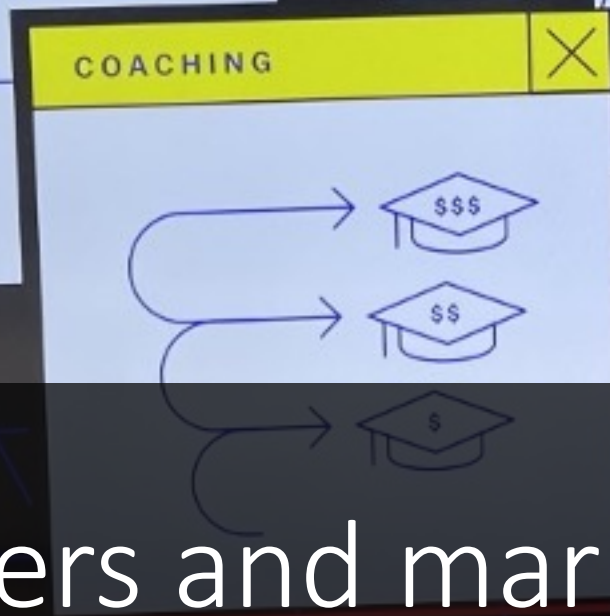
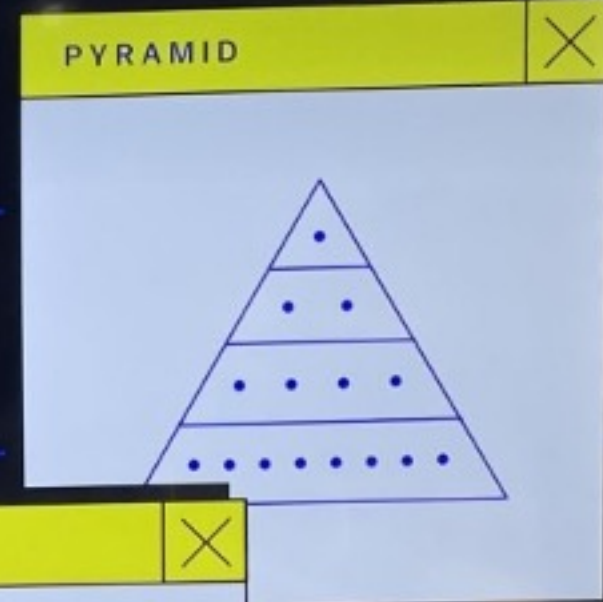
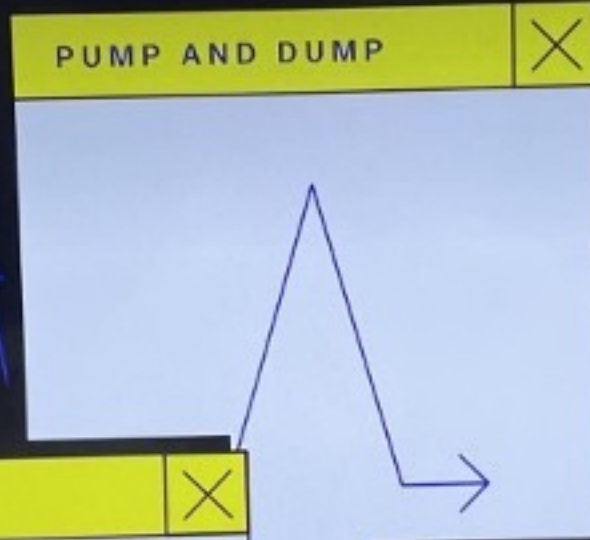
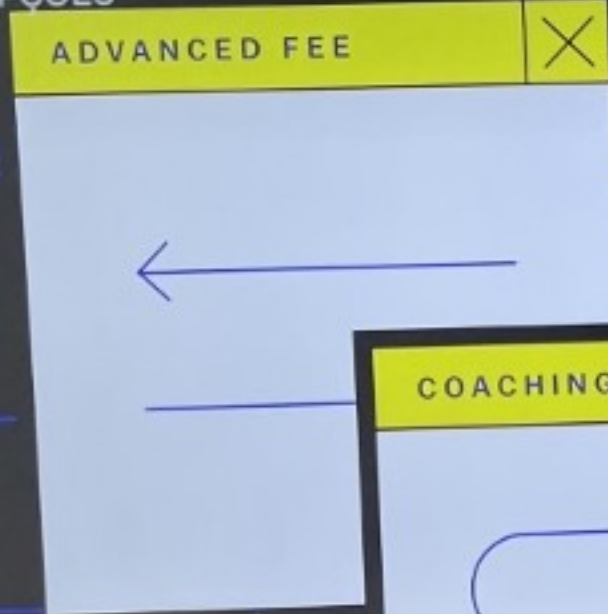
My novel contribution

- Analyze marketing practices in phishing email context

Explicando... Dinheiro
"Enriqueça rápido"



OPÇÕES



Scammers and marketing

Scammers use marketing techniques for more than 200 years.

09:41

✓ português Inglês [original] com legendas português com legendas Outro...

Advanced fee schemes

- Advance fee fraud gets its name from the fact that an investor is asked to pay a fee up front – in advance of receiving any proceeds, money, stock, or warrants – in order for the deal to go through.
- The scammer tries to convince you to pay an amount to receive a larger amount later.

Pump and dump scheme

- In a pump and dump scheme, fraudsters typically spread false or misleading information to create a buying frenzy that will “pump” up the price of a stock and then “dump” shares of the stock by selling their own shares at the inflated price.
- Once the fraudsters dump their shares and stop hyping the stock, the stock price typically falls and investors lose money.

Pyramid scheme

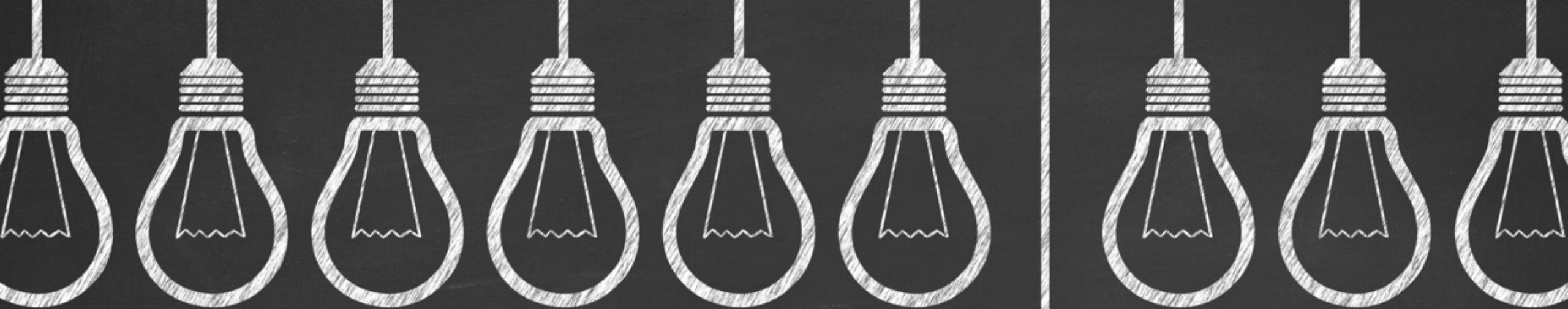
- In the classic "pyramid" scheme, participants attempt to make money solely by recruiting new participants, usually where:
- The promoter promises a high return in a short period of time;
- No genuine product or service is actually sold; and
- The primary emphasis is on recruiting new participants.

Coaching scheme

- In this scheme, the promoters typically claim you can make big money with little or no experience. They say their “experts” will teach you a “proven method” for building a successful business on the Internet. Many say or suggest that they’re affiliated with well-known online sellers when that’s not true

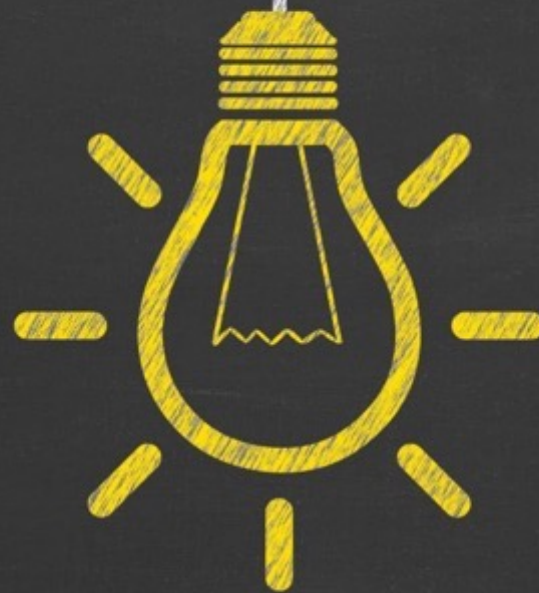
Ponzi scheme

- a form of fraud that lures investors and pays profits to earlier investors with funds from more recent investors.



Phishing simulations

Company solution



Definition

Simulated phishing or a **phishing test** is where deceptive emails, similar to malicious emails, are sent by an organization to their own staff to gauge their response to [phishing](#) and similar email attacks.



The emails themselves are often a form of training, but such testing is normally done in conjunction with prior training; and often followed up with more training elements.



This is especially the case for those who "fail" by opening email attachments, clicking on included weblinks, or entering credentials.



“Professionals’ behavior is the major threat to businesses’ security. We need to train users.”
(Erica Castilho)

We can't
train people
for this

Your message couldn't be delivered

Microsoft Support support@microsoft.com

para mim ▼

Your message to director@cogindustries.com couldn't be delivered. Your mail program is using out-of-date address information.

Office 365

administrative@cogindustries.com

Action Required

Out-of-date FROM address

How to Fix It

Click [here](#) and update the information requested about your email.

Was this helpful? [Send feedback](#).

And people
get this

Your message couldn't be delivered



Microsoft Support support@microsoft.com
para mim ▾

🌐 inglês > português Traduzir mensagem



Your message to director@coindustries.com couldn't be delivered. Your mail program is using out-of-date address information for administrative@coindustries.com. Don't let your director lose access to important opportunities.

Office 365

administrative@coindustries.com

2022

Action Required

Recipient

Out-of-date FROM address

How to Fix It

Be the first in your company to keep your information updated. Click on the button above and update the information requested about your email.

[Update email information](#)

Was this helpful? [Send feedback](#)

Microsoft Support Team

support@microsoft.com

1 Microsoft Way, Redmond, Washington 98052-8300

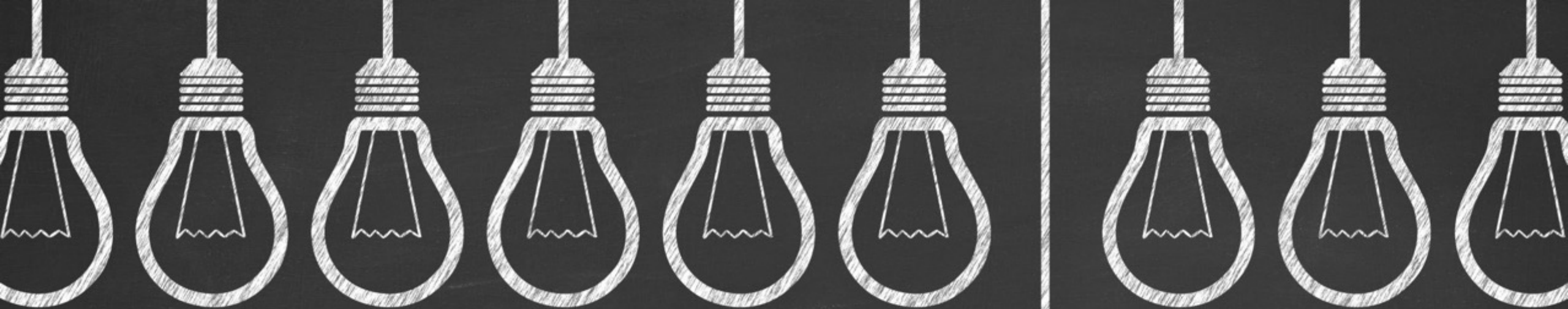
Support line: 1 (425) 882-8080

Copyright © 2022 Microsoft. All rights reserved.

You are receiving this emails because your company has Microsoft support.

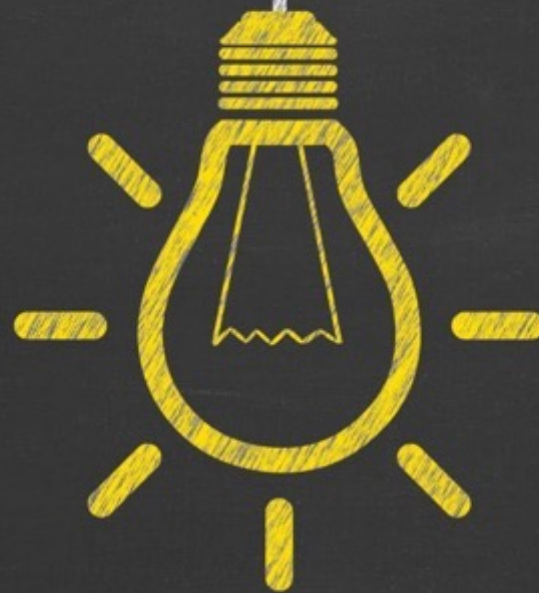
Want to change how you receive these emails?

You can [update your preferences](#) or [unsubscribe from this list](#).



Case study

improved by 34% phishing email click rates



Research team

Dr Matthew Canham

Dr Ben D Sawyer

Erica Castilho



Our research

Analyzed the impact of premise alignment and the number of cues on phishing email click rates

Premise alignment

- Email marketing specialists work with personalization to increase clicks and engage consumers.
- Premise Alignment refers to the degree to which the message aligns with the recipient's job role and alludes to the user's context in evaluating the message.
- Examples

Cues

Cue type	Cue name	Description	References	Criteria for counting
Error	Spelling and grammar irregularities	Spelling or grammar errors, mismatched plurality and so on	[11, 19–30]	Does the message contain spelling or grammar errors, including mismatched plurality?
	Inconsistency	Inconsistent content within the email	[3]	Are there inconsistencies contained in the email message?
Technical indicator	Attachment type	The presence of file attachments, especially an executable	[31]	Is there a potentially dangerous attachment?
	Sender display name and email address	Spoofed display names - hides the sender and reply-to email addresses	[11, 13, 19, 21, 22, 24, 27, 29, 32]	Does a display name hide the real sender?
	URL hyperlinking	URL hyperlinking hides the true URL behind text; the text can also look like another link	[20–22, 25, 27, 33]	Is there text that hides the true URL in a hyperlink?
	Domain spoofing	Domain name used in email address and links looks similar to plausible	[3, 34]	Is a domain name used in addresses or links plausibly similar to a legitimate entity's domain?
Visual presentation indicator	No/minimal branding and logos	No or minimal branding and logos	[13, 19, 22, 23, 25, 27, 32, 34, 42]	Is appropriate branding missing?
	Logo imitation or out-of-date branding/logos	Spoof or imitation of logo/out-of-date logo	[3, 24]	Do any branding elements appear to be an imitation or out-of-date?
	Unprofessional looking design or formatting	Formatting and design elements that do not appear to have been professionally generated	[25, 27, 28, 34–36]	Does the design and formatting violate any conventional professional practices?
	Security indicators and icons	Security indicators and icons	[25, 35]	Are any inappropriate security indicators or icons present?

Cues

Language and content	Legal language/copyright info/disclaimers	Any legal type language such as copyright information, disclaimers, tax implications	[25]	Does the message contain any legal type language such as copyright information, disclaimers, tax information?
	Distracting detail	Distracting Detail	[3]	Does the message contain any detailed aspects that are not central to the content?
	Requests for sensitive information	Requests for sensitive information, like a Social Security number or other identifying information	[3, 21, 22]	Does the message contain a request for any sensitive information, including personally identifying information or credentials?
	Sense of urgency	Use of time pressure to try to get users to quickly comply with the request	[11, 20–22, 24, 27, 32, 37]	Does the message contain time pressure, including implied?
	Threatening language	Use of threats such as legal ramifications	[11, 20, 21, 27, 32, 37]	Does the message contain a threat, including an implied threat?
	Generic greeting	A generic greeting and an overall lack of personalization in the email	[20, 21, 24, 27, 28, 33, 34, 37]	Does the message lack a greeting or lack personalization in the message?
	Lack of signer details	Emails including few details about the sender, such as contact information	[24, 32]	Does the message lack detail about the sender, such as contact information?
Common tactic	Humanitarian appeals	Appeals to help others in need	[24, 27, 32]	Does the message make an appeal to help others?
	Too good to be true offers	Contest winnings or other unlikely monetary and/or material offerings	[23, 24, 27, 28, 30]	Does the message offer anything that is too good to be true, such as having won a contest, lottery, free vacation and so on?
	You're special	Just for you offering... such as a valentine e-card from a secret admirer	[24]	Does the message offer anything just for you?

Cues

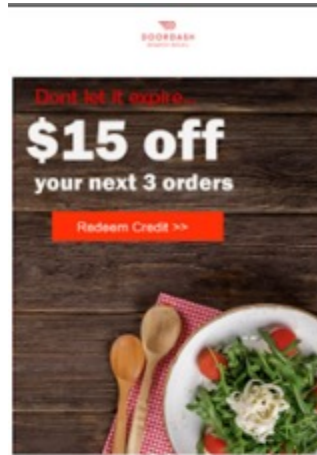
Limited time offer	admirer This offer won't last long...	[24]	Does the message offer anything for a limited time?
Mimics a work or business process – a legitimate email	Mimics any plausible work process such as new voicemail, package	[24]	Does the message appear to be a work or business-related process?
Poses as friend, colleague, supervisor, authority figure	delivery, order confirmation, notice of invoice, and so on Email purporting to be from a friend, colleague, boss or other authority figure	[14, 24]	Does the message appear to be from a friend, colleague, boss or other authority entity?

Research method 2x2

Premise alignment	Number of cues
High	Low
High	High
Low	Low
Low	High

Food order campaign

High Premise / Low cues



Same selection of items as physical grocery stores.

Chat live with your shopper about any changes.

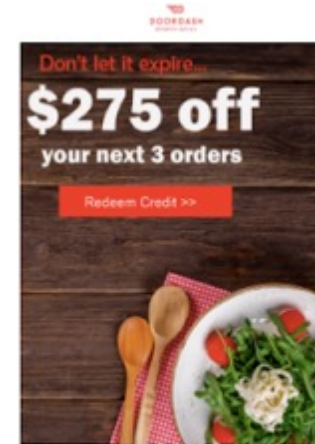
Same Day Groceries delivered.

Coupons
Exclusive deals not found in stores.
Start Saving Now



© 2021 May 21, 2021 at 11:00 AM Pacific Time. Offer valid on orders made through checkout on account only. Discount will be applied to the total purchase price for all non-alcohol items and items subject to availability. Government special charges apply. Offer not for use with the Apple logo and trademarks of Apple Inc., registered in the U.S. and other countries. Apple, the Apple logo, Google Play, and the Google Play logo are trademarks of Google Inc. in the U.S. and other countries. See Terms of Service.

High Premise / High cues



Same selection of items as physical grocery stores.

Chat live with your shopper about any changes.

Same Day Groceries delivered.

Coupons
Exclusive deals not found in stores.
Start Saving Now



© 2021 May 21, 2021 at 11:00 AM Pacific Time. Offer valid on orders made through checkout on account only. Discount will be applied to the total purchase price for all non-alcohol items and items subject to availability. Government special charges apply. Offer not for use with the Apple logo and trademarks of Apple Inc., registered in the U.S. and other countries. Apple, the Apple logo, Google Play, and the Google Play logo are trademarks of Google Inc. in the U.S. and other countries. See Terms of Service.

Food order campaign

Low Premise / Low cues



Same selection of items as physical grocery stores.



Chat live with your shopper about any changes.

Same Day Groceries delivered.



Coupons

Exclusive deals not found in stores.

Start Saving Now

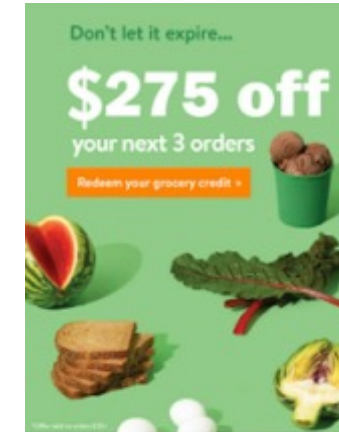


Valid May 21, 2021 at 11:59PM Pacific Time. Offer valid on orders made through Instacart's in-app only. Discount will be applied to the total purchase price for all non-alcohol products within the delivery radius to participating Instacart partner grocery retailers. Offer not valid on the Apple logo or trademarks of Apple Inc., registered in the U.S. and other countries and all other logos and trademarks of Apple Inc., registered in the U.S. and other countries and all other logos and trademarks of Google Inc., registered in the U.S. and other countries. © 2021 Instacart. All rights reserved.

This email was sent by Instacart to whitacourt@instacart.com.

Instacart is not responsible for any issues with the service or any other issues.

Low Premise / High cues



Same selection of items as physical grocery stores.



Chat live with your shopper about any changes.

Same Day Groceries delivered.



Coupons

Exclusive deals not found in stores.

Start Saving Now



Valid May 21, 2021 at 11:59PM Pacific Time. Offer valid on orders made through Instacart's in-app only. Discount will be applied to the total purchase price for all non-alcohol products within the delivery radius to participating Instacart partner grocery retailers. Offer not valid on the Apple logo or trademarks of Apple Inc., registered in the U.S. and other countries and all other logos and trademarks of Apple Inc., registered in the U.S. and other countries and all other logos and trademarks of Google Inc., registered in the U.S. and other countries. © 2021 Instacart. All rights reserved.

This email was sent by Instacart to whitacourt@instacart.com.

Instacart is not responsible for any issues with the service or any other issues.

Food order campaign - Results

Template	Delivered	Opened	Clicked	CR
A - Instacart, min cues	390	66	5	1%
B - Instacart, many cues	390	68	6	1.3%
C - Doordash, min cues	390	58	2	0.5%
D - Doordash, many cues	390	69	8	1.3%

•open rate: 11.5% - 16.4%

Email issue campaign

High Premise / Low cues



Your message to roberth@ucf.edu couldn't be delivered.

Your mail program is using out-of-date address information for
Matthew.Canham@ucf.edu.

Microsoft Outlook

Matthew Canham

April 29, 2021

Action Required

[Redacted]

Out-of-date TO address

Recipient

[Redacted]

How to Fix It

Retype the recipient's address, then resend the message. If you're using Outlook, open this non-delivery report message and click **Send Again**. In Outlook on the web, select this message, and then click the **Send Again** link located just below the message preview.

Send Again

High Premise / High cues



Your message to roberth@ucf.edu couldn't be delivered.

Your mail program is using out-of-date address information for
Matthew.Canham@ucf.edu.

Microsoft Outlook

Matthew Canham

April 29, 2021

Action Required

[Redacted]

Out-of-date TO address

Recipient

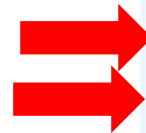
[Redacted]

How to Fix It

Retype the recipient's address, then resend the message. If you're using Outlook, open this non-delivery report message and click **Send Again**. In Outlook on the web, select this message, and then click the **Send Again** link located just below the message preview.

You have 12 hours to complete this action or your e-mail will expire.

Send Again



Email issue campaign

High Premise / Low cues



Your message to roberth@ucf.edu couldn't be delivered.

Your mail program is using out-of-date address information for
Matthew.Canham@ucf.edu.

Office 365

Matthew Canham

Action Required

Out-of-date TO address

April 29, 2021

Recipient

How to Fix It

Retype the recipient's address, then resend the message. If you're using Outlook, open this non-delivery report message and click **Send Again**. In Outlook on the web, select this message, and then click the **Send Again** link located just below the message preview.

Send Again

High Premise / High cues



Your message to roberth@ucf.edu couldn't be delivered.

Your mail program is using out-of-date address information for
Matthew.Canham@ucf.edu.

Office 365

Matthew Canham

Action Required

Out-of-date TO address

April 29, 2021

Recipient

How to Fix It

Retype the recipient's address, then resend the message. If you're using Outlook, open this non-delivery report message and click **Send Again**. In Outlook on the web, select this message, and then click the **Send Again** link located just below the message preview.

You have 12 hours to complete this action or your e-mail will expire.

Send Again

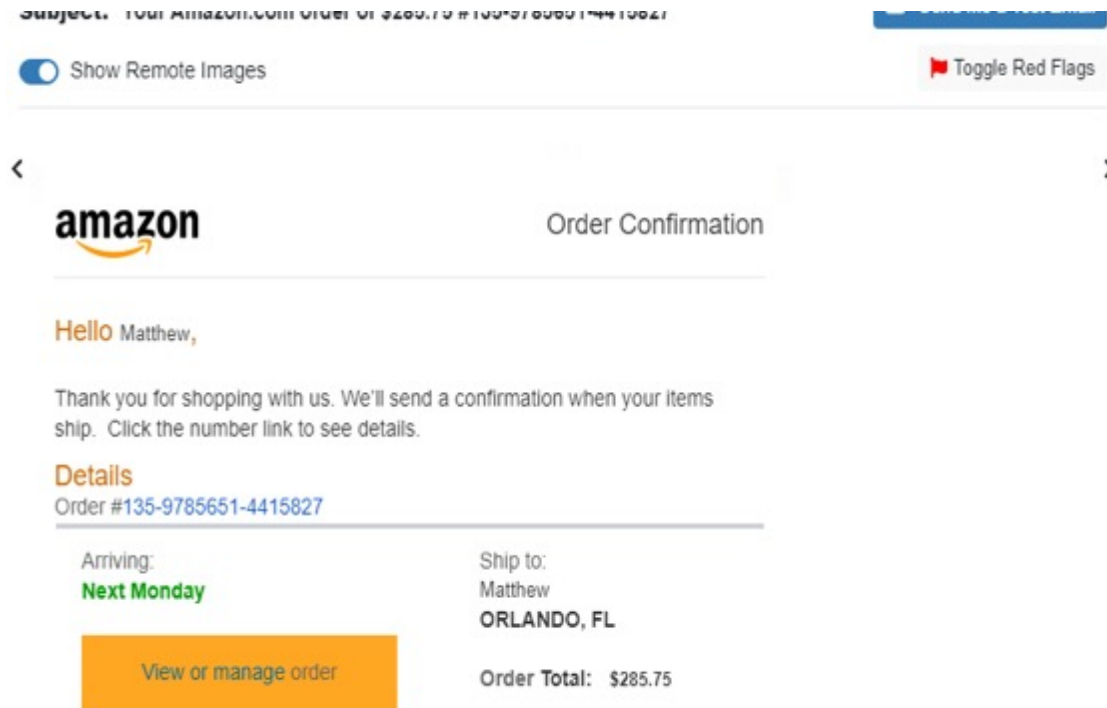


Email issue campaign - Results

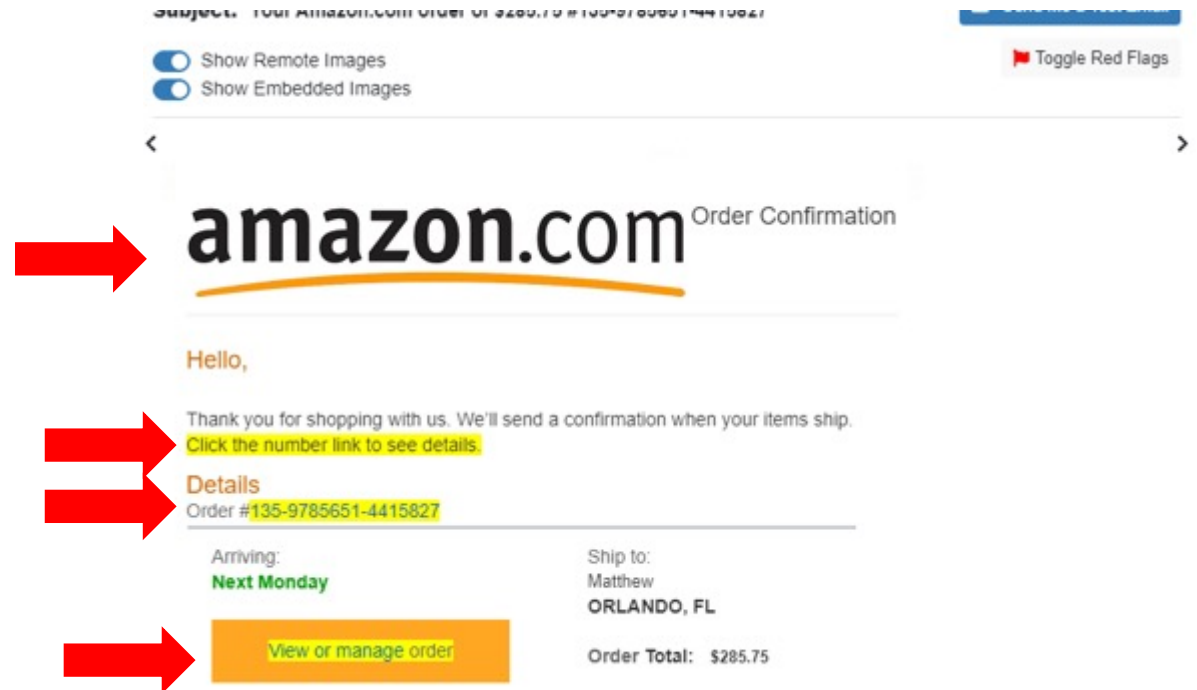
Template	Delivered	Opened*	Clicked	CR
A (Microsoft, Few Cues)	500	229	85	17%
B (Microsoft, Many Cues)	500	199	58	12%
C (Outlook, Few Cues)	500	207	79	16%
D (Outlook, Many Cues)	499	214	78	16%

eCommerce order campaign

High Premise / Low cues



High Premise / High cues



eCommerce order campaign

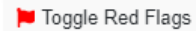
High Premise / Low cues

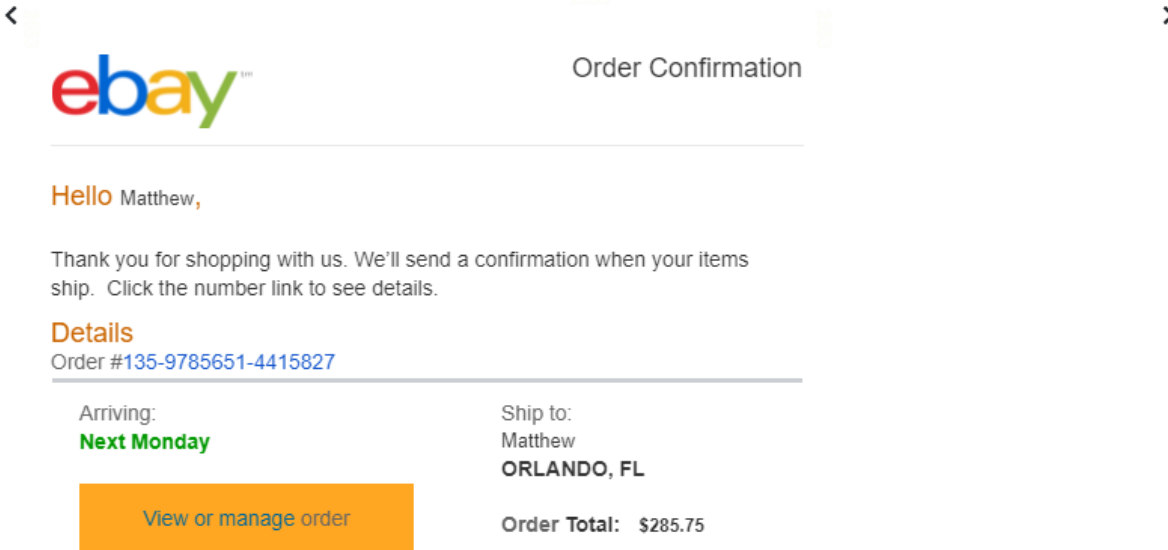
From: eBay.com <noreply@shipping-ebay.com>
Reply-To: eBay.com <noreply@shipping-ebay.com>
Subject: Your eBay order of \$285.75 #135-9785651-4415827

Show Remote Images

Template ID:2553-2163401







Order Confirmation

Hello Matthew,

Thank you for shopping with us. We'll send a confirmation when your items ship. Click the number link to see details.

Details
Order #135-9785651-4415827

Arriving: Next Monday	Ship to: Matthew ORLANDO, FL
---------------------------------	------------------------------------

[View or manage order](#) Order Total: \$285.75

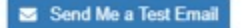
High Premise / High cues

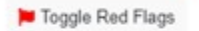
Email Preview - eCommerce order campaign – ebay– link, many cues (B) ×

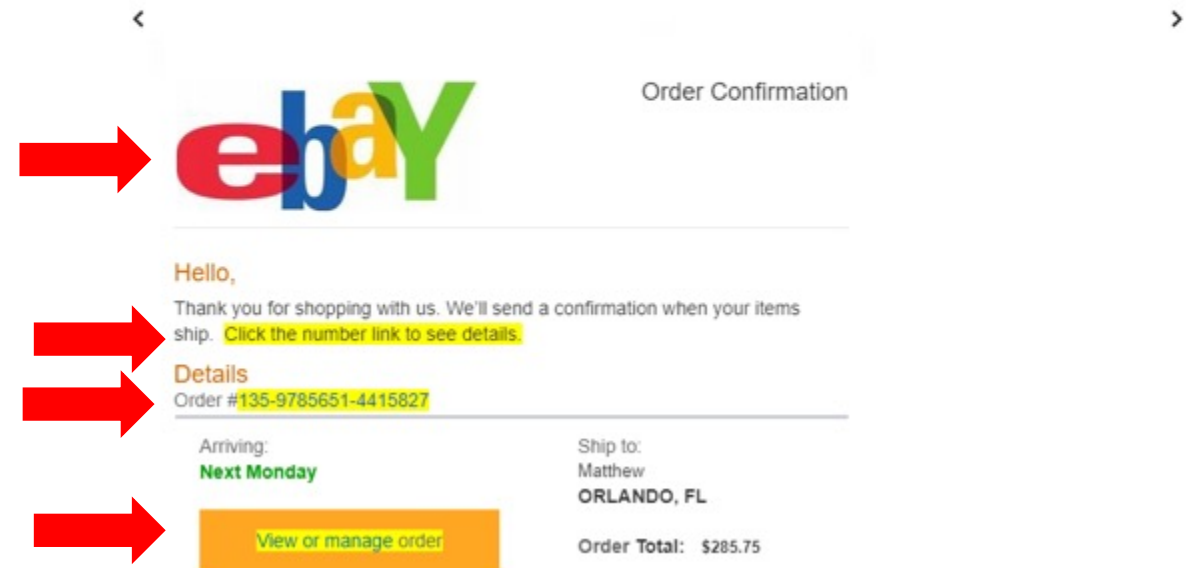
From: eBay.com <noreply@shipping-ebay.com>
Reply-To: eBay.com <noreply@shipping-ebay.com>
Subject: Your eBay order of \$285.75 #135-9785651-4415827

Show Remote Images
 Show Embedded Images

Template ID:2553-2168434







Order Confirmation

Hello,

Thank you for shopping with us. We'll send a confirmation when your items ship. **Click the number link to see details.**

Details
Order #135-9785651-4415827

Arriving: Next Monday	Ship to: Matthew ORLANDO, FL
---------------------------------	------------------------------------

[View or manage order](#) Order Total: \$285.75



eCommerce order campaign

Template	Delivered	Opened*	Clicked	Replied	CR
A (eBay, Few Cues)	492	323	235	0	48%
B (eBay, Many Cues)	488	287	183	0	38%
C (Amazon, Few Cues)	489	311	229	1	47%
D (Amazon, Many Cues)	489	289	189	0	39%

Discussion

54

Premise alignment was more related to context than companies

Students were concerned about orders, not email issues

When applying visual design was tricky to identify the phishing email

Template based on real Amazon got almost 50% CR

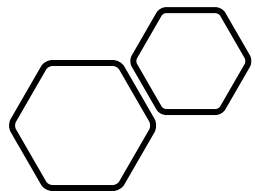
Time of the year impacts the phishing simulations

Summer doesn't have openings

Next steps

A background image showing a group of business professionals in a meeting. They are gathered around a table, looking at tablets and smartphones. There are several white coffee cups on the table. The scene is brightly lit, suggesting an office or conference room environment.

- Expand analysis on marketing practices
 - Analyze better how persuasion and usability factors impact decision-making
 - Looking for companies to partner in that



Grants and awards

- NIST
- Doctoral Research Support Award | 2021
| University of Central Florida | \$750.





Questions



Erica Castilho-Grao

Researcher at University of Central Florida

✉ Email Address

ericacastilho@ucf.edu

🌐 Website

<https://www.linkedin.com/in/ericacastilho/>

📍 Orlando, FL, United States

