

# Dark patterns the NZ web

 &

*Alex Beattie*



VICTORIA UNIVERSITY OF  
**WELLINGTON**  
TE HERENGA WAKA



# Overview

- I. Background: Dark Patterns
- II. Recap: Are Dark Patterns in Aotearoa NZ?
- III. Study: Do Dark Patterns work?
- IV. Where to next?

# I. Background: Dark patterns


- Coined by User Experience (UX) designer Harry Brignull in 2013
- Dark patterns = interface design techniques that aim to trick or mislead Internet users (Mathur et al., 2019)
- Lots of different types

<https://www.deceptive.design/>



# Obstruction or 'Privacy Zuckering'

facebook



## Required: Review your data settings

Personal data laws are changing in the European Union, and we want to make it easy for you to view some of your data settings.

Please take a few minutes to review these updates and make choices about some specific data settings.

Here's what we'll ask you to review:

- How we use personal data from advertisers, app developers and publishers to show you relevant ads
- An option for turning on face recognition
- Our updated Terms, Data Policy and Cookie Policy

GET STARTED

We show you better ads by using data from advertisers, app developers and publishers

We care about protecting your privacy. We don't sell your data, and we've designed our ad system so that we can show you relevant and useful ads without telling advertisers who you are. To show you better ads, we use data that advertisers, app developers and publishers provide us about your activity off Facebook Company Products. This data includes your use of these partners' websites and apps, and certain offline interactions with them, such as purchases. You control whether we use this data to show you ads. To confirm that we can use this data to decide which ads to show you, select Accept and Continue. If you don't want us to use this data to decide which ads to show you, select Manage Data Settings.

MANAGE DATA SETTINGS

ACCEPT AND CONTINUE

You control whether we use data from partners to show you ads

Data from advertisers, app developers and publishers about your activity off Facebook Company Products helps us show you relevant and useful ads. It includes your use of these partners' websites and apps, and certain offline interactions with them, such as purchases.

This setting applies to ads that we show you across Facebook Company Products, including Facebook and Instagram, as well as on websites, apps and devices that use our advertising services.

Ads based on data from partners:

Allowed

Ads will be more relevant to you

SAVE

# Forced action

Upload Webmail Contacts x

https://www.linkedin.com/reg/abook-import?\_l=en\_US&flow=1ofgqp7-iwjz4x


LinkedIn

Grow your network on LinkedIn. Step 2 of 7

Get started by adding your email address.

Your email: danlinkedintest@gmail.com

Continue

 We'll import your address book to suggest connections and help you manage your contacts. [Learn More](#)

[Skip this step »](#)

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# Forced action

Confirm your email address x Dan, Please confirm your e x Upload Webmail Contacts x

https://www.linkedin.com/reg/abook-import?report%2Esuccess=YzgDu1299zAaM5E42GNOH20zcVWPF9jNQSj

LinkedIn

Thanks for confirming your email address, danlinkedintest@gmail.com

Grow your network on LinkedIn

Get suggestions for people you may know

Skip seeing who you already know?

If you skip this step, you'll miss out on easily finding people you know on LinkedIn.

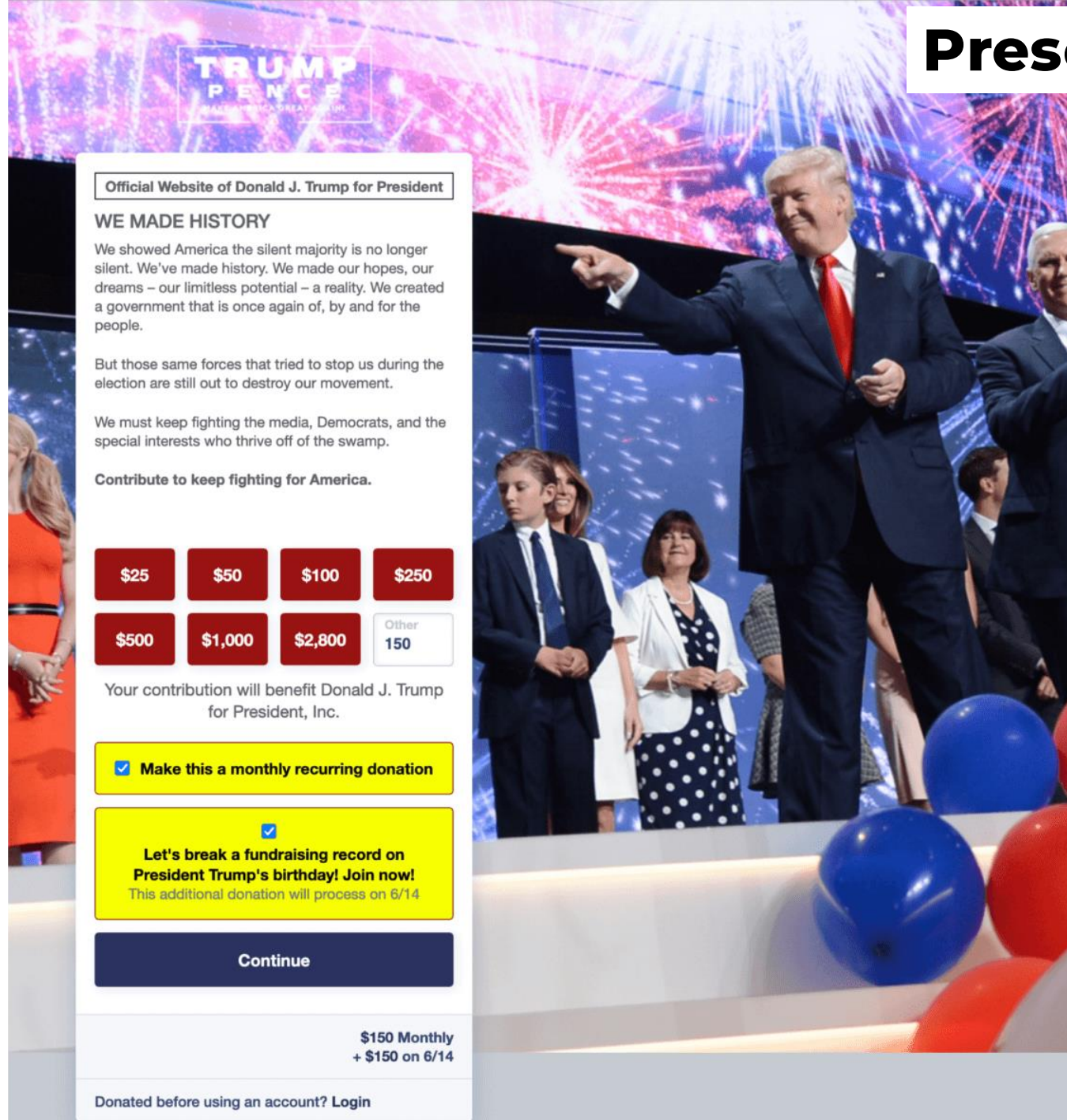
Find now Skip

We'll import your address book to suggest connections and help you manage your contacts. [Learn More](#)

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# Preselection



**TRUMP  
PENCE**  
MADE AMERICA GREAT AGAIN

Official Website of Donald J. Trump for President

## WE MADE HISTORY

We showed America the silent majority is no longer silent. We've made history. We made our hopes, our dreams – our limitless potential – a reality. We created a government that is once again of, by and for the people.

But those same forces that tried to stop us during the election are still out to destroy our movement.

We must keep fighting the media, Democrats, and the special interests who thrive off of the swamp.

Contribute to keep fighting for America.

\$25

\$50

\$100

\$250

\$500

\$1,000

\$2,800

Other  
150

Your contribution will benefit Donald J. Trump for President, Inc.

☒ Make this a monthly recurring donation

☒  
**Let's break a fundraising record on President Trump's birthday! Join now!**  
This additional donation will process on 6/14

Continue

\$150 Monthly  
+ \$150 on 6/14

Donated before using an account? [Login](#)





# **Recap: Are Dark Patterns in Aotearoa NZ?**



# II. Dark patterns in Aotearoa NZ

- Most research undertaken:
  - in US or Europe
  - by Human Computer Interaction (HCI) or User Experience (UX) Designers
- We were interested in the contexts where dark patterns emerge from

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1932-8036/20230005

## Clusters of Dark Patterns Across Popular Websites in New Zealand

CHERIE LACEY

ALEX BEATTIE

Te Herenga-Waka, Victoria University of Wellington, New Zealand

TRISTAM SPARKS

Massey University, New Zealand

"Dark patterns" are interface design techniques that aim to trick or mislead Internet users. Most dark-patterns research has been undertaken in the United States and Europe and by user experience or human computer interaction researchers. In this study, we adopt a media and communication studies and science and technology studies approach to investigate where dark patterns "cluster" in online environments. A walkthrough of the top 100 New Zealand websites leads us to the following findings: (1) dark patterns cluster around financial transactions; (2) the most common types of dark patterns constitute a form of interface interference; and (3) dark patterns are often deployed as mechanisms to drive revenue, facilitate customer surveillance, and reduce business operations costs, and appear to be largely imported from overseas markets.

*Keywords: dark patterns, e-commerce, walkthrough, interface design, user experience*

**RQ1:** Where are NZ Internet users most likely to encounter dark patterns?

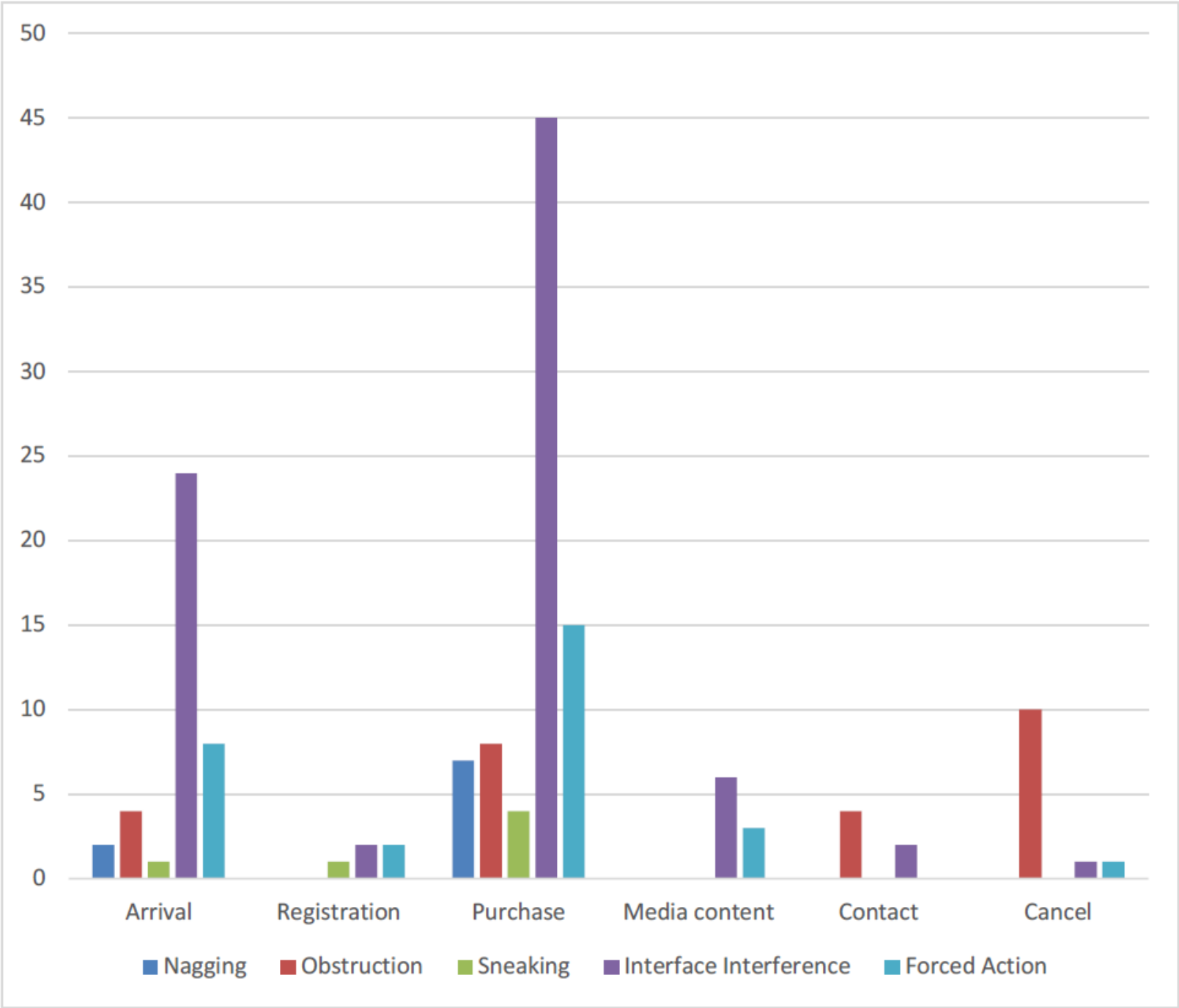
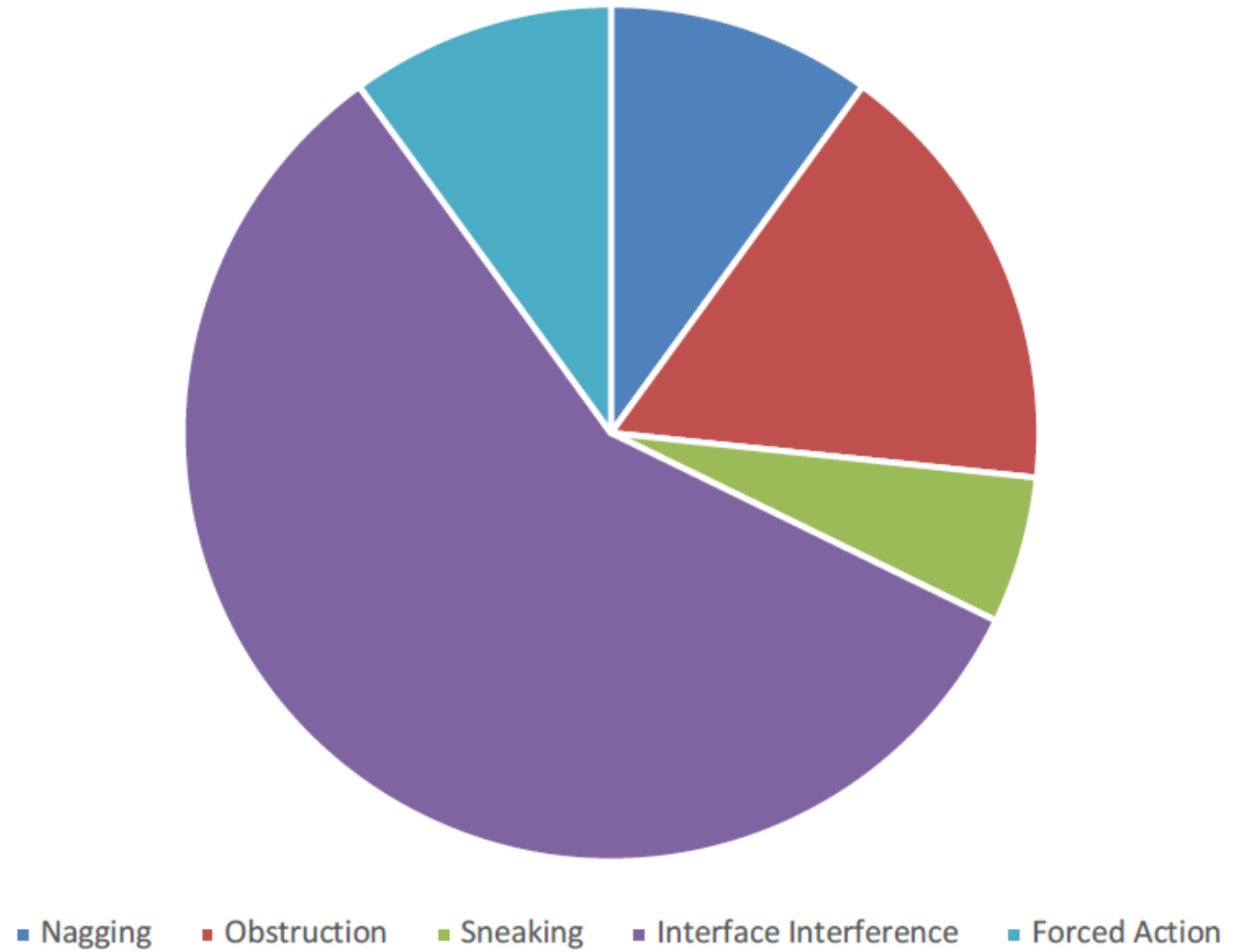


Figure 3. Clusters of dark patterns by user journey.

**RQ2:** What are the most common types of dark patterns?

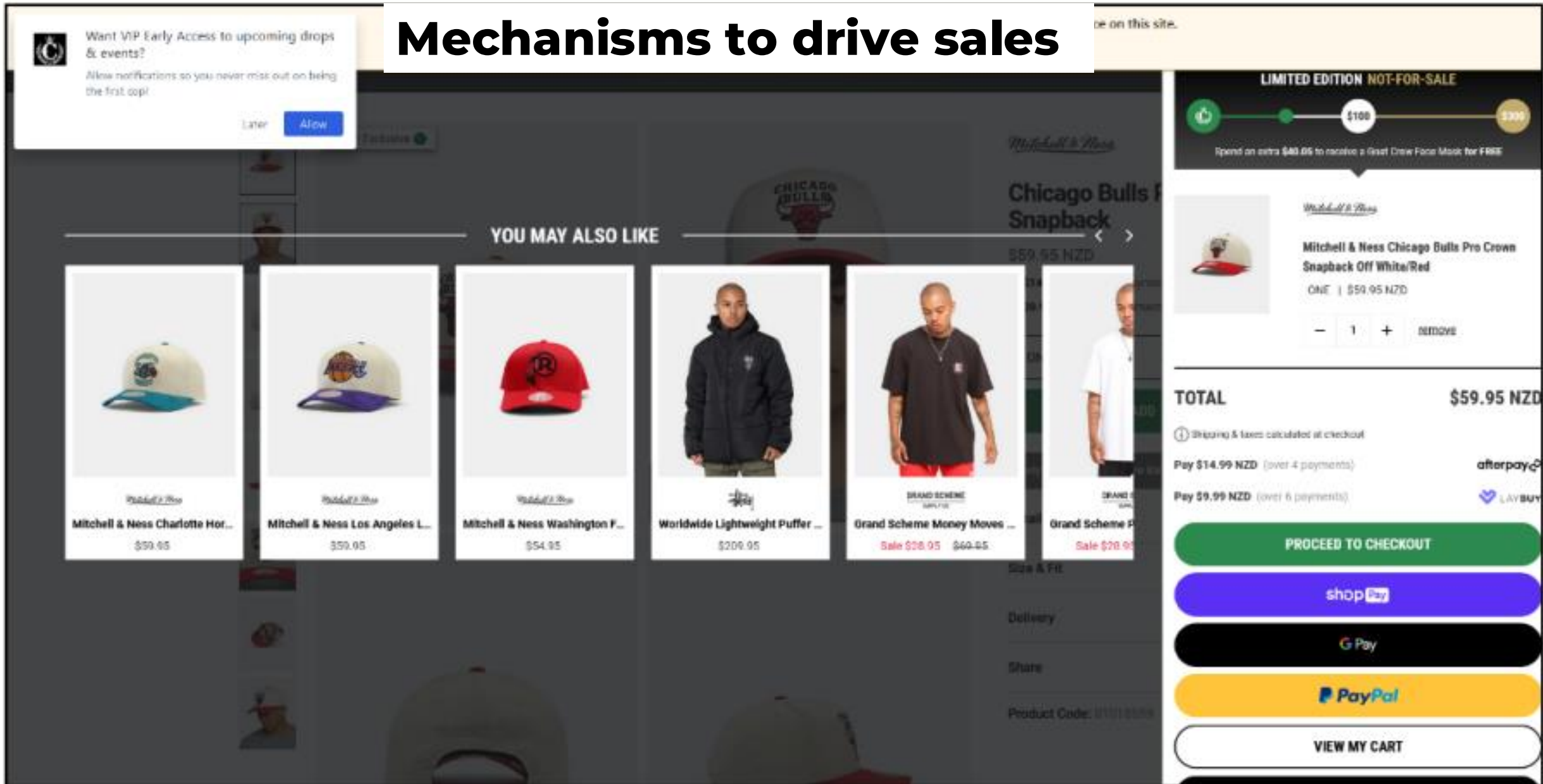


**Figure 4. Percentage of dark-pattern strategies by type.**

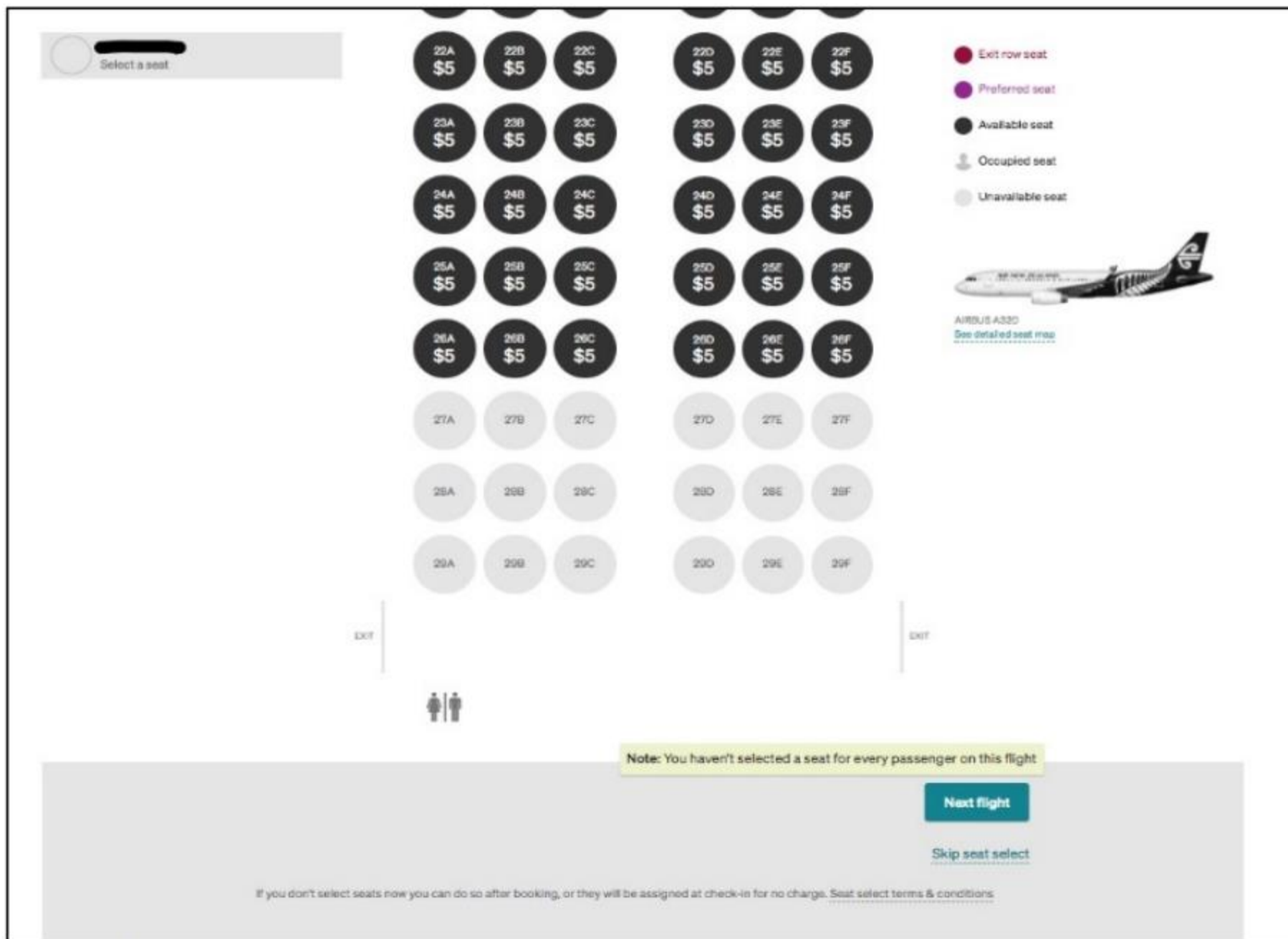
**RQ3:** *What does the most common type of dark patterns and the websites that use them reveal about the (re-)production of dark patterns on the New Zealand Internet?*



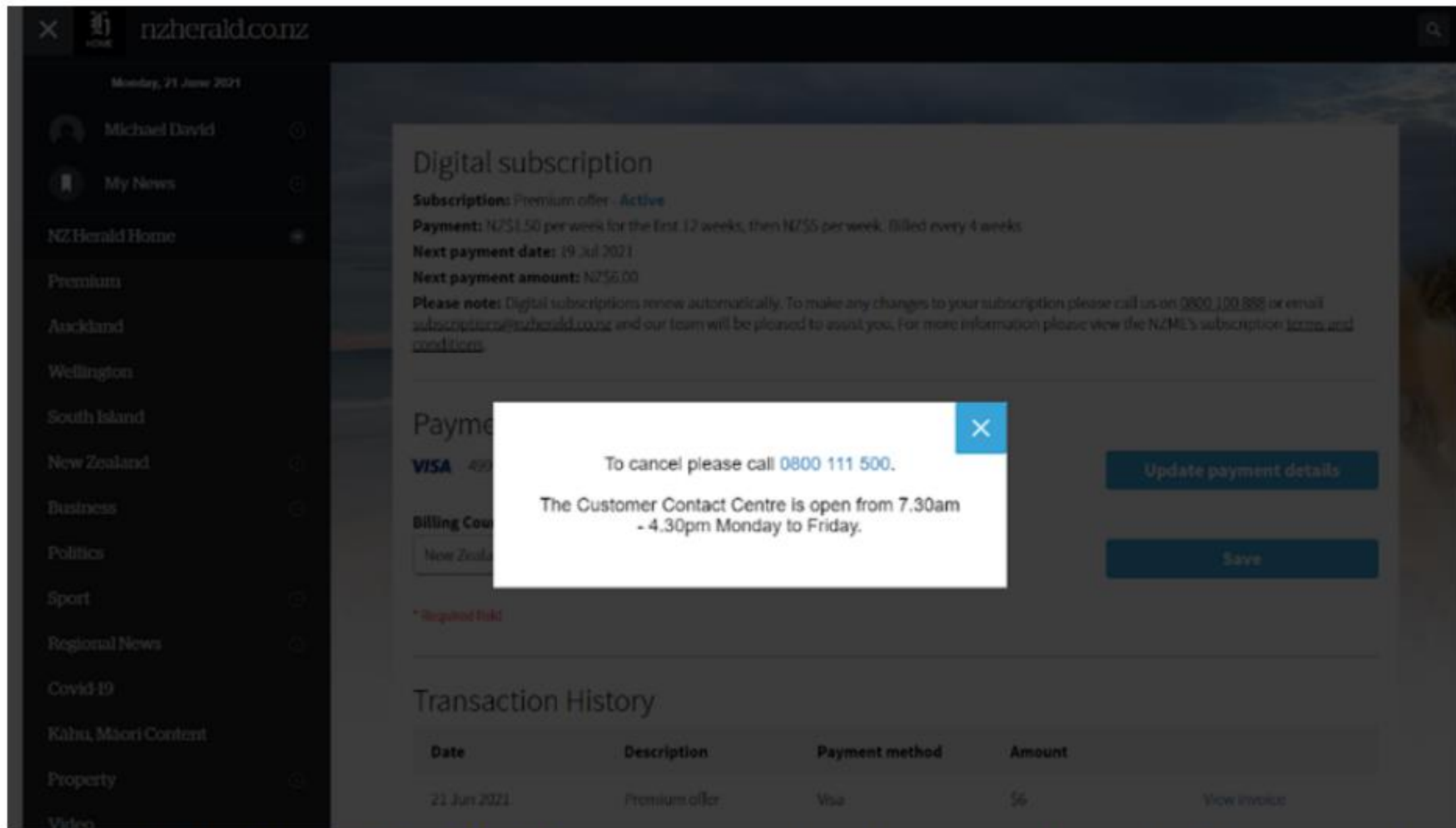
# Mechanisms to drive sales



**Figure 5. The Culture Kings website uses multiple instances of interface interference to guide user behavior. Screenshot by the author.**

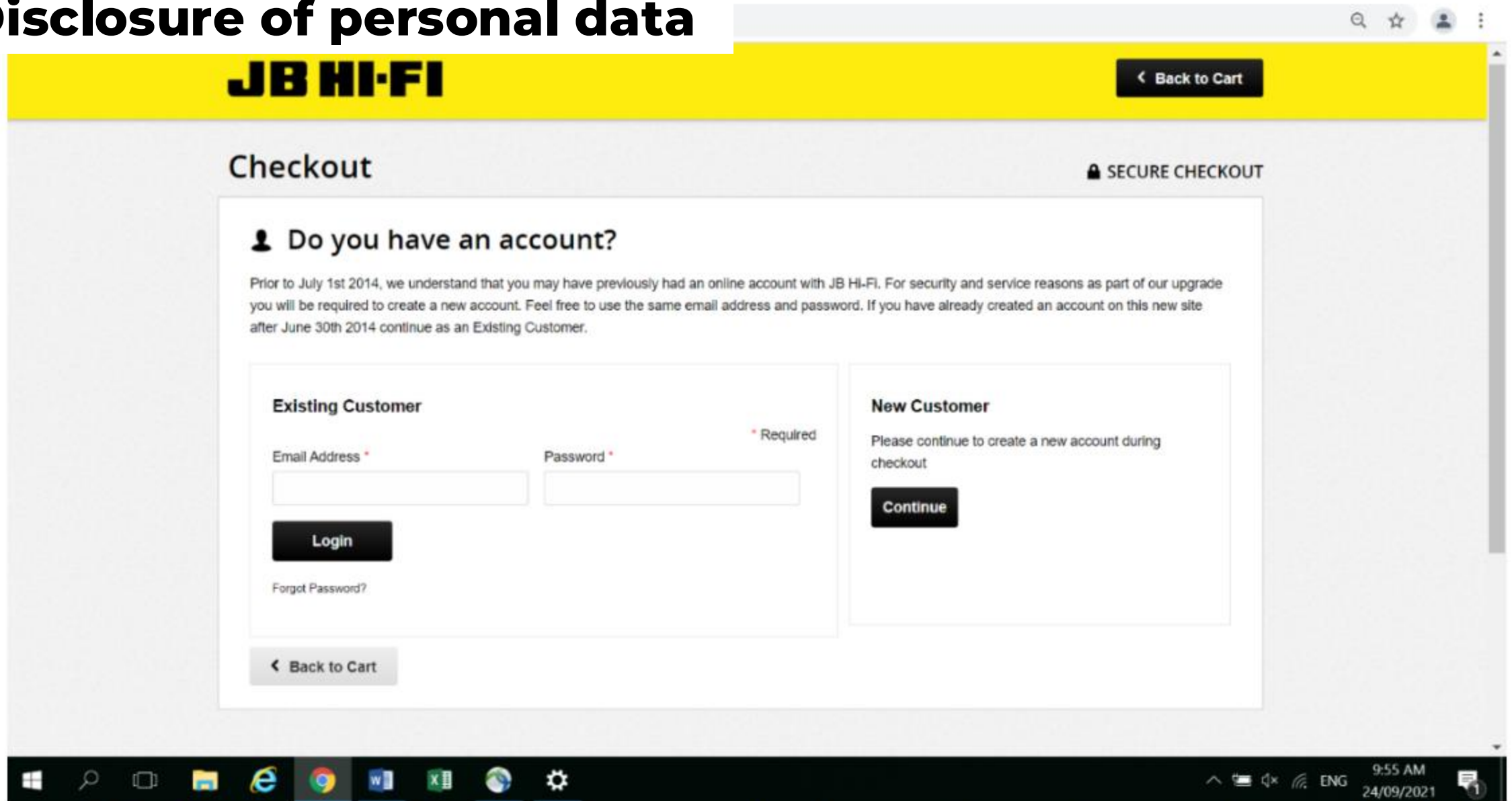


**Figure 7. Air New Zealand encourages users to use pay extra to select their seat. Screenshot by the author.**



**Figure 8. The New Zealand Herald requires users to phone a number and offer a reason to cancel their subscription. Screenshot by the author.**

# Disclosure of personal data



The screenshot shows the JB Hi-Fi checkout process. At the top, there is a yellow header with the JB Hi-Fi logo and a 'Back to Cart' button. Below the header, the page is titled 'Checkout' and 'SECURE CHECKOUT'. The main content area asks 'Do you have an account?' and provides a notice about account requirements. It then offers two options: 'Existing Customer' with fields for Email Address and Password, and 'New Customer' with a 'Continue' button. A 'Back to Cart' button is also present at the bottom left of the main content area.

**JB HI-FI** [Back to Cart](#)

## Checkout

**SECURE CHECKOUT**

**Do you have an account?**

Prior to July 1st 2014, we understand that you may have previously had an online account with JB Hi-Fi. For security and service reasons as part of our upgrade you will be required to create a new account. Feel free to use the same email address and password. If you have already created an account on this new site after June 30th 2014 continue as an Existing Customer.

### Existing Customer

Email Address \* Password \* \* Required

[Login](#)

[Forgot Password?](#)

### New Customer

Please continue to create a new account during checkout

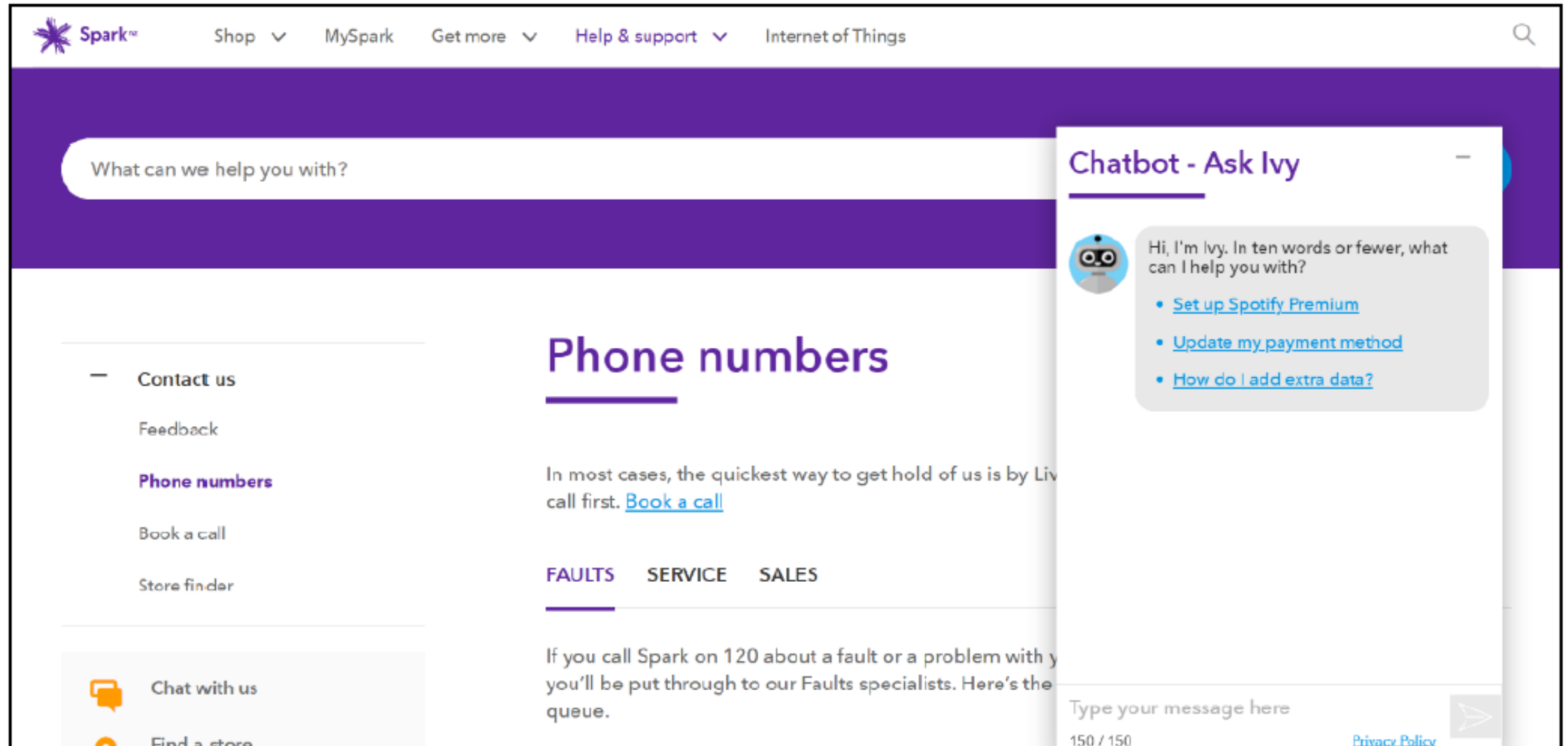
[Continue](#)

[Back to Cart](#)

**Figure 10. It is common for e-commerce sites to require customers to register before completing a purchase. Screenshot by the author.**

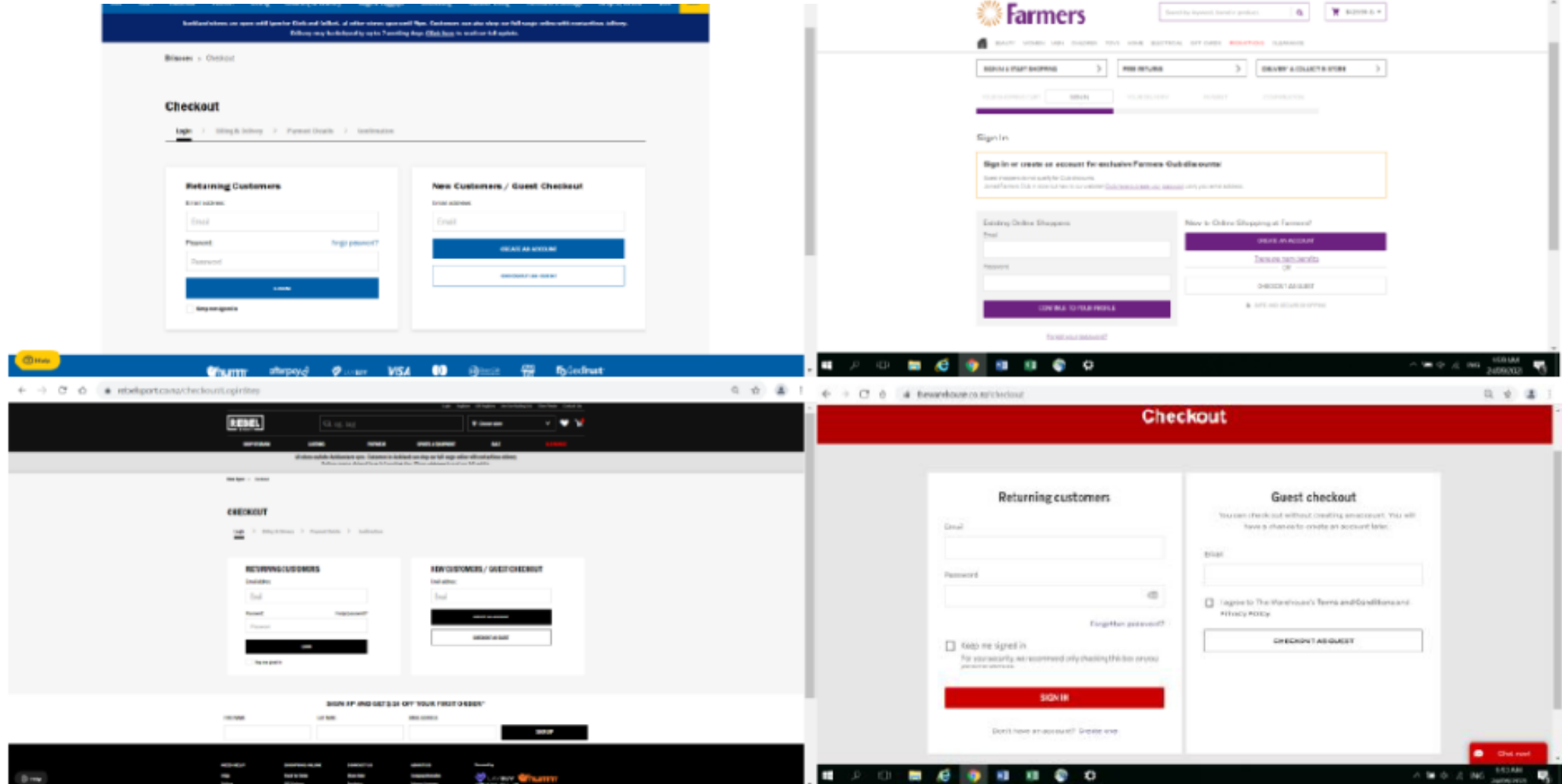


# Reduce business costs



**Figure 11. An example of contact Zuckering from the Spark website. Screenshot by the author.**

# Imported and not homegrown?



***Figure 12. A comparison of four shopping cart processes to demonstrate similarities across pattern libraries. Screenshots by the author.***

The background of the slide features a stylized illustration. At the top, a large, dark grey hand is shown from the back, with several thin, light blue strings extending downwards. At the bottom, a smaller, light yellow hand is shown from the front, with its index finger pointing upwards towards the strings. The strings appear to be connected to the fingers of the top hand, suggesting a marionette or puppet theme. In the center, behind the text, is a light green circle containing a white checkmark. The overall background is a solid light blue color.

# **III. Study: Do Dark Patterns work?**

# Research questions (Study B)


**RQ1:** *Does the obstruction dark pattern increase the likelihood of a user undertaking the desired action?*

**RQ2:** *Does the preselection dark pattern increase the likelihood of a user undertaking the desired action?*



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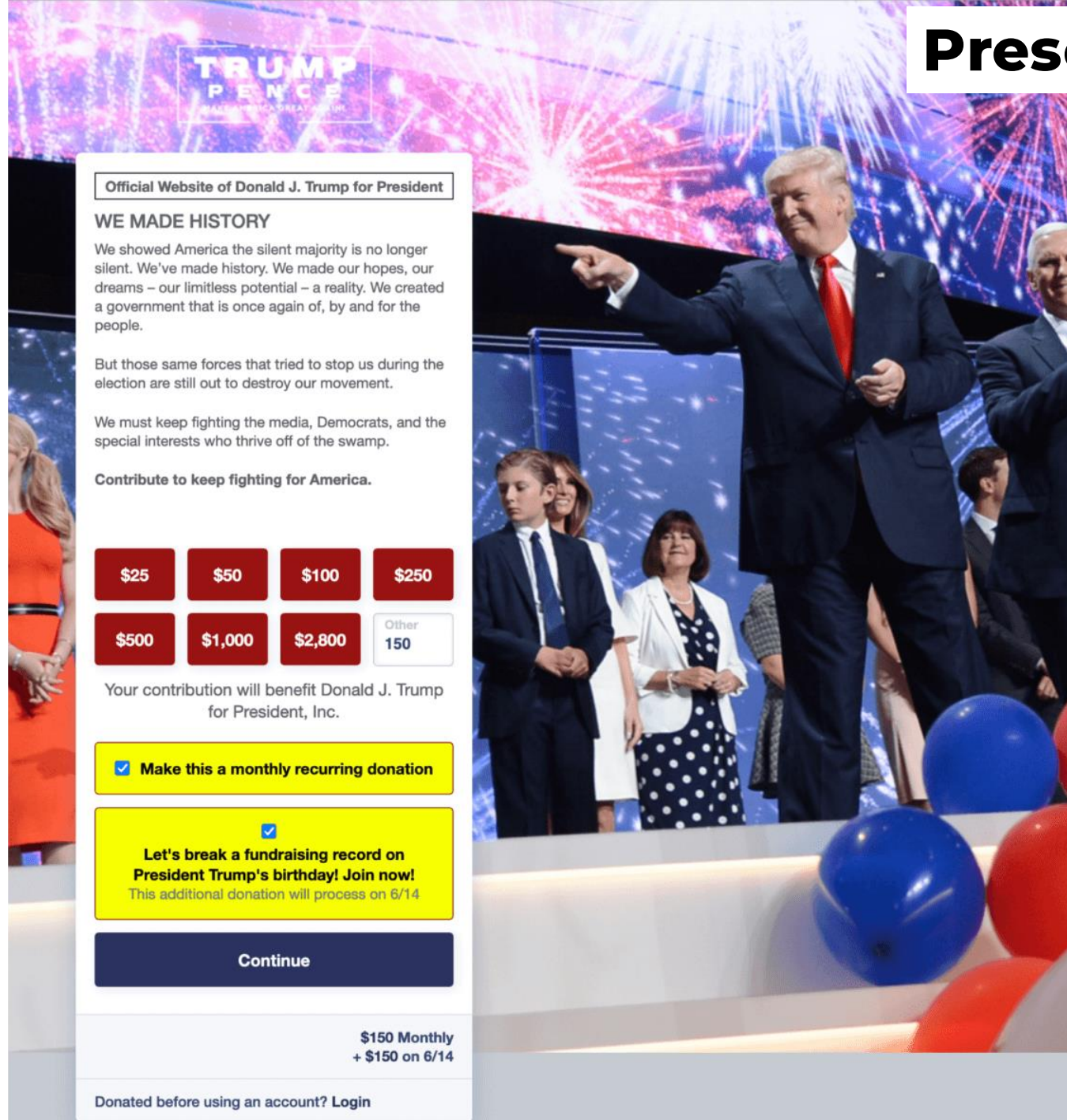
Allowed

Ads will be more relevant to you

☒

SAVE

# Preselection



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PENCE**  
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Official Website of Donald J. Trump for President

### WE MADE HISTORY

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**\$500** **\$1,000** **\$2,800** **Other 150**

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☒  
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This additional donation will process on 6/14

**Continue**

**\$150 Monthly  
+ \$150 on 6/14**

Donated before using an account? [Login](#)



# ***Methods: fake survey***



Thank you for agreeing to take part in this study.

This project seeks to understand everyday experiences of the Internet and online shopping in Aotearoa New Zealand. Put differently, we're interested in the kind of websites and shopping experiences that New Zealanders enjoy and the others that you may find



# Study detail

- 84 respondents

Age bracket	n (%)
18-34	49 (58.3)
35-64	17 (20.2)
65+	18 (21.4)

- Approved by the VUW Ethics Committee (#30069)

Participants were randomly assigned to one of two conditions:

- reading a survey which included dark patterns (*Obstruction* and *Preselection* elements; n = 45)
- or reading a survey which included no dark patterns (Control; n = 39).



# Dark pattern group – ‘Obstruction’

Thank you for agreeing to take part in this study.

This project seeks to understand everyday experiences of the Internet and online shopping in Aotearoa New Zealand. Put differently, we're interested in the kind of websites and shopping experiences that New Zealanders enjoy and the others that you may find frustrating.

[Please read this information before deciding whether or not to take part.](#)

If you decide to participate, please complete the form and set of questions below.

## 1. Age

What is your age?

Select one

### Cookie Settings

We use cookies on this website to show you relevant information and understand how you use the website.

[Manage your cookie preferences](#)

Accept all cookies



# Control group – No ‘Obstruction’

Thank you for agreeing to take part in this study.

This project seeks to understand everyday experiences of the Internet and online shopping in Aotearoa New Zealand. Put differently, we're interested in the kind of websites and shopping experiences that New Zealanders enjoy and the others that you may find frustrating.

[Please read this information before deciding whether or not to take part.](#)

If you decide to participate, please complete the form and set of questions below.

## Cookie Settings

We use cookies on this website to show you relevant information and understand how you use the website.



Accept necessary cookies only

Accept all cookies

# Dark pattern group – ‘Preselection’

## 5. Email and further information

Please enter your email to enter the raffle to win \$100.

Email

Enter your email address

The email will be used to contact you if you win.  
Your responses will still remain anonymous.

☒ I would like to receive Kiwi Shopper information



# Dark pattern group – No ‘preselection’

## 5. Email and further information

Please enter your email to enter the raffle to win \$100.

Email

Enter your email address

The email will be used to contact you if you win.  
Your responses will still remain anonymous.

☐ I would like to receive Kiwi Shopper information

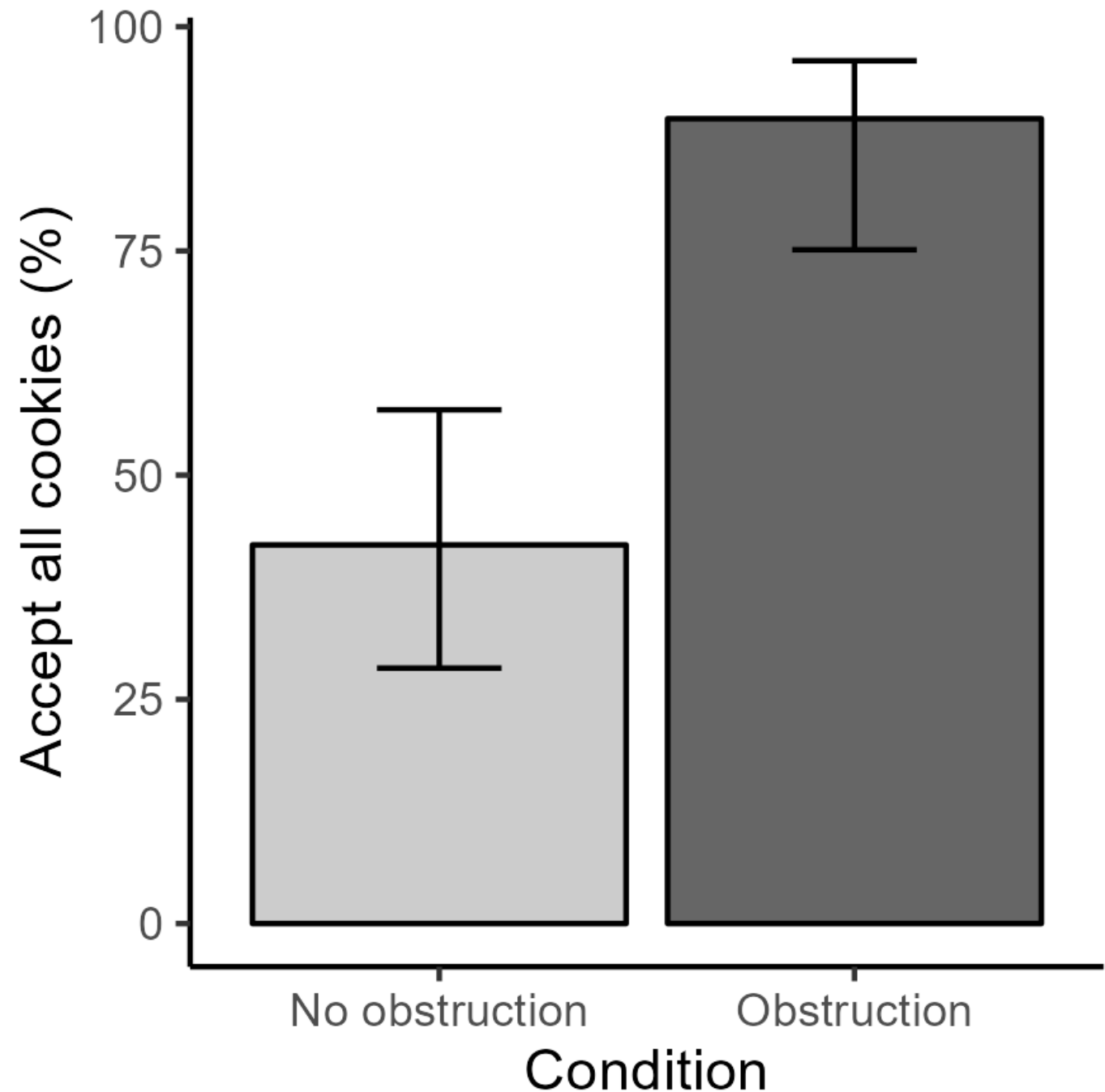


***RQ1: Does the  
obstruction dark  
pattern increase the  
likelihood of a user  
undertaking the desired  
action?***

# Obstructing the user influences privacy disclosure behaviours

*92% of participants in the dark pattern group accepted all cookies*

*Compared to...48% of participants in the control group accepted all cookies*



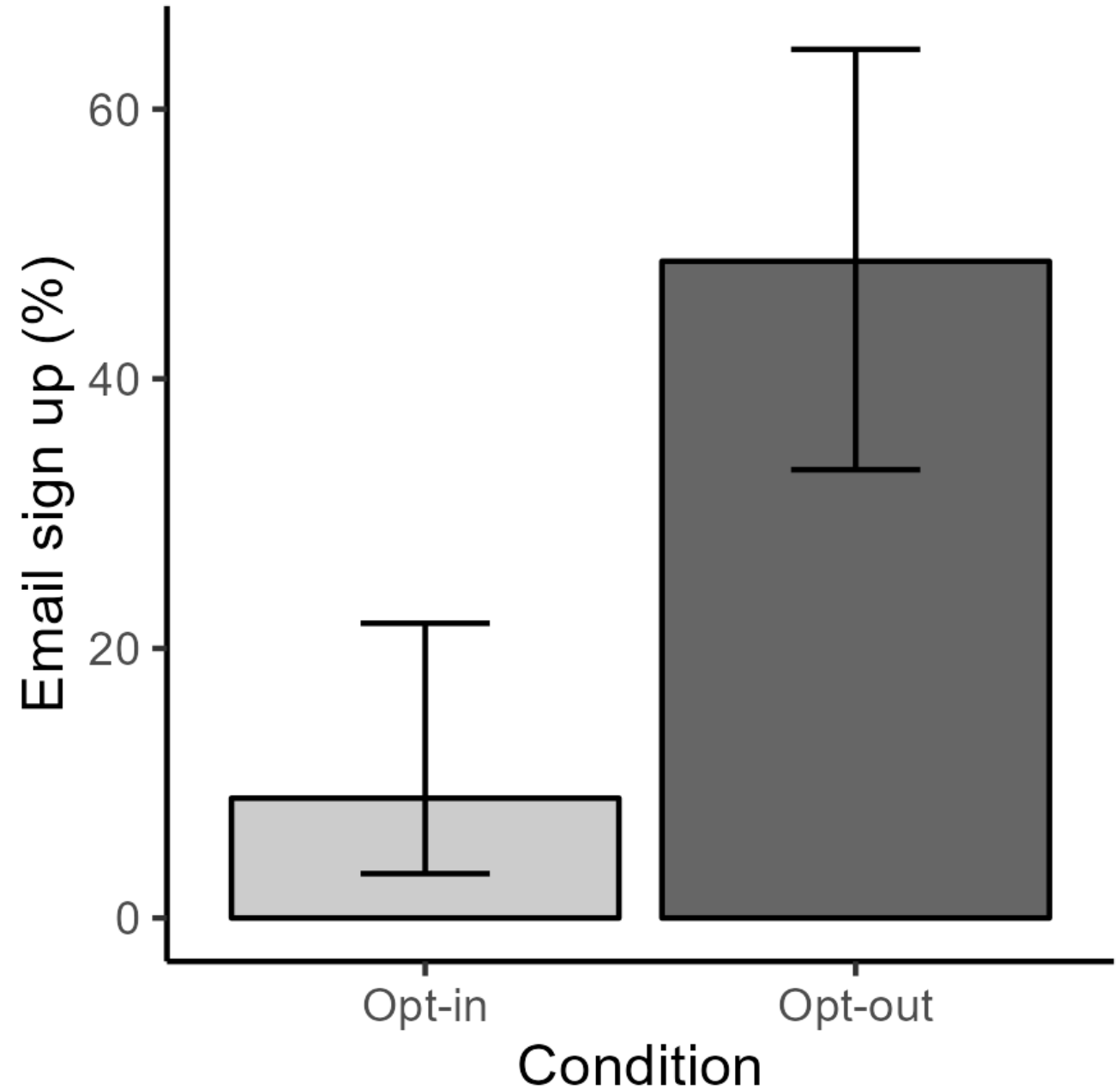


***RQ2: Does the  
preselection dark  
pattern increase the  
likelihood of a user  
undertaking the desired  
action?***

# Pre-selection influences user behaviour

*50% of participants in the dark pattern group ended up indicating that they wanted to receive Kiwi Shopper information*

*Compared to...9% of participants in the control group opted into receiving Kiwi Shopper information*



# ***Conclusion***

- Dark patterns are common across the Aotearoa NZ internet
  - Users most likely to encounter them when arriving or purchasing an item on a website
  - DPs are mechanisms to drive sales or reduce business costs
  - Imported as opposed to homegrown
- We have empirical evidence that dark patterns work:
  - they undermine consent or encourage privacy disclosure behaviours
  - they influence user behaviour when choice is preselected

# ***What's next?***

- Publish Study B as an academic paper
  - *New Zealand Business Law Quarterly*
- How do we regulate / govern dark patterns? Are they an issue of:
  - illegal trading (currently captured under the Fair Trading Act, 1986, enforced by the Commerce Commission)
  - privacy (Privacy Act, 1993, enforced by the Office of the Privacy Commissioner); or
  - unsolicited communications (Unsolicited Electronic Messages Act, 2007, enforced by the Department of Internal Affairs)?
  - consumer protection?

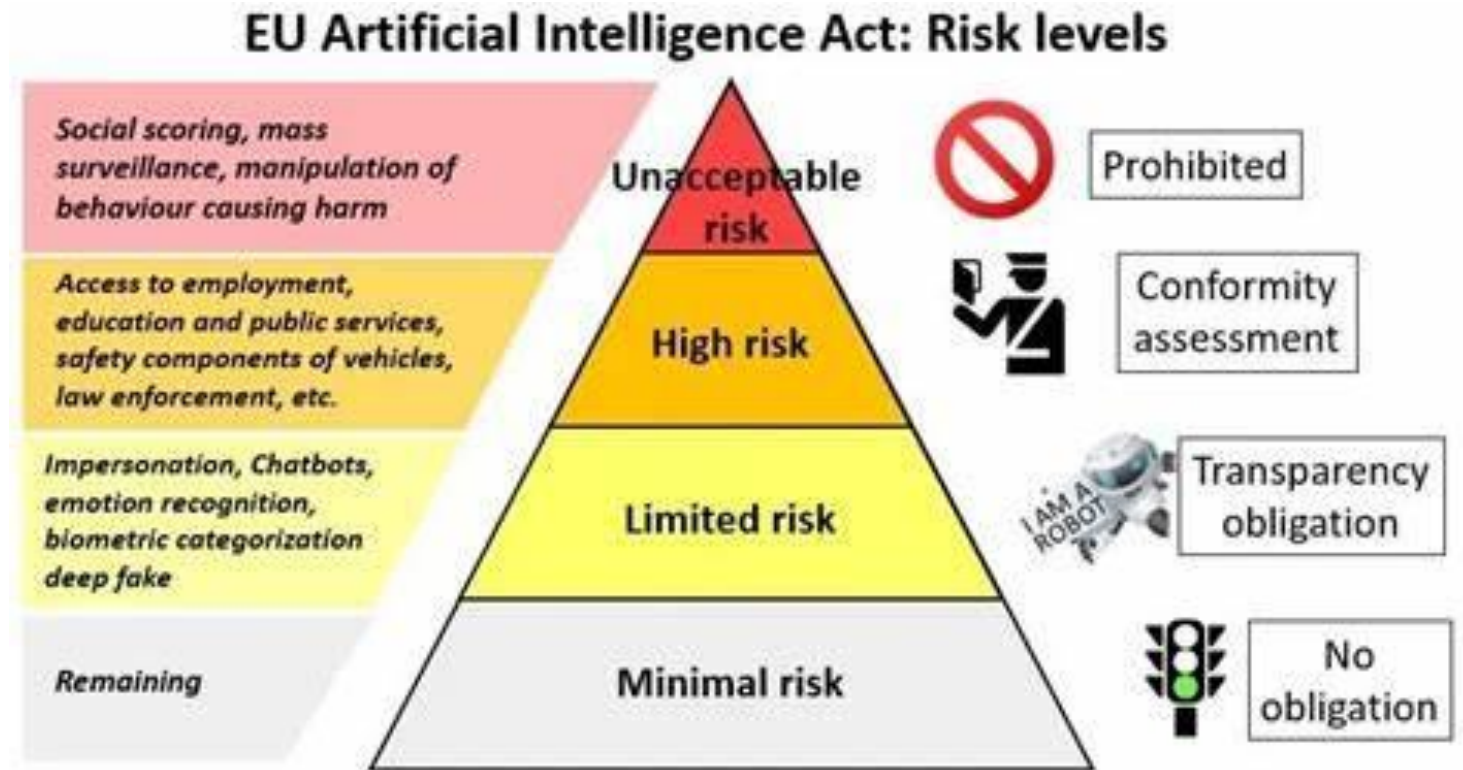
# ***Don't we sometimes want dark patterns?***



Is the issue with dark patterns/gamification/persuasive design *per se* or how the technology is used? (Beattie, 2021)

# Lessons from Artificial Intelligence

- Risk management approach?
- EU AI Act: inappropriate instances of using AI, high risk, medium risk, low risk





**Thank you**

