Erasmus Centre for Data Analytics
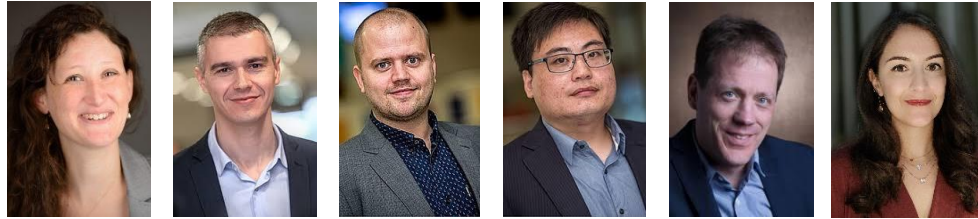## Expert Practice *Customer Analytics*

Dr. Aurélie Lemmens

"Companies' focus has shifted away from product-centric approaches and mass marketing campaigns to customer-centric campaigns tailored to the needs and wants of each individual customer. Customer-centric campaigns target a well-chosen subset of customers, at a well-chosen time, and with a well-chosen incentive.

At their core, they require strong data analytics tools in order to be able to predict each customer's behavior and derive optimal marketing interventions."

The Customer Analytics Lab: Overview

Our lab hosts experts in the many facets of customer analytics, including customer acquisition, seeding strategies, referral marketing, recommender systems, customer lifetime value, network analysis, customer retention and personalization. Our members combine expertise in the psychological processes underlying consumer behavior and the analytics to understand them and optimize marketing interventions. Our work is funded by the Dutch National Science foundation

The Customer Analytics Lab has for ambition to be a force for positive impact on companies who share the desire to become or be more customer-centric.

To achieve this goal, the Customer Analytics Lab aims to:

1. Be a communication platform between academia and industry
2. Directly apply academic knowledge in business practice with the company partners

Our current company partners are active in many different industries, including:

TELECOM   E-COMMERCE   CONSULTING

And more…

Team // Research Interests

Aurélie Lemmens, Associate Professor and Director // *customer lifetime value, personalized marketing, retention*

Rodrigo Belo, Associate Professor // *recommender system, field experiment, customer retention, referral program*

Bram Van den Bergh, Associate Professor // *targeting incentives and psychological mechanisms*

Xi Chen, Associate Professor // *seeding strategies and policy evaluation*

Bas Donkers , Professor // *marketing analytics, personalization*

Martina Pocchiari, PhD Student // *customer and brand communities, network analysis*

"**Customer centricity is a strategy that aligns a company's development/delivery of its products/services around the current and future needs of a select set of customers in order to maximize their long-term financial value to the firm.**"

Pete Fader, Wharton School of Business

Examples of Recent and Ongoing Projects

Customer Acquisition:

Referral Programs for Freemium Platforms

Uncovering the Importance of Relationship Characteristics in Seeding Strategies

Customer Development:

Setting defaults in sequential consumer choices

Targeting Donors to Increase Fundraising Effectiveness

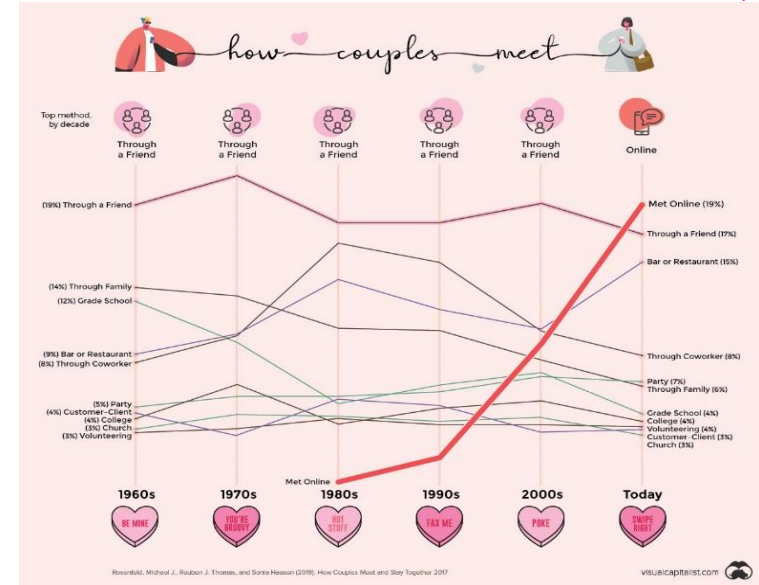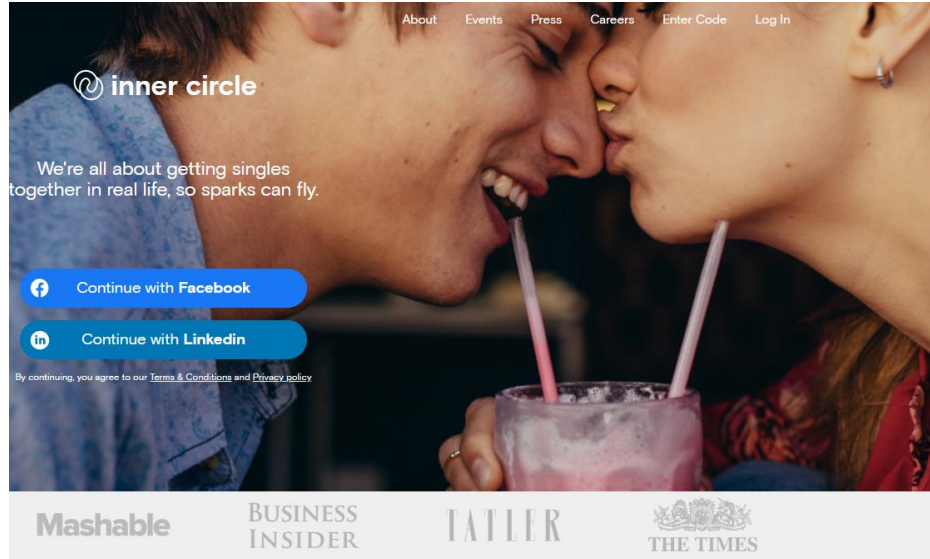Members' Engagement in Digitized Community Activities

Customer Retention:

Target Ego vs. Target the Group

Managing Churn to Maximize Profits

Managing Customer Communities During Brand Crises

Customer Acquisition Project: Referral Programs

inner circle

How couples meet

Analyze consumer online behavior to improve user experience on digital platforms
- Personalization, customization, recommendation
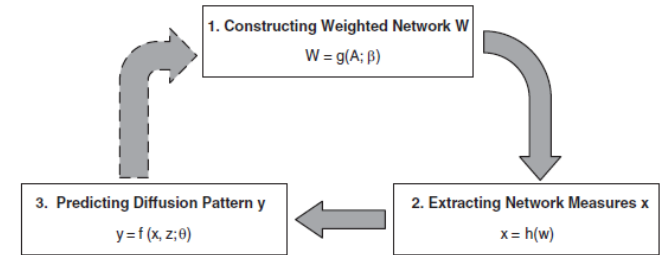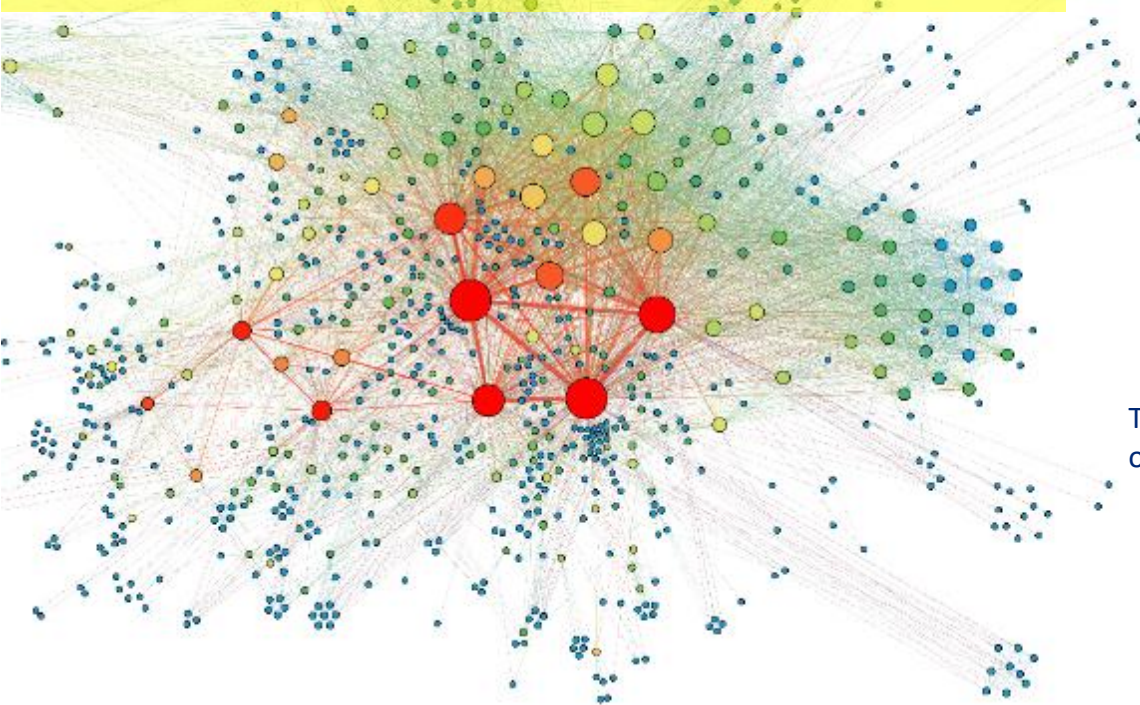- Referral programs, platform design

Customer Acquisition Project: Seeding Strategies

Traditional seeding strategies consider a simple 0-1 network

But social networks are complex
- **Different tie strengths**
- **Different types of relationships**

1. Constructing Weighted Network W
$$W = g(A; \beta)$$

3. Predicting Diffusion Pattern y
$$y = f(x, z; \theta)$$

2. Extracting Network Measures x
$$x = h(w)$$

A new method of seeding strategies with complex social networks

The method improves the seeding strategies in an online social network improve by 31.29%

Customer Development Project: Defaults in Sequential Choice

Defaults are an important design element in many choice architectures

Known to *increase choice* of the selected option

Potentially *backfires* when used in a sequence of choices (e.g. product customization, holiday packages, multi-course meals)
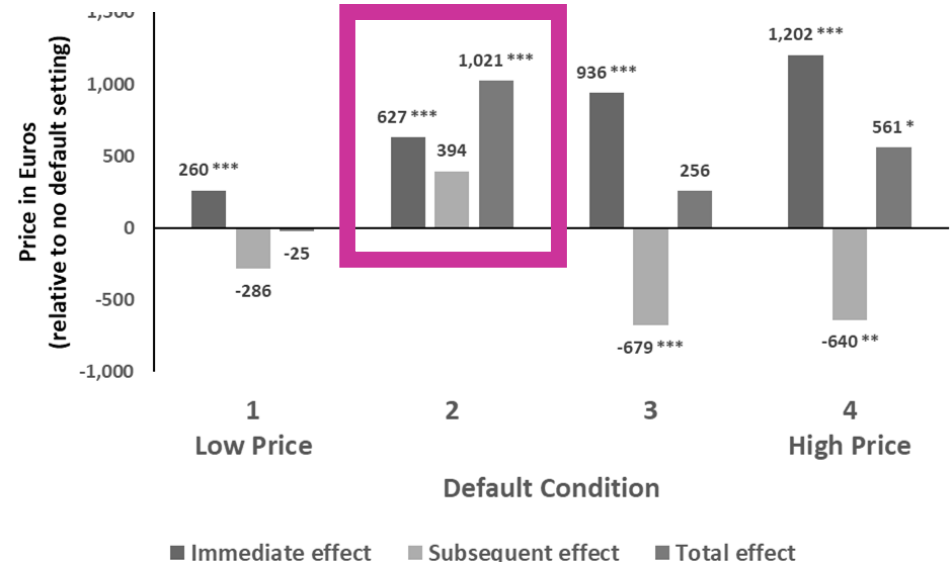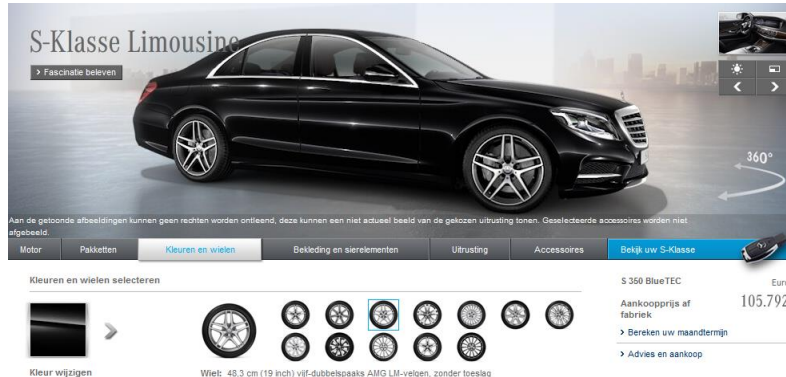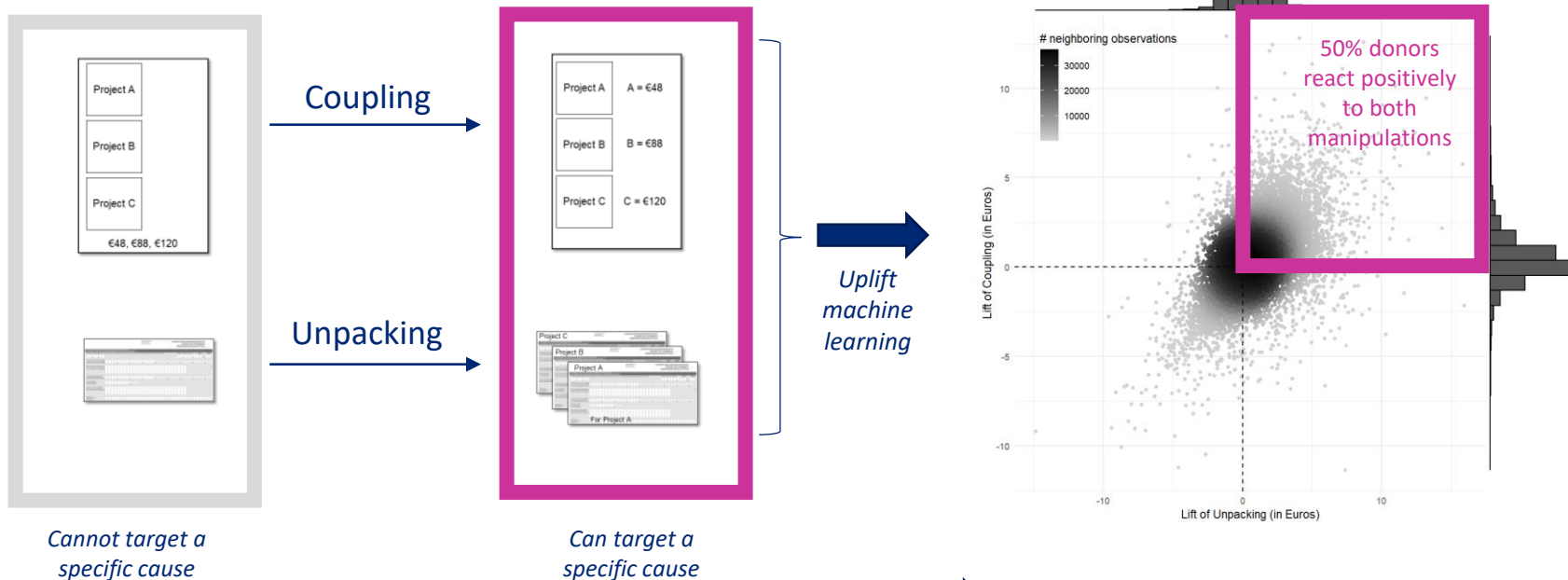

Application in car configurator:
Default set with highest immediate effect (set 4) does not have highest total effect (set 2) on revenues

Collaboration with a charitable organization to boost fundraising

We let donors choose where their money goes to via:

Coupling
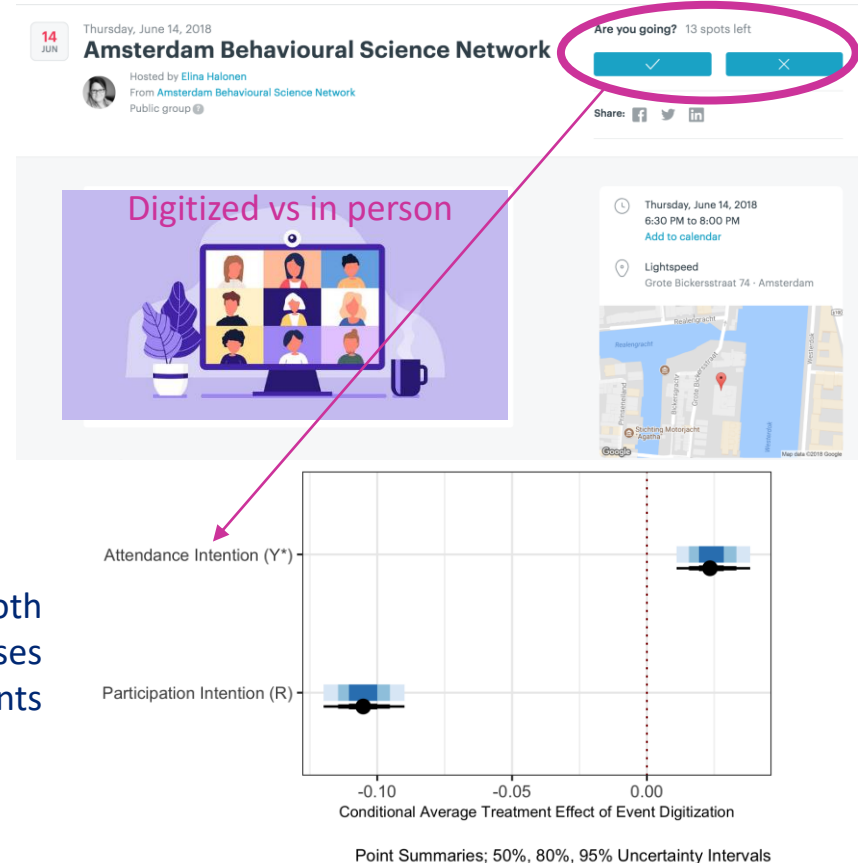
Unpacking

Cannot target a specific cause

Can target a specific cause

Uplift machine learning

50% donors react positively to both manipulations

In total, we boost profits by 56%

Erasmus Centre for
Data Analytics
Customer Analytics

More and more brand communities organize digitized activities for their customers: webinars, webcasts, live conferences, digital Q&As, etc.
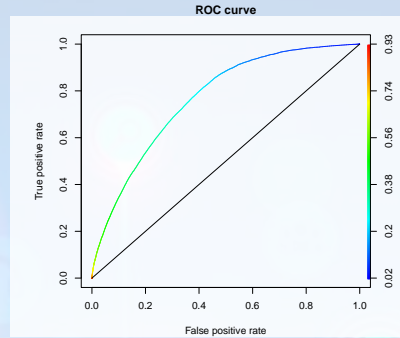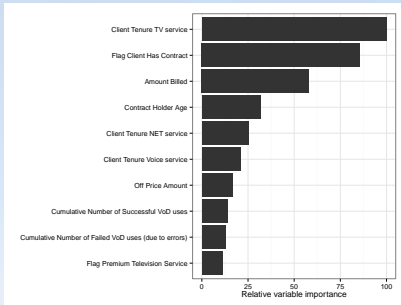
Using data from Meetup.com, we understand how shifting community events to digital formats affects members' participation behavior.

Increased event digitization affects both quantity and quality of members' responses to upcoming community events
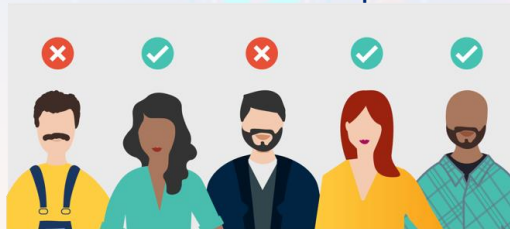

Digitized vs in person

Conditional Average Treatment Effect of Event Digitization

Point Summaries; 50%, 80%, 95% Uncertainty Intervals

Churn Prediction in a Large European Telecom Operator

Churn Prediction model
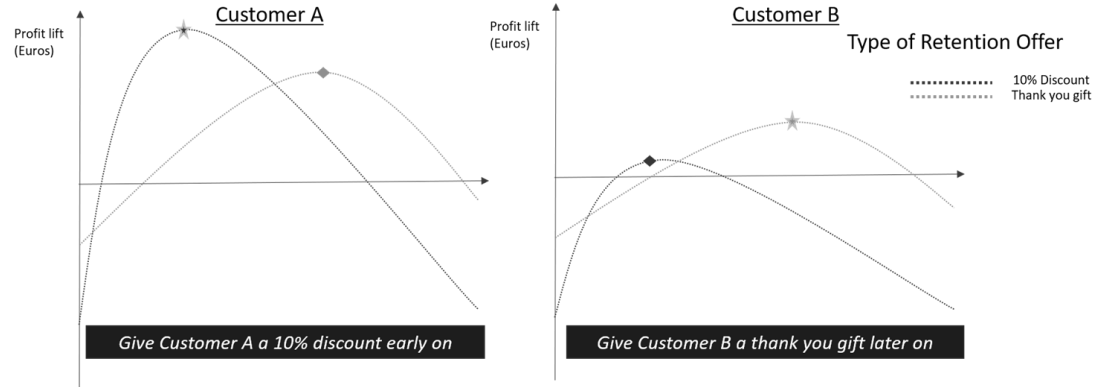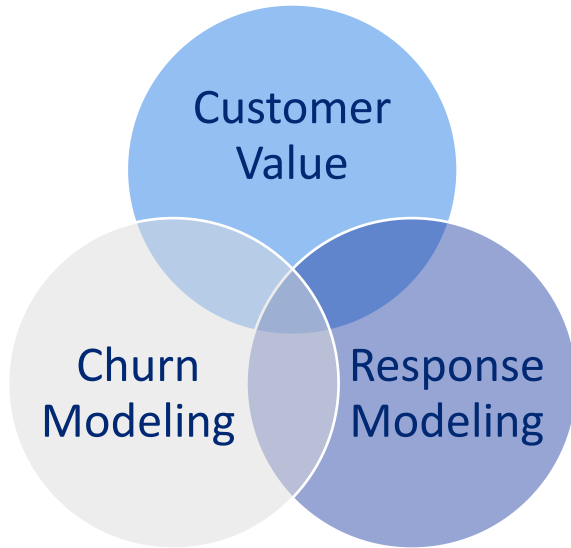

Randomized Network Experiment

Proactive churn management decreases customer churn and improves customer NPV

Socially-based proactive churn management can further decrease churn and increase customer NPV

Customer Retention Project: Campaign Profit Optimization

"The best offer at the best time for the right customer"

Customer A

Give Customer A a 10% discount early on

Customer B

Type of Retention Offer

10% Discount
Thank you gift

Give Customer B a thank you gift later on

Maximizing Return on Retention Campaign

= CLV IF TARGETED − CLV IF NOT TARGETED − ACTION COST

(Future) Revenue Margin Stream ✖ Retention Rate

Analyzing data from over 400 brand communities in more than 20 market sectors, we uncover how customers leave or stay in their brand communities after corporate misbehavior.

Corporate misbehavior changes customers' interactions in the community:

- Number of posts and comments
- Number of connections they make
- What kind of customers they choose to connect with (influential vs peripheral)

The gravity of the community's reaction to the negative events depends on:

- The brands' market sector
- The company's market share
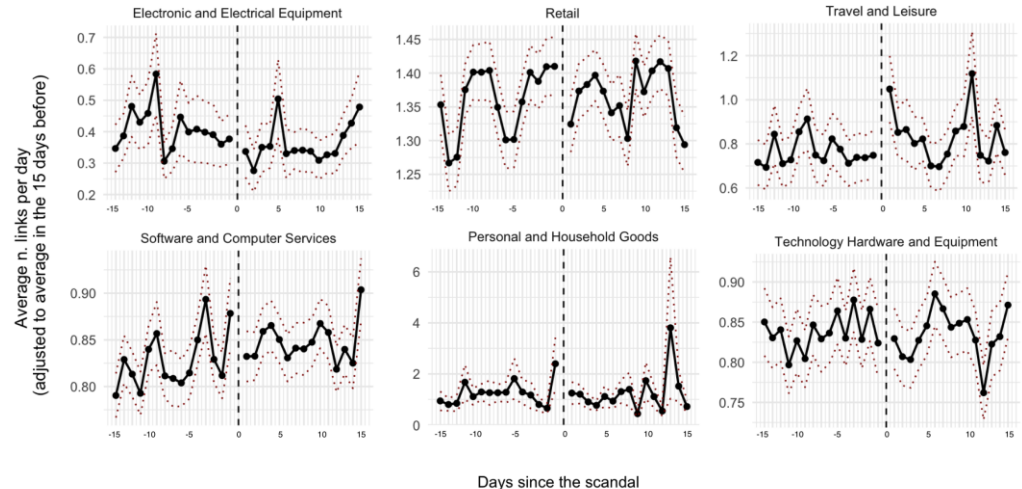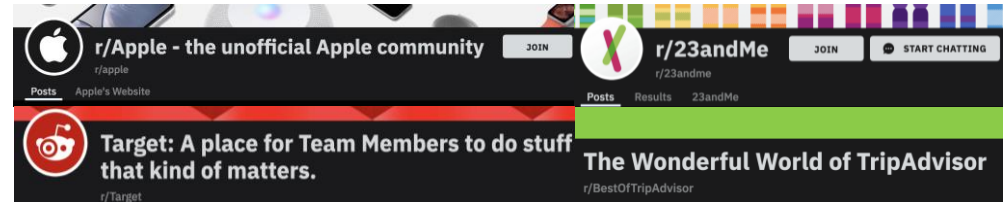
Passion provides purpose, but data drives decisions

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