RELATIONSHIP STATUS:

IT'S COMPLICATED

♡ In a relationship with Personalization

Iana Prakheeva

DEAR READER,

HAVE YOU EVER WONDERED HOW DIGITAL ADVERTISEMENTS CAN BE SO SPOT-ON, AS IF THEY KNOW EXACTLY WHAT YOU WANT AND NEED?

OR

WHY DO YOUR FRIENDS SEE DIFFERENT GOOGLE SEARCH RESULTS?

AND

WONDERED WHAT THE "BIG DATA" HYPE IS REALLY ALL ABOUT?

THEN THIS GUIDE IS FOR YOU.

Consider this document your field guide to answering these questions and navigating the world of digital marketing and data privacy. Once you finish reading it, you will be in a better position to understand and navigate the world of digital advertising and comprehend the hidden world behind personal data mining. The ultimate goal of this guide is to equip you with the necessary knowledge to adapt and stay up to date in the era of "Big Data", without tech-heavy terminology, but with straightforward answers to your questions.

OVERVIEW

If you are old enough, you would probably still remember the world before targeted marketing, those first naive and not personal whatsoever ads that now seem a little too cheesy. Our modern digital advertising landscape looks quite different today- consumers have come to expect, if not demand, personal and precise targeting across all media channels and devices.

But we demand something we do not fully understand. We enjoy the precision of relevant product recommendations, customizable experiences, and news feeds that reflect our values, but the process behind the scenes might as well be black magic. Consumers have not yet adopted the language defined by this industry, and terms like Internet of Things and machine learning are misunderstood and unfamiliar to the average user. We have developed enough technology to assist us not only in day-to-day manual tasks but also in complex analysis and human behavior predictions. Technology is moving fast and society doesn't seem to be catching up with that speed. In 2020, about 1.7 megabytes of new information is being created every second for every human being on the planet[1], and this data is being used to shape and define every aspect of our future lives. Welcome to the world of data mining, and here is where your future lies.

TABLE OF CONTENTS

CHAPTER ONE

1

“THE ONLY FREE CHEESE IS IN THE MOUSETRAP”

- Russian Proverb

We have all seen dramatic headlines and heard the news about Cambridge Analytica, Facebook, and data breach. Most of us know that there is an ethical debate at the heart of these "Big Data" stories, yet many still question how it affects them? If you are among these people, do not worry, you are not alone. Today, almost half of Americans are concerned about how their personal data is protected[2]; however, few know or fully understand what kind of data is collected and how it is used.

While all of us enjoy the recommended products, free services, and content that aligns with our interests and matches our latest consumer needs, most of us are not aware of the implications of targeting beyond the consumer perspective. Why is social media free? What information companies have about me and how it affects my view of the world?

"74 % of adults did not know that companies predict their behavior"

Source: Pew Research Center

In the past several years, data collection, storage, and management industries have become lucrative and fast-growing sectors of the economy. With the increase of 12% in 2019, Big Data is predicted to proliferate, reaching $274.3 billion in revenue by 2022.[3] And to fully understand the impacts on your personal life, we need to take a look at the inner-workings of this complex, money-making, and ever-changing world of data collection.

TERMS

Internet Of Things
Digital Marketing
Third-Parties
First Parties
Impressions
Cost Per Thousand
Real-Time Bidding

Glossery Page 69

THE BUSINESS BEHIND PERSONALIZATION

In the past 25 years, the amount of internet users has been rising exponentially, starting with 0.4% of the world's population in 1995 to 60% in 2020.[4] Almost 100% of 18-29-year-olds in the United States use the Internet in 2019.[5] This growth has transformed the way we consume new information, discover and interact with brands, and purchase everyday items:

The average internet user spends 6.5 h. online every day.

Source: Global Digital Report, 2019

There are $3.8 B. active social media users in the world.

Source: Statista, 2020

140 M. businesses use Facebook and its wwproperties every month.

Source: Facebook

47 % of all global retail sales are made online.

Source: "Global Online Purchase Data - Think with Google."

$1.5 B. websites exist worldwide (April, 2019).

Source: Web Server Survey, 2020

As a result, a massive amount of information is being communicated, shared, and collected online. Imagine your typical day online: starting your day by checking messages, emails, weather, and news. Around lunchtime, you check Amazon or any of your favorite online stores for those shoes you saw on Facebook ads a week before. Moving on through your day, you go from one website to another, clicking links, liking posts, and writing emails. And as you go about your typical digital life, you leave a trail of breadcrumbs - bite-sized pieces of information about your preferences, behaviors, needs, and habits. These breadcrumbs are collected and eventually bought by businesses that are hungry to know more about you, their target audience, and future customer. You might be thinking that companies are not interested in you, maybe you are a student without income, or you are simply

not interested in online purchases. You represent a market opportunity. Businesses want to predict your needs and desires, sometimes before you even know, and data is the key.

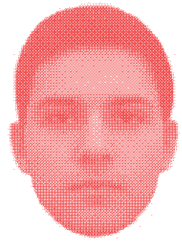
> **"Everything we do in the digital realm—from surfing the web to sending an email to conducting a credit card transaction to, yes, making a phone call—creates a data trail. And if that trail exists, chances are someone is using it—or will be soon enough."**
>
> Douglas Rushkoff, author of "Throwing Rocks at the Google Bus."

This desire for data has led to a new kind of marketplace. Here, different types of information are bought, bartered, traded, and sold. An entire industry now exists to analyze and commoditize the conclusions drawn from that data. Today, there are consumer scores on particular individuals that describe the different degrees of intimate and personal information that are sold on the market. While some of these scoring efforts are highly regulated (banking and healthcare, personal data on children under 12 years old), other uses of data are not[6], but don't let the regulations fool you; even highly regulated data is not adequately protected. There is a black market for data or "Dark Web," too, where hackers and sometimes even companies can exchange data illegally.

The average consumer is unlikely to be aware of the range and detail of data being collected or even to know who holds it. It is extremely difficult to track who, where, and when collects our data, how accurate the information and the conclusion of an analysis of profiling are. People in the U.S. still struggle to understand the nature and scope of the data collected about them. According to a recent survey by the Pew Research Center, and only 9% believe they have "a lot of control" over the data that is collected about them. Still, the vast majority, 74%, say it is very important to them to be in control of who can get that information.[7] Moreover, we have very limited insights into how our personal information feeds algorithms that make decisions about consumer experience or market access.

CONSUMER PROFILING

The example is based on a report by Cracked Lab



Age: 29
Gender: male
Location: Sarasota, Florida, USA
Education: bachelor's degree
Employment: employed

Relationship status: single
Children: 0

Political views:

Political interests:
ecology
healthcare
homeland security

Religeon: christian

Loans: $3,500
Student loans: $25,000
Income: $80,000
Net worth: $10,000
Vehicle owned: 1
Property owned: 0

Type of home: multi-family
Details about home:
1 bedroom apartment

Banking: Chase account#
Insurance policies: Infinity policy#

# of purchases made (24h): 8
Socio-econominc status: middle
Economic stability: stable

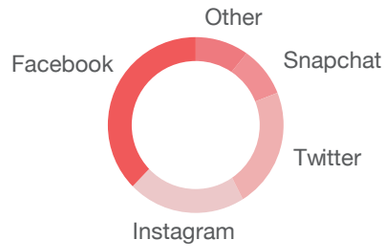
Ethic code: 2109-7 (Armenian)
Assimilation score: 70
Health interest:
inflammatory and immune system
respiratory
genetic

Alcohol/tobacco: Yes
Casino/gaming: No

Devices information:
Apple iPhone 8 M4958GF3055
Apple Macbook Pro H49385/FGJ

Internet searches:
best comidies on Netflix
ecological impact of Covid-19
Walgreens hours

Media usage:



Likelihood that:
the person is social influencer
looking for long-term relationship
has no health insurance

Byuing power:

WHO, WHAT, AND HOW?

So who has it and how did they get it?
Here is a simple answer to these questions: public and private companies either collect (directly or indirectly) or buy personal, engagement, and behavioural data to personalize the content and offer it on online platforms. While this system seems simple and straightforward, the reality is that there are a lot of hidden players who monetize our data. And while these companies keep the details confidential, this is what we do know:

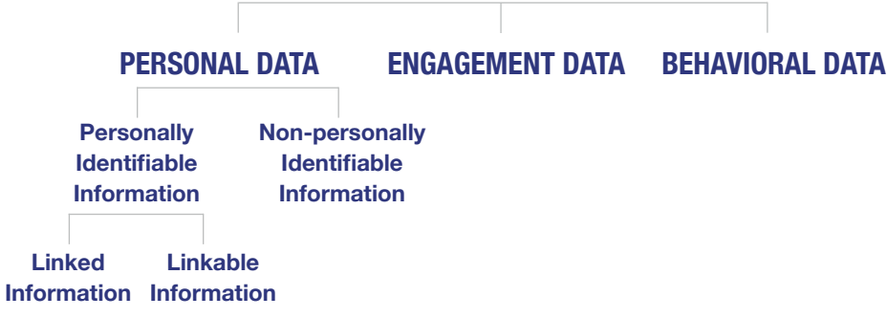
> **"Over 40% of emails sent around the world are tracked",**
>
> Source: WIRED

WHO?

Public sector: Healthcare, Education, Department of Homeland Security, Law Enforcements, government-related industries.
Private sector: Big and small privately held businesses.

WHAT?

According to Indrajeet Deshpande, a Marketing professional at MarTech Advisor (research media brand), there are three types of data that being collected everyday as you go about your everyday routine:



Personal Data

Personal data is divided into two categories: Personally Identifiable Information (PII) and Non-Personally Identifiable Information (Non-PII).

Personally Identifiable Information (PII): PII is any information that can be used to recognize an individual's identity. It is further divided into two categories:
A. Linked Information: Linked information is information that can be used to identify an individual without requiring additional information/data points. Examples of linked information are:
Full name, physical address, email address, login details, driver's license number, social security number, passport number, dredit/debit card details, date of birth, phone number.
B. Linkable Information: Linkable information is any information that can't identify a person on its own, but it can do so when it's clubbed with another piece of information. Examples of linkable information include:
First or last name, location (country, state, city, ZIP code), gender, race and ethnicity, age group, job details.

Non-Personally Identifiable Information (Non-PII): Non-PII is the opposite of PII, which is anonymous information and can't be used to identify any one person. Examples of non-PII include:
IP address, cookies, device IDs.

Engagement Data

Engagement data tells you how the customers interact with a brand via various marketing channels. This data includes information such as the customer's behavior on the website, their interaction with you on social media and through customer service, and so on. Here are the inclusions of each channel:
Website and Mobile App Interactions: website visits, app stickiness, most viewed pages, user flow, traffic sources.
Social Media Engagement: post likes, post shares, post replies, native video views.
Email Engagement: open rate, click-through rate, bounce rate, email forwards.
Customer Service Information: number of tickets, complaint/query details, feedback.
Paid Ad Engagement: impressions, click-through rate, cost per click/mille, conversions.

Behavioral Data

Behavioral data helps you uncover underlying patterns that your customers reveal during their purchase journey. Engagement data may or may not be a part of behavioral data. Here's how you can gather this data:

Transactional Data: subscription details, purchase details, previous purchases, average order value, cart abandonment data, average customer lifetime value, customer loyalty program details.

Product Usage: repeated actions, feature usage, feature duration, task completion, devices.

Qualitative Data: User attention, Heatmaps (clicks, scroll, mouse movement data)

Attitudinal Data: Attitudinal data is driven by the feelings and emotions of customers. It's how we perceive brands and offerings. Attitudinal data is usually scouted via surveys, interviews, focus groups, feedback, customer complaints, reviews, etc. Here are a few examples of attitudinal data: customer satisfaction, sentiments, product desirability, preferences, motivations and challenges, purchase criteria.

HOW?

We are surrounded by many different devices, which connectivity provides the exchange of information and data. These are your everyday objects and devices such as smart watch Amazon-echo, smart devices in your car and many others. The interconnectivity through the Internet of these devices is called the **Internet of Things (IoT)**. By 2030, Cisco expects that there would be 50 billion devices in the Internet of Things.[8]

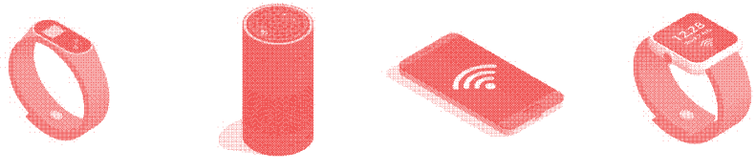
New devices overcrowd the market, and many if not all of them claim to be "smart and connected". This technological innovation is reshaping the way people go about their everyday activities and broaden the horizon of possibilities of data collection and therefore personalization. While the devices track all the actions and interactions, companies receive all the data, whether you are aware of it or not.

Basically, there are only three ways that companies collect data about their customers:

1. by asking them directly for it
2. by indirectly tracking them and
3. by acquiring it from other companies.

IoT Devices

Personal electronics: smart watch, phone, laptop, and tablets.

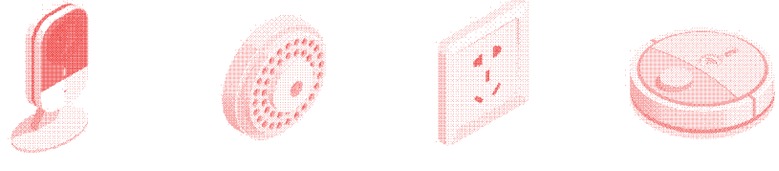


Track interface navigation, clicks, time spent per page, face-recognition, voice, location.

Smart home devices: Amazon Echo, Brilliant Control (connects to various home devices home surveillance cameras, GPS tracker, video doorbells.

Track movements, faces, voices.

Smart city devices: parking sensors, street lights, waste management devices, and gunshot detection technology.



Track everything from the amount of energy is spent to faces, voices, other devices, weather, and movement.

Direct Tracking

When a consumer subscribes to a service, register with the website, or buy a product online, most likely, they would be asked to link the profile to an email or a social media account. Through this linkage, companies collect name and email address as a minimum, more detailed demographic data and device data are also collected. Later on, customer surveys may be conducted, again asking people direct questions, which will often be used for customer profiling.

Indirect Tracking

Ad blockers, social media companies, and other businesses try to innovate on how to get the best consumer insights without being direct about it because the competition for consumer's attention becomes the only way to get through the noise. Primarily they extract data from their own websites, most of which are now equipped with **cookies** and **web beacons.** These technologies enable companies to track visitors' browsing histories – even as they exit the company's site and venture off around the web.[9] With cookies, companies know where consumers have been, what they've looked at, and where they go after they've finished browsing the company's site.

Big companies have the technology to pull data from a ray of online sources. Medium and small size companies can use retargeting cookies with services like Google AdWords on the Google Display Network and the Facebook Pixel.
Disclaimer: Facebook doesn't sell customer data; it nonetheless sells access to data-profiled customers.

Data Companies (A. K. A Data Brokers)

Companies are also purchasing and selling customer data from and to **third-parties**. There are big data companies, for example, Acxiom, that exist for one purpose only to collect, analyze, and sell customer and business data for targeted advertising campaigns. Oracle is another company that sells this type of data and, like Acxiom, acquires much of it from smaller data companies, as well as e-commerce sites, and many other sources, including electoral registers and government censuses.
These companies claim to contain information about 500 million active consumers worldwide, with about 1,500 data points per person[10], which makes those companies have more insight into individuals' lives than the FBI and IRS together. In fact, after the 9/11 attacks, Acxiom was able to locate 11 of the 19 hijackers in its database.[11]

Acxiom is a $3 billion data brokerage that essentially acts as a middleman – transferring data between different companies and parties. It's one of the world's biggest data brokers, alongside other companies such as Experian and Oracle."

Chance Miller, editor for the entire 9to5 network.

SYSTEM: EXPLAINED

These ecosystems are built to put the right businesses in front of the right audience, and the best fuel to power this system is consumer data. Data that constantly grows both in demand and price.

Many different players take part in **digital marketing**, which eventually encompasses all marketing efforts that use an electronic device or the Internet.[12] This means a number of endless possibilities for brands, including email, video, social media, or website-based marketing opportunities. Long story short, in order to survive, businesses must embrace some aspects of digital marketing. To be more specific, the phenomenon we are talking about is called **"Digital Display Advertising,"** which is a form of online advertising.[13]

Generally, the companies with which we interact directly - news websites, social media, or online or offline retailers - are called **"first parties,"** as they collect information directly from the consumer. But as we previously discussed, many companies gather information indirectly because they are in the business of processing data on behalf of the first-party company or may have access to data as part of a different business relationship. These are **"third-party"** companies. When we look at the website, it seems intimate like no one else is there: just you and the brand. But in reality, there are many invisible players that make you see exactly the ads you do. Players that buy and sell online advertising spaces, and others that provide analytics and security of the website.

At the beginning of the online advertising industry, there were just a few players: the advertiser, who would buy ad space on the website, and the publisher, the website owner who offers the ad space to generate revenue. By selling the space to the advertiser, website users get free access to it in exchange for being exposed to the ad banner.

The first ever online ad banner was a little rectangle purchased by AT&T on HotWired.com in 1994, the campaign was called "You Will". About 44 % of the people who saw it actually clicked on it. The banner simply asked: "Have you ever click your mouse right here?"

Source: Forbes.com, "How AT&T's 'You Will' Ads From 1993 Predicted The Future With Surprising Accuracy."

The currency is being used called **impression** and measured in thousands or **CPM (cost per mile)**. But as time went on, more and more publishers joined the ecosystem creating more space available, which eventually led to millions of unsold ad spaces. These publishers or the website could be related to anything from the stock market to even a real estate broker. This resulted in the creation of Ad Networks, which acted as a sales representative or a broker. Ad Networks bought unsold ad spaces, packaged, and resold it to advertisers. As the barrier to enter the market was low, there were soon thousands of Ad Networks operating in online space. That complicated things because publishers were confused about which Ad Network to use and how to compare the prices. There was a desperate need for more efficiency, and that's how Ad Exchange was brought to life. Ad Exchange operates in a similar matter as the stock exchange, and it allows advertisers to pick the audience and bid on them. Powered by a tech-heavy **Real-Time Bidding (RTB)** system, Ad Exchange uses price-optimization and dynamic allocation to simplify and improve selling and buying of the online ad spaces.

With so many players involved, there was a need for further simplification of the system. Demand Side Platform (DSP) allowed ad agencies and brands to manage multiple Ad Networks and Ad Exchanges platforms through a single unified interface. From the publisher's side, they created the Supply-Side Platform (SSP) that facilitates revenue stream efficiency by providing a platform with the management of ad spaces sales.

Today, people try to avoid interacting with online advertising at all costs, trying to ignore the ad or installing an adblocker; therefore, the system of data collection in digital online advertising keeps evolving, finding new and unexpected shortcuts to target certain groups of potential customers.
Social media advertising is growing rapidly, always innovating on how to advertise the products in a more direct to consumer way.

ONLINE ADVERTIZING PROCESS

HOW DOES A BRAND REACH THE CONSUMER?

ADVERVIZER — YOU

WHAT WE SEE

WHAT WE DON'T SEE

AD. AGENCY
AD. SPACE BUYER

PUBLISHER
AD. SPACE SELLER/WEBSITE/APP

AD. EXCHANGE
Digital marketplace that enables advertisers and publishers to buy and sell advertising space, often using real time bidding (RTB) technology. (Ex. OpenX)

DSP
DEMAND SIDE PLATFORM

System that allows brands, agencies, app developers to manage multiple Ad. Exchange and Ad. Networks through a single unifies interface.
(Ex. Verizon Media DSP)

$107.5 B.
TOTAL ONLINE ADS REVENUE IN THE USA, 2018

SSP
SIPPLY SIDE PLATFORM

System that allows publishers to manage their ad. inventory, fill it with ads to generate revenue more effectively. (Ex. Google Ad Manager)

DMP
DATA MANAGEMENT PLATFORM

Software platform used for collecting and managing data.
(Ex. Oracle BlueKai)

AD. NETWORK
AKA BROKER

Platform that serves as a broker between a group of publishers (websites) and a group of advertisers. (Ex. Propeller Ads)

CHAPTER TWO

2

“I AM STILL LEARNING”

- Michelangelo

So now that they have my data, what do they do with it?
Data that we share through our devices or the Internet of Things sensors shape the information we receive online. Essentially, online personalization methods and technologies work as somewhat recommenders. They provide recommendations that are tailored to the user. There are various recommending methods that brands, services, and online content producers use. The ones that you should know are **content-based recommenders** and **collaborative filtering**. Content-based recommenders select information on the basis of some description of the content, including music styles or genres of books, films, and games.[14] For example, you have just watched "Murder Mystery" with Adam Sandler on Netflix, the identifiers (or the description of the movie) are comedy, Adam Sandler, Jennifer Anniston, Europe, vacations, and romance. Next time you are on Netflix, you will see more recommended content such as comedy, romance, or more movies with Adam Sandler. Many big tech giants like Amazon, Netflix, Apple's iTunes Store also use collaborative filtering. That means that they provide recommendations "based on what other people like you liked."[15] Amazon's slogan states, "customers who bought this also bought...". Collaborative filtering compares your purchases and correlates them with other people's purchases. If you recently bought an iPhone case, you are compared with consumers who also bought a new iPhone case, suggesting that you, like others, would also be interested in a glass screen protector for your phone.
Even more sophisticated personalization technologies are used by Google and Facebook. These social media and communication corporations are not only using the content-based recommenders and collaborative filtering but much more in-depth profiles that record your actions, preferences, group of friends, private messengers, and many more. And the way they use recommended systems is a mystery for many, even the experts in the field.[16]

Let's see how it looks from the consumer side and how different companies and brands apply this knowledge into their personalized campaigns. But first, make it clear with the terminology. Is targeting the same as segmentation? What is the difference between personalization and customization?

TERMS

Content-Based Recommenders
Collaborative Filtering
Targeting
Segmentation
Personalization
Customization

Glossery Page 71

TARGETING AND SEGMWNTATION

Segmentation is the first step in marketing to consumers. It is the process of creating small groups or segments from a big pool of people who would potentially buy your product or idea.[17] Segmentation means grouping consumers who have similar requirements, interests, and motives to purchase your product. **Targeting** is narrowing down the segments of your potential customer and implementing a strategic approach to how your company would reach a potential customer according to the taste of a particular segment.[18] Once the company has decided who their customer segment is, they will then target that customer segment. If you are selling toys for kids, most likely, you are not going to sell it to everyone, but rather to people who actually have kids.

PERSONALIZATION VS CUSTOMIZATION

Both **personalization** and **customization** relate to marketing and both aim to create stronger connections between the brand and the consumer, something that mass marketing could not achieve. We have been talking about personalization throughout the first chapter but didn't emphasize that it is not the same as customization. Don't get these terms confused, they are not synonymous, and in fact they refer to different practices. Personalization is done by the system, while customization is done by the user.[19]

Personalization is made with no effort from the target users, and most of the time without the user realizing that it is being done. It is often confused with targeting, segmentation, and recommendation. And as you speak with the older generation, they will assure you that these terms became popular quite recently, as the new advertising opportunities became available with the widespread use of technology in the late 90's. In reality, marketing has yet not discovered the full potential of personalization, and its far-reaching tools are constantly being developed.

For personalized experiences, online developers use algorithmic processes to identify users and deliver to them the content, experience, or functionality that matches their role.[20] Personalization can be done at the individual level, for example, Amazon suggestions that are based on past browsing and purchase history; or at group or audience level, for example, apps like Spotify are utilizing location tracking for music personalization.

For customized experiences, developers may enable users to customize or make changes to the experience to meet their specific needs by configuring layout, content, or system functionality, but only the user is in charge of these choices. Customization may involve moving items around an interface to reflect the users' priorities, selecting topics of interest, or altering colors or other factors related to the visual design of an interface.[21] Similarly to choosing the configuration of a new car in a dealer shop, deciding on color, design, and functionality elements inside of it.

PERSONALIZATION MATTERS

Data driven personalization has changed the reality of many small and big businesses. Instead of paying for a billboard downtown, you can bring that billboard directly to consumers' homes with the personal and relevant to each individual message. Advertising online is cheaper, more direct and more profitable. Some companies manage to realize return on investment (ROI) up to $20 for every dollar invested in personal advertising.[22]

According to "The 2017 State of Personalization Report" by Segment (customer data platform), there is a significant advantage for all-size companies to personalise.[23] Segment surveyed 1000 consumers to analyze the impact of personalization. Here is what they found:

A. Personalization drives impulse purchases: 49% of consumers bought items they did not intend to buy due to a personalized recommendation from the brand they were doing business with.

B. Personalization leads to increased revenue: This is the big win for the company willing to make an effort to personalize the customer's experience. 40% of U.S. consumers say they have purchased something more expensive than they planned to because of personalized service.

C. Personalization leads to fewer returns: Only 5% of impulse purchases (mentioned above) were returned, and 85% of impulse buyers were happy with what they bought.
Personalization leads to loyalty: 44% of consumers say they will likely repeat after a personalized shopping experience.

Personalization is an attractive technique to gain and retain consumers. Many companies try out different approaches to personalized marketing, some succeed, and some do not. The outcome depends not only on the quality of data but also on the analysis and the strategic direction. More and more brands provide distinct experiences for each of the consumers. This is happening a lot especially in the e-commerce space, where content and offerings are displayed differently depending who's on the receiving end.[24]

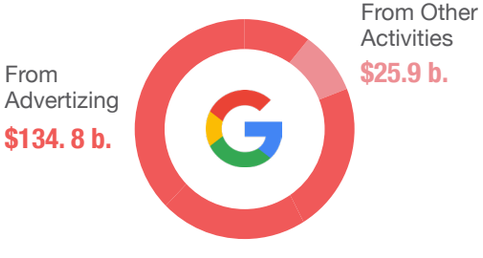
THE GOOD, THE BAD, AND THE UGLY

Some of the companies like Google, Amazon, Spotify, and Nike have been known for very successful and unique personalized campaigns, while some others have lost in the competition for customer's attention. A recent study by Accenture estimates that personalization failures cost U.S. firms $756 billion and a total of $2.5 trillion globally.[25] Here are some examples of personalization in practice.

Google Personalized Search

Personalized search on Google Search was first implemented in 2004[26], the implementation of it was only fine-tuned since then. According to a new study conducted by Google competitor DuckDuckGo, you cannot avoid personalization when using google search, even by using "incognito mode".[27]

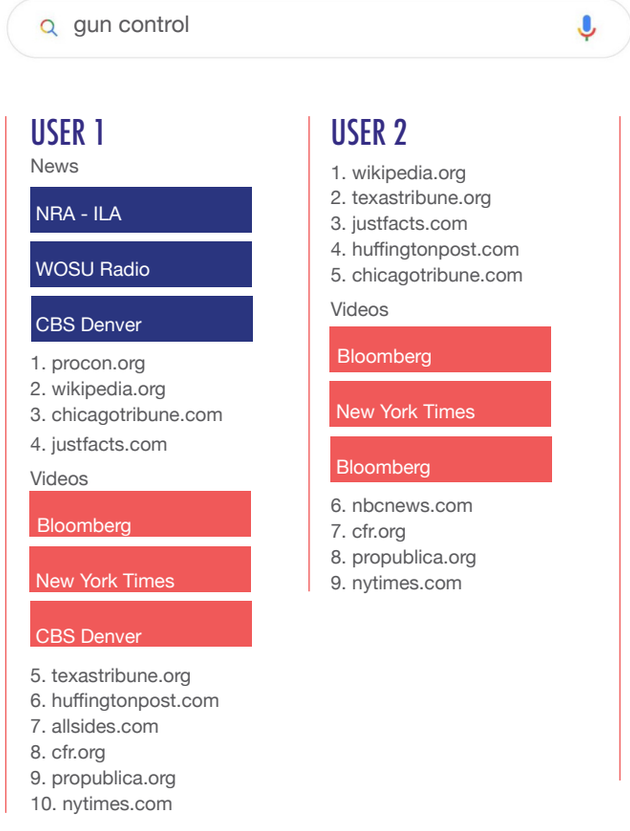
It makes sense to all of us, most of the users want to see the information they would be interested about, information that fits into the interest circle. This personalization technique is not only good for the users, but also for Google itself, capitalizing on the advertising by different sorts of companies. 84% of Google's revenue in 2019 comes from advertizing:



Source: Statista, 2019

87 people
across the U.S. searched Google
at the same time, logged out, and in private browsing mode.
You might think thay would get the same results,
but they didn't.

Source: DuckDuckGo



Amazon Recommender System

35% of Amazon's revenue is generated by its recommender system.[28] They record your search history, clicks, and know about all the products you have been interested in. A recommender system is thriving in e-commerce. But Amazon sets a goal to become even bigger than just e-commerce tapping into machieve learning development, cloud computing, and streaming services, because that's how good they've become in 20 years of personalization. Understandably, Google and Amazon are the leaders in personalization, but how are other companies not integrated in our life as much doing with personalization?

Social Media Personalized Marketing

If by any chance you are subscribed to a monthly delivery package, like IPSY, don't be surprised to see the beauty brands that you like or have just recently received throughout all your social media profiles (Facebook, Instagram, Snapchat). They will be following you everywhere you go, since the third party data collectors will give brands access to your profile interests.

App Personalization

Mobile applications collect and access your personal data not less than Facebook or Google. And because you always carry your mobile device with you, they can suggest different things depending on your location. One of the best examples is the Climatune campaign by Spotify, and it isn't the first personalization attempt by Spotify. One of the most commonly known one is Discover Weekly, which recommends new artists and songs based on your previous interests and listening history. Climature by spotify uses a different set of data, the location and the weather to decide on the suggestions that best fit your mood. For this campaign, they partnered with AccuWaeather to give insights into how weather affects music streaming.[29] On the campaign landing page, you would receive a personalized playlist depending on your location and the current weather. For example, if you are in London with its rainy and cloudy weather, you might receive a melow and melancholic playlist, but if you are in sunny Miami, you will see something completely different.

Another example which is as amazing as a previous one is a Nike+ personalized campaign. At the end of 2014, Nike, with the help of AKQA, created 100,000 personalized videos with content provided by individual Nike+ data.[30] Each one-minute film features a generalized male or female animated character running through an individually tailored video that has pulled information from a user's location, activity, and personal Nike+ movement data.

Target and Pregnancy

Back in 2012, when the personalization practices were not yet as advanced as today, Target used sensitive information such as pregnancy against its customers.[31] Target like many other retailers analyzes the demographic and purchase data they capture for each guest. Target analysts identified patterns that indicated that the shopper was pregnant and even when their due date was. As a result, the 16-year-old girl's father found out about her pregnancy from a Target coupon, which was filled with maternity items. It sparked a scandal in the marketing world and forced marketers to be more conscious around sensitive topics like sexuality, pregnancy and health. Moreover, it unveiled the hidden techniques of personalization and encouraged consumers to be more aware about their data privacy.

Personalized News Feeds

Social media is taking over in news distribution. According to a 2019 Pew Research Center report 55% of U.S. adults now get their news from social media either "often" or "sometimes" – an 8% increase from last year. About three-in-ten (28%) said they get their news "often," up from 20% in 2018. Facebook is taking a lead on personalized online environments: not only by showing you the posts of your favourite friends, but also showing and suggesting news according to your political view, educational level, and topics that you have previously expressed interest in. News aggregatesww and websites are trying to catch up with that level of personalization by providing a customizable profile setting and also personalizing your new exposure silently. In 2017, Google officially announced a personalized stream of articles, videos, and other content.[32] The feed appears in its app for Android and iOS, simply called Google. The New York Times rolled out his new personalization strategy as well. Additionally, there are hundreds of third party apps like CityFALCON, Flipboard, and Feedly that you can install for your new personalization.

CHAPTER THREE

3

“IF YOU DO WHAT YOU’VE ALWAYS DONE, YOU’LL GET WHAT YOU’VE ALWAYS GOTTEN.”

- Tony Robbins

TERMS

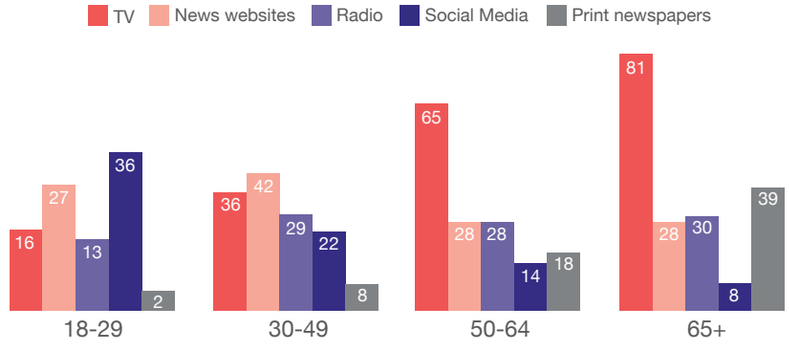
The Filter Bubble
Confirmation Bias
Algorithms
Machine Learning
Deep Learning
Ethnic Affinity

Glossery Page 74

ATTENTION-SCARCE WORLD

So far we have looked at consumer goods and personalization, but where else can an internet user experience the touch of personalization? An average American spends 6.5 hours per day online, doing everything from socializing to shopping, from entertaining to educating themselves.

From products to ideas, everywhere marketers and publishers are using the same personalization techniques, and it is now hard to separate who sells what: products or ideas. If personalized marketing works for products, it can also work for ideas. Facebook news feed, for instance, can no longer be described as two separate territories: social and commercial. With the advance of algorithms, it merged in one. Your friends' posts you see in the feed and in which order, or the ones you don't see; the links to groups and pages, suggested apps, products, and websites - all mixed in one very personal, and very unique to each user bubble.
98.5 percent of Facebook's global revenue was generated from advertising in 2019
It is not a surprise that the amount of people who use the internet to receive news is consistently rising. It is not only the news website and apps, but also search engines and social media. According to the Pew Research Center report, one-in-five U.S. adults say they often get news via social media.



Source: Pew Research Center, 2018

Most younger millennials and Gen-z (18- 26 years olds) are relying on Facebook, Twitter, and Instagram to receive their daily news updates. And even though TV maintains the number one news source for many, the popularity of TV news is rapidly declining. Getting news online is convenient, fast, and actually, more satisfying, because you can either filter the information that you are not interested in yourself through customized settings, or personalization algorithms will do it for you automatically. I get it. Before if you were only interested in sports news, you had to buy the whole newspaper to finally get to your favourite sports section. Today, sports news can be the only news you see on your phone or a laptop. Moreover, the content is usually free. The Internet has dramatically reduced the cost of producing, distributing, and accessing a diverse range of information and perspectives, focusing on profits from advertising.[33] Online publishing, for example, cut down much of the costly equipment and materials required to produce physical newspapers and magazines. And with the rise of Facebook and Twitter, users can now readily share their favorite stories with hundreds of their friends.[34] The way we produce and consume information has drastically changed.

In 1995, the internet pioneer Nicholas Negroponte envisioned the "Daily Me" as the future newspaper.[35] His vision was that every person would be able to use technology to create a package of information customised to their personal interests.[36]

> **"Imagine the future, in which your interface agent can read every newswire and newspaper and catch every TV and radio broadcast on the planter, and then construct a personalized summary. This kind of a newspaper is printed in an edition of one… Call it the Daily Me."**
>
> Nicholas Negroponte

He suggested to the editor of the new tech magazine Wired, "Intelligent agents are the unequivocal future of computing". And even though the early tech industry wasn't convinced, he was right; the company or the platform that figures out how to find a diamond in the rough and deliver it directly to the user will win over the market. Back in 1995, Negroponte observed the beginning of the attention-scarce world, and predicted that the best way to make people tune in was to provide content that really spoke to each person's idiosyncratic needs, wants, and interests. Relevance became a new mainstream word, and mastering algorithms became the solution. In the attention-scarce world, companies including media outlets value customer satisfaction over some notion of accuracy. Algorithms are taking a lead in deciding for us what we interact with, by making guesses based on large quantities

of data and determining what a person wants to see, in order to drive higher customer satisfaction. While it is desired in products and services, it is quite different with news. News and journalism have always served an important civic role. It is questionable what the social cost of the machine-made news selection is for humans. News is not based on our personal sense of what is relevant, it is somewhat universal. And does what we consider relevant is objectively relevant?

HORSE BLINDERS

In 2011, Eli Periser published his famous book "The Filter Bubble: What the internet is hiding from you". In this book, he describes a world that is lacking social cohesion due to **"the filter bubble"**. Periser explains that this is a "personal ecosystem of information". This phenomenon is also described as the echo-chamber. In such echo-chambers, the algorithms of personalization create a "unique universe of information for each one of us… which fundamentally alters the way we encounter ideas and information". Personalization is declared to be the number one reason for the filter bubble to exist in the first place. If you believe that climate change is not real, your facebook feed will likely support your opinion. Have you ever wondered why your Trump supporter friend sees much more positive news about Trump on his social media? This is the result of the bubble. In this bubble, you are never disturbed by the information you don't agree with. In 2019, Wall Street Journal Website created a campaign "Red Feed, Blue Feed" that shows liberal Facebook and conservative Facebook feeds side by side to juxtapose different perspectives on American politics and demonstrate how reality may differ for different Facebook users. If a source appears in the red feed, a majority of the articles shared from the source were classified as "very conservatively aligned". For the blue feed, a majority of each source's articles aligned "very liberal." The difference in the information is shocking.

"(Social media) lets you go off with like-minded people, so you're not mixing and sharing and understanding other points of view ... It's super important. It's turned out to be more of a problem than I, or many others, would have expected."

Bill Gates in *Quartz*, 2017

In this filter bubble, we assume that everyone thinks like us and tends to forget that other perspectives exist. Being in a bubble of information is somewhat natural. If you are living in a gated community, your bubble could include only Tesla and BMW cars. Your work or educational institute is an example of the bubble, too. Your friends would be more likely to share your beliefs and ideology, and this is also considered to be the bubble. So maybe, it is not a newly created reality that was sparked by the personalization phenomenon, but the way people always lived their lives - creating the circle of interests and ideas. However, the filter bubble dramatically amplifies **confirmation bias**. Consuming information that solely conforms to our ideas is easy, while consuming information that challenges us to think in a new way or contradicts our beliefs is frustrating. But if each citizen is encapsulated in their own personalized world, there will be no discussion, which is a fundamental basis of the democratic progress.

"Ultimately, democracy works only if we citizens are capable of thinking beyond our narrow self-interest. But to do so, we need a shared view of the world we cohabit. We need to come into contact with other people's lives and needs and desires. The filter bubble pushes us in the opposite direction – it creates the impression that our narrow self-interest is all that exists. And while this is great for getting people to shop online, it's not great for getting people to make better decisions together."

Eli Pariser,"The Filter Bubble", 2011

While the need for a bubble is true for many people, during the early 90's, the world was widely fascinated by the idea of globalization and open information exchange. Everybody wanted to break out from the borders and bubbles, and that's how the World Wide Web or the Web was created. In the early days of the Web, it was seen as a tool that offers a medium for towns, cities, and entire countries to co-create their open culture through discourse. The filter bubble is doing the opposite. It is easy to theorize, and much more difficult to document and validate how users shift

their worldview to align with the logic of the algorithms they use everyday. Algorithms not only shape the way we navigate the websites and news feeds, but also how we internalize our norms and priorities.

Tim Berners-Lee, the inventor of the Web admits that "his invention could, in the wrong hands, become a destroyer of worlds. I was devastated," he told Katrina Brooker, the editor of Vanity Fair in 2018, as a reaction to the Cambridge Analytica scandal and Russian intervention in the U.S. election.[37] The early web community produced some revolutionary ideas that are now spreading far beyond the technology sector:

A. Decentralisation: No permission is needed from a central authority to post anything on the web. There is no central controlling node; therefore, there is no single point of failure and no "kill switch"! This also implies freedom from indiscriminate censorship and surveillance.

B. Non-discrimination: If I pay to connect to the internet with a certain quality of service, and you pay to connect with equal or greater quality of service, then we can both communicate at the same level. This principle of equity is also known as Net Neutrality.[38]

C. Bottom-up design: Instead of code being written and controlled by a small group of experts, it was developed in full view of everyone, encouraging maximum participation and experimentation.

D. Universality: For anyone to be able to publish anything on the web, all the computers involved have to speak the same language to each other, no matter what different hardware people are using, where they live, or what cultural and political beliefs they have. In this way, the web breaks down silos (enclosed system of information) while still allowing diversity to flourish.

E. Consensus: For universal standards to work, everyone has to agree to use them. Tim and others achieved this consensus by giving everyone a voice in creating the standards through a transparent, participatory process at The World Wide Web Consortium (the main international standards organization for the World Wide Web).[39]

Tim Berners-Lee couldn't predict the hype of personalization that has created an unbalanced power dynamic between companies and people and segregated consumers in the invisible bubbles. At least in real life, you can randomly be exposed to contrasting ideas, but in the world of the Web, algorithms rarely disappoint to present the information you don't desire. Jacob N. Shapiro (a professor of politics and international affairs at Princeton University) believes that the internet has a more dramatic effect of filter bubble than any other form of media: "It (the internet filter bubble) would be as if Fox News were the only television network in the country".[40] It is unlikely that you receive the information that does not interest you in your filter bubble because algorithms like mathematics don't fail.

PROBLEMS WITH ALGORITHMS

But contrary to popular belief sometimes algorithms do fail. Not the code itself, but the way machine learning is set to teach itself, and how the algorithms fit in the social and democratic contexts. Buckle-up, take those blinders off for a minute as we take a look at bigger issues that personalization may create.

What exactly do we talk about when we say **"algorithms"**? In simple terms, an algorithm is defined by a sequence of steps and instructions that can be applied to data. You might have an algorithm or set of steps to go from home to work, or to cook your favourite dish or to solve a math equation. Algorithms generate categories for filtering information, operate on data, look for patterns and relationships, or generally assist in the analysis of information.[41] Algorithms are very powerful in today's tech-heavy world. They are the basis of **machine learning** that enables analysis of massive quantities of data. Machine learning focuses on the development of computer programs that can access data and use it to learn for themselves. Mastering algorithms is the key tool to advance data collection and targeting, from identifying behaviour to denying opportunity. And sometimes it is hard to get algorithms and therefore machine learning right. Algorithms can be biased, discriminatory and have potential to change the power dynamic, turning the dreams of early Web developers upside-down.

HIERARCHY OF POWER

Since the first launches of the Web, algorithms and the understanding of people's desire towards personalization have only improved. Today, the goal of each tech giant is the creation of Artificial Intelligence (AI), also known as "machine intelligence". According to Technopedia, it is a branch of computer science that aims to create software with the ability to analyze its environment using either predetermined rules and search algorithms, or pattern recognizing machine learning that would then make decisions based on those analyses.[42] In other words AI is trying to mimic biological intelligence that we as human species have. To a certain degree, companies like Google and Facebook can claim that they already achieved some degree of machine intelligence because all the processes and design decisions are heavily dependent on algorithms. The whole infrastructure of interfaces is based on lines of code that uses automation techniques to self-improve. This self-improvement is called **deep learning**, the type of learning that doesn't require human supervision. Deep learning also creates a black box scenario, when coders and computer scientists cannot see the exact steps algorithms are taking to teach themselves, and therefore do not trust them. It is similar to a math exam, giving the right answer is not enough, you need to show the process. Personalized experience online is one of the achievements of algorithms, but there is a fear of not having it under control with deep learning. Yet companies that have achieved deep learning, have more power and understanding and potential for the future because data is knowledge, and knowledge is power.

DISCRIMINATION

In 2016 and 2017, investigative journalists at ProPublica (nonprofit newsroom that aims to produce investigative journalism in the public interest) discovered that internal Facebook classifiers and external **ethnic affinity** categories that are used for advertising purposes could be used to prevent housing ads from being seen by certain ethnic groups like African Americans and Asian Americans or to promote content with anti-Semitic interests. To be clear Facebook does not collect information about race directly from its users, nor is the "Ethnic Affinity" category it assigns to users necessarily linked to their race. Instead, Facebook assumes the race based on their interests and "likes" to define whether the user has an affinity for products or services Facebook associates with a particular ethnicity.[43] This has not only brought public attention to the targeting itself, but also to Facebook as an advertising platform. These organizations were violating discrimination in housing law. Later the same year, Facebook changed targeting settings, removing explicitly discriminatory settings.

Paul-Oliver Dehaye (a data expert and academic based in Switzerland, who published some of the first research into Cambridge Analytica processes) says it's

becoming increasingly apparent that Facebook is “abusive by design”.[44] And even though Facebook is trying to address discrimination and promote fair advertizing on the platform, it is evident that ethnic affinity targeting could be abused by algorithmic processes in marketing.

Another example of the automatization problem is discrimination by error. No one wants to create a discriminatory algorithm, but the computer is trained to use the outcomes of discriminatory practices. For example, recidivism rates are used to justify continuing practices such as incarceration or over policing. These factors may contribute to the underlying causes of crime, such as poverty, joblessness, or marginalized education.[45] Machine learning keeps teaching itself based on human discrimination.

Some online retailers, for instance Staples, were found to be using an algorithm that generated different discounts for the same product to people based on where they believed the customer was located using their zip code. And it brings us back to the concept of collaborative filtering and the possible danger of it. In the world where everyone is encouraged to choose their own path, in an individualistic and self-driven western society, algorithms still may limit social mobility and make it more difficult for minorities and marginalized society to climb the social ladder. We expect to live in a fair world, but computers just like humans can incorrectly link interests to a particular socio-economic or racial group to allow access to information and produce undesirable outcomes that may be nonprogressive.

DATA BREACH

While the topic of cyber security is not the main focus of this guide, it is a vital part of today’s digital world. The Cambridge Analytica scandal became a pivotal point in understanding personal data breach. It all started back in 2007 at Cambridge University’s Psychometrics Center, where a psychologist David Stillwell came up with the idea of an app for Facebook to study personality and quantify the findings. He came up with the personality test called myPersonality and it went viral. The score of the tests were based on 5 traits - Openness, Conscientiousness, Extroversion, Agreeableness and Neuroticism. 40 % of users that were taking the test gave Stillwell access to their Facebook profiles, where he further lined and correlated data points between the test and personal profile of the Facebook users. Today it is a common practice to register or log in for an online test with your Facebook profile, and back then it was somewhat ground breaking. Many other researchers

joined the trend of Facebook profile collection. Later Robert Mercer, a pioneer in Artificial Intelligence, and Alexandr Kogan, an employee at Cambridge Analytica replicated the idea of myPersonality test, calling the app thisismydigitallife. Only now, each one of 320,000 participants was not only sharing their Facebook profiles but also profiles of at least 160 Facebook friends. The total pool of data was more than 5 million profiles! No one at Cambridge Analytica had checked to see if it was legal. Moreover, Facebook security protocols were triggered, but they assumed it was for academic purposes, since Kogan has previously had access to Facebook as a source for academic purposes at Cambridge University. This Facebook users data was the foundation of the scandal that erupted after the Brexit referendum. Coders at Cambridge Analytica then built an algorithm that could access profiles of millions more and then persuaded them on a personal basis. This story is scary and alarming, but yet it was not simply algorithms that acted unethically, there were people who guided them unethically.

THE GREATER GOOD OF ALGORITHMS

With such constant scandals of data breach and controversial personalized targeting in political elections, it is easy to forget the brighter side of the algorithms. Outside of the big tech industry, algorithms are used pretty much everywhere, from Pixar animation to physics.
How does Pixar color a 3D model character based on the lighting in a virtual room? They use a rendering algorithm.[46] How does NASA choose to arrange the solar panels on the international space station and know when to rearrange them? They use optimization and scheduling algorithms.[47] In biology algorithms are being designed to suggest a potential molecular structure that is core in disease fighting drugs. In physics algorithms simulate climate and weather patterns. Efficient algorithms are needed to provide fast and accurate possible solutions to real life problems. It simply seems that online marketing and big tech money-making machines gave algorithms a bad reputation. Google’s motto: “Don’t be evil” is more popular today than ever. Now tech giants are trying to contribute to research and partner with health and non-profit organizations to share the data to combat global diseases and future pandemics. Facebook, for instance, created “Data for Good” - a program to find non-commercial uses of data and contribute to fighting humanitarian crises all over the world.[48] Customers not only want personalization, they also want companies to be more responsible with the technology that they have.

CHAPTER FOUR

4

“BE CAREFUL WHAT YOU WISH FOR, LEST IT COME TRUE”

- Chinese Proverb

TERMS

Cognitive Dissonance

Glossery Page 75

WHAT PEOPLE WANT

In the past 20 years we, as consumers, have become more open about personalization. Many of us are not surprised anymore that marketers are trying to guess and sometimes even predict our desires. But how far can it go, how far is too far? When exactly does it become creepy? What do people think about the direction the technology and personalization is going?

As we unleash new opportunities in digital spaces, users might also become skeptical about the invasion of the internet space into their everyday lives. The perceptions and concerns about internet privacy and data collection have changed through time and this is why researchers are trying to grasp the attitudes towards the new technologies. They are seeking to inform public entities, private companies, and the governing structures about people's expectations and desires to control the way they navigate their digital life. It is believed that internet users do not trust private and governmental institutions in the way they use data, yet, very few people are taking action. Despite this distrust, consumers expect personalization. It is called **"cognitive dissonance"**, simply described as feelings of discomfort that result when your beliefs run counter to your behaviours.

68% of internet users in the USA **have engaged in online privacy:**

1. Deleted cookies in the past month
2. Used a private browsing window
3. Used an ad blocker for privacy reasons
4. Used VPN to stay anonymous

Source: DuckDuckGo

71% safe guard **personal data.**

CONSUMERS WORRY ABOUT HOW THEIR PERSONAL DATA IS BEING USED,

24% of global internet users say **they just don't understand computers and new technology.**

Source: Pew Research Center

49% say that they are **not willing to sacrifice some of their data privacy** in return for a more personalized shopping experience.

Source: 2018 Edermal Trust Barometer Special Report

51% of Facebook users **are not comfortable** with Facebook collecting their interest and traits preserences.

Source: Pew Research Center Report "Facebook Algorithms and Personal Data."

U. S ranks 29th in Data Confidence Index, out of 41 countries.

Source: Pew Research Center Report, 2018

60% of American consumers **download apps without reading** terms and conditions.

Source: Entrepreneur.com

1 out of 5 report that they'll keep an app they like, even if **it does breach their privacy.**

Source: "Internet Users Worry About Online Privacy but Feel Powerless to Do Much About It", Entrepreneur.com

YET THEY ENJOY THE BENEFITS OF PERSONALIZED EXPERIENCES.

90% of consumers are **willing to share their data** to create a more personalized experiences.

Source: Accenture

90% of consumers **are willing to share personal behavioral data** with companies for a cheaper and easier experience.

Source: SmarterHQ

74% of counsumers **feel frustrated** when the website content is **not personalized.**

Source: Istapage.com

72% of consumers say they **only engage with personalized messaging.**

Source: SmarterHQ

COMFORT VS PRIVACY

Typically, when there is an internal conflict of beliefs and actions, people are trying to reduce the internal dissonance by reducing the importance of conflicting beliefs. In this case, people want more control over privacy but are conflicted with their inability to stop using technology that limits it. In other words, we are trying to avoid thinking and connecting privacy and personalization. We are focusing on other benefits, such as instant connection, integration, simplicity and comfort that new technologies provide. It is hard to say no to social media, Amazon prime benefits, and your smartphone accessibility. It is much easier to simply disregard your privacy concerns. This phenomenon also explains the increase in the importance of user interface design (UI/UX) as a form of destruction to drive customer satisfaction. Why do we need to choose between privacy and comfort?

Throughout history people have struggled to deal with new inventions, fearing what will be next, and feeling anxious about trusting the new technology. And it is the same story with the algorithms, personalization, machine learning and AI today; we are worried because we cannot foresee the way it will impact our social and civic lives.
The reality is that no one knows what is to come, or how we should adjust our ethical norms and laws to navigate the future that will only amplify the technological inclusion in life. No one knows what the best solution is for data collection and data overload. The only option that is left is feeding data Frankenmonster with more data, participating in conversation and hoping for the best.

"For me, privacy means that I am in complete control of my personal information."
Woman, 29

"Activity/data about me and from my interactions with websites and digital services being unavailable to other people."
Man, 22

"Privacy is keeping my personal information out of the hands of the big data companies."
Man, 34

"Nothing…. No matter what type of security you think you have, any hacker that wants in will get in. Just a matter of time in my opinion."
Man, 49

Verbatims from Pew Research Center Report "Americans and Privacy"

CHAPTER FIVE

5

“GOOD LAWS HAVE THEIR ORIGINS IN BAD MORALS.”

- Ambrosius Macrobius

LAW IS CONFUSING

Data is a fuel for many industries, and its potential to improve the world is enormous; therefore, data mining is a necessary practice. Maybe instead of restrictions on data mining, our concern should be what can or cannot be personalized and how this is translated to law. Or how the internet users could have more control over their information. However, the law is hard to understand.

> **"63 % of Americans, said they do not understand the laws and regulations that are currently in place to protect their data privacy."**
>
> Source: Rashid, Fahmida Y. "Americans Don't See Benefits of Data Collection."

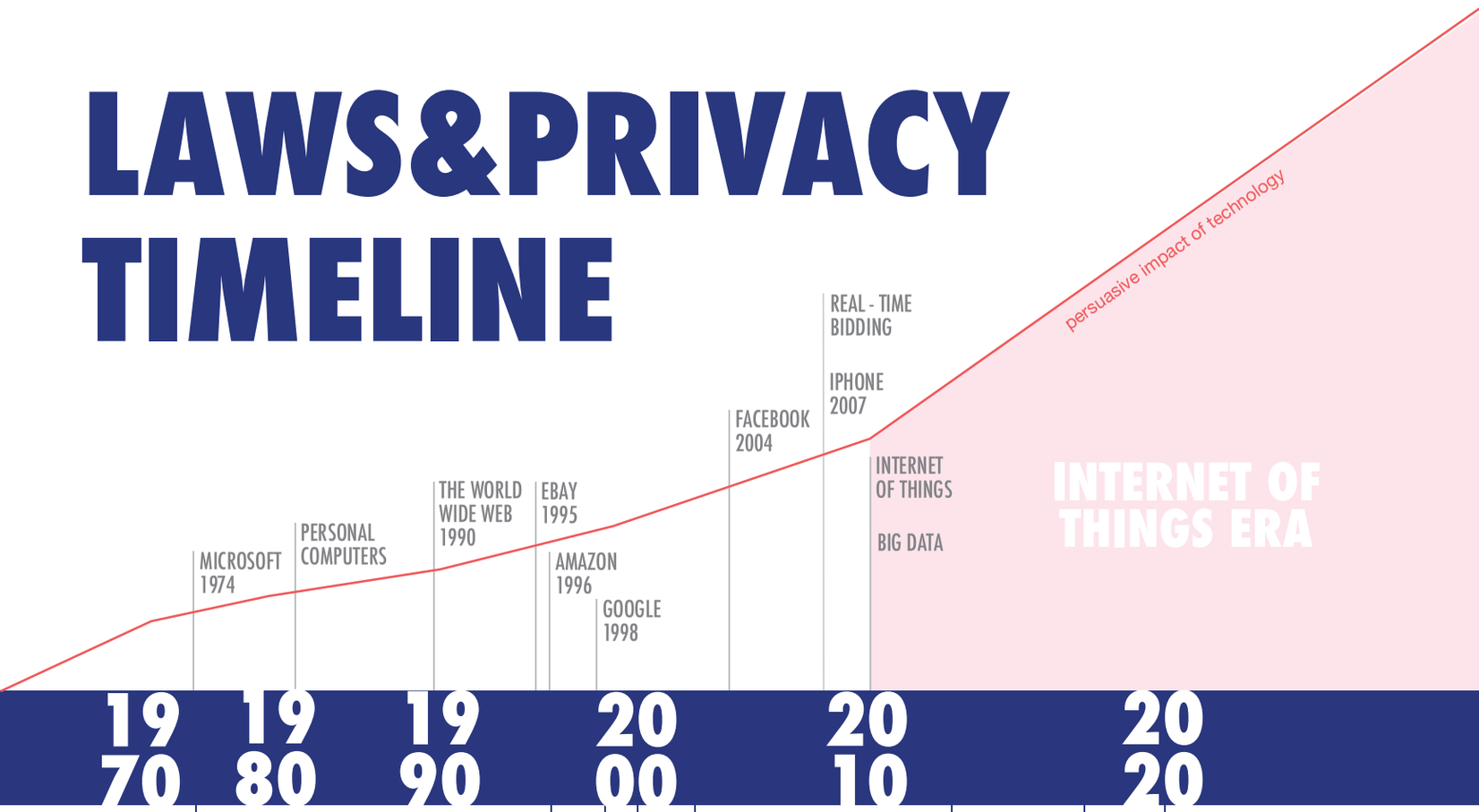
Let's start with the fact that there are no unified data collection and privacy laws in the United States nor are they in any place in the world. Some regions like the EU, Russia or China try to implement laws or build in-country servers that limit foreign penetration in the country. The EU has the General Data Protection Regulation that was put in place in 2018, Russia is building servers to disconnect the Russian internet (Runet) from the rest of the world by 2021, and China has already built its internet wall. These forms that restrict free internet connectivity is the opposite to what the creators of digital spaces intended. However, some sort of regulations might be necessary as the creators of the internet were unable to predict such rapid change and growth of the tech sector and data mining. Every country reacts in it's own way to protect and/or control their citizens. This is a big question concerning the freedom of digital space; however, if there is already a problem, regulations will follow. And in my opinion the goal is not to limit or restrict internet use to access information but completely the opposite.

TERMS

GDPR
GLBA
HIPAA
COPPA
CCPA

Glossery Page 76

LAWS&PRIVACY TIMELINE



US Privacy Act (1974)

Mantains restriction on data held by government agencies.

HIPAA (1996)

Health Insurance Portability and Accountability Act protects health information.

GLBA (1999)

Grammi-Leach-Biley Act protectsfinancial nonpublic infromation (NPI).

COPPA (2000)

Children Online Privacy Protction Act protects children data (kids under 12 years old).

FISMA (2002)

Federal Infromation Securioty Management Act orders agencies to protect data.

SOX (2002)

Sarbanes-Oxley Act protects the public from fradulent practices by corporations.

ISO 27001 (2013)

Framework for an information security management.

GDPR (2018)

General Data Protection Regulation aims to protect EU cetezenš personal data.

CCPA (2020)

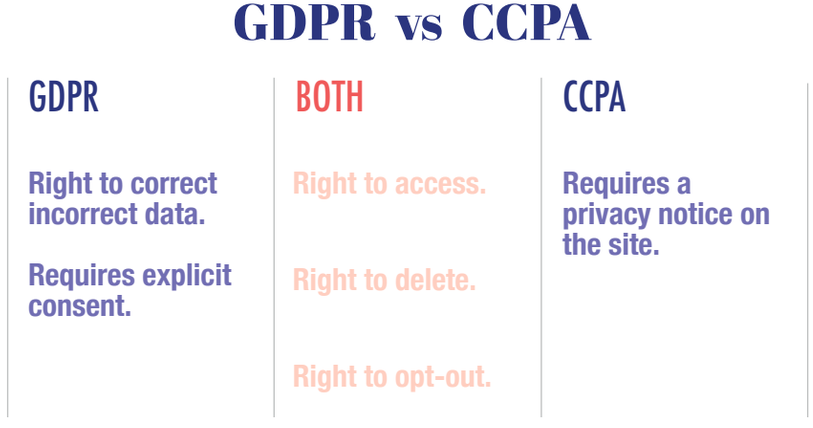
Califoria Consumer Privacy Act restricts how companies collect and use data (only in California).

In the United States, the governmental agency in charge of fair business practices is the Federal Trade Commission (FTC). It is responsible for policing business practices across the nation and making sure competition remains fair.[49] When the FTC was created in 1914, its purpose was to prevent unfair methods of competition in commerce as part of early government efforts to break up large trusts or monopolies and prevent them from dominating industries. Over the years, Congress has passed additional laws giving the FTC greater authority to police anticompetitive practices. Today, the commission administers a wide variety of other consumer protection laws. The FTC is entitled to address a wide array of practices affecting consumers, including those that emerge with the development of new technologies and business models. Congress has authorized the FTC to issue rules that regulate specific areas of consumer privacy and security as well.

To be clear, the US does not have a central federal level privacy law, like the EU's **GDPR**. There are instead several federal privacy laws: for finance **(GLBA)**, healthcare **(HIPPA)**, children's data **(COPPA)**, as well as a new wave of state privacy laws with California Consumer Privacy Act **(CCPA)**. And as for today only California, Nevada, and Maine have online privacy laws in effect.

Laws regarding online space can be unclear, because some decisions are made on a state level, whild the FTC operates on a national level. Online space are not regulated, and the FTC only can go after Facebook if they mislead "representation" of the privacy practices.[50] For example, Facebook should not state that they do not collect or share personal user data, because this is false representation of their privacy practice. In 2012, Facebook settled for a $5 billion payment to the FTC for stating that the Facebook user can set privacy settings to restrict information to certain groups or individuals.[51] This is not true because even in such settings, Facebook allows advertisers to target their users, which means sharing user information. After that, Facebook had to change the description of privacy settings.

Recent changes in law, such as the 2018 General Data Protection Regulation in Europe and the 2020 California Consumer Privacy Act, come close to addressing consumer data privacy even online.



Source: Varons.com, "Comlete Guide to Privacy Laws in the US."

While both GDPR and CCPA are the best responses to a change in the data collection industry, it is unclear how big tech companies will comply with the law. But at least it shows that the step to address public dissonance with data collection is being taken into consideration.

If you are not interested in law, you might be thinking what does it have to do with you? Or why is it even important? Well, if the trajectory of technological development will have the same tempo, legal definitions of data collection and protection will become only more and more important. Instead of discussing access to health care, the next election's hot debate topic could potentially become personal data.

CHAPTER SIX

6

“WE SHAPE OUR TOOLS AND, THEREAFTER, OUR TOOLS SHAPE US.”

- John Culkin

Most of you, dear readers, might not be coders or lawmakers. You might not invent new technology that manages data collection nor dedicate your life to try to embed ethics into algorithms. Maybe you are not the ones who write laws and policies. Nonetheless, you are thinkers, readers, consumers and citizens. Therefore, it is important to acknowledge the good and the bad about our digital reality - data collection, advertising, personalization of information. And it is also crucial to be aware how this invisible world develops and changes because our digital reality not only impacts consumption of goods, but also our interactions with the world. Changing our behavior and perception is the least we can do to break out of the filter bubble and gain more control over our personal information.
Here are some things you can do to navigate this new data-driven world.

WHAT YOU CAN DO

Embrace Your Inner Critical Thinker

Most of us are aware of the food that we feed our body - the healthier the diet, the better. Why isn't it the same with information? Having a healthy information diet is as important as watching our nutrition. Too much sugar leads to diabetes, and too much fat to high cholesterol levels. Everything in our body should be just enough to keep it running without malfunctions. A healthy diet for the brain matters too. In order to have an accurate representation of the world, we have to be open about diverse opinions. It is almost impossible to make a fair judgement of any situation - global and local - without looking at both cause and effect.
Critical thinking is more important now than ever. With such an overload of information through different media channels, we have to be skeptical about the legitimacy of information, biases and overall messages behind content we encounter. The sources that have very little credibility use the same personalization algorithms as credible sources. And it is becoming harder to distinguish news from opinions. In our filter bubble, we sometimes feel that everything we know is true, but is it really? As the content gets more personalized, we need to start asking ourselves more frequently, where the information is coming from and is there any other contradicting information out there. If so, why does such information exist?

Switch Focus from Entertainment to Education

Entertaining storytelling and a factor of sensation or novelty are the pillars that make good marketing and popular news today. Additionally, with effortless access to information online, there is a danger of passive consumption. Spending hours scrolling your Instagram feed or TikTok "for you" page with no particular purpose might be addictive because the content is not only entertaining, but also it is based on your personal interests and viewing history. Hours later, you've seen hundreds of videos, graphs, photos and memes with some ads in between. By that time your brain is overloaded with information, but how useful is this information? Information habits such as passive consumption, only emphasize the information bubble. Therefore, it is important to try to track what information you are actually interested in and what value it brings to your life. Conscientiousness in digital spaces might also help to realise the data traits you leave behind as you scroll, click "like" and navigate your digital life.

Allow Serendipity

Trying something new is always good. Randomness sparks the creativity as we expose ourselves to the information that we simply do not expect. Try to stretch your interests in new and unpredictable directions that will also allow the algorithmic code to generate more diverse recommendations. Just as you notice unexpected things about the place you live when you suddenly decide to take a new route to work, if you expand your interests, you are allowing new ideas, interesting people, and discoveries to come your way.

Use Available Tools

There are a million tools to assist you in navigating your digital environment. Ad-blockers, data trackers, IP changers, privacy settings, fact-checking websites and many more - all available at your fingertips.

1. Update your settings on the web products you use like your browser, social media, and email clients.

2. Set your browser to "do not track". You can also use browser options like Chrome's "Incognito" mode to keep your data from the browser, though your activity is still visible to the sites you visit.

3. Download a privacy browser extension, such as Privacy Badger, as well as uBlock Origin, AdBlock Plus, Ghostery, and Noscript (all of them are non-profit companies).

4. Keep your location to yourself in your phone settings and turn it on only when necessary.

5. Use reliable sources like Wired and The Verge to stay up to day with privacy and technology. The Verge has also published "The Guide to Privacy and Security" with detailed and easy to follow instructions.

6. Use VPN (Virtual Private Network) services, they are the free ones you can install, such as Avira.

7. If you live in California, as of January 2020, you can request to see or delete the data other websites collected.

> **"They almost always have options to opt for higher privacy settings, but by default they're usually set to a lower restrictive setting, so they can generate more profit off each user."**
>
> Daly Barnett, a staff technologist at the Electronic Frontier Foundation

WHAT COMPANIES CAN DO

It is no longer sufficient for tech giants to say that personalization is just a tool for customer satisfaction. It is also a monetization machine and a control level for information access. With such an information hierarchy and the divide between the information consumer and information keepers, private companies are trying to reshape how they look in the eyes of their users.

Design Platforms that Give More Privacy Control

There is a pressure of accountability for all of the major digital service providers, Google, Facebook and Youtube are not exceptions. Many of the global social media companies are stepping up the game adding features that allow more control over targeting and personal data.
Until Facebook restricted data access permissions in 2015, Facebook users were also potentially letting them see information not only about you but also your

friends. Cambridge Analytica gathered all that data not from a hack, but because the developer of a legitimate app passed the information that he accessed legally to them. Having more settings on personal data is great, but the problem is the difficulty in finding these settings because it is too complicated and time consuming. Websites and social media platforms are concerned about the design of the interface, but when it comes to settings, it simply seems like a purposeful confusion.

Be Transparent

Companies should be transparent about the use of algorithms and machine learning. In a 2019 Factual survey conducted by the University of Southern California, more than half of US smartphone users said they would be willing to share their location if they understood the benefits.[52] Whether companies want it or not, consumers will ask full visibility into how extensively their personal data is being used and monetized. This is very important, as research shows that 79% of consumers will leave a brand if their personal data is used without their knowledge.[53] With the EU's GDPR and USA's CCPA officially implemented across all businesses, companies will have a fresh opportunity to reevaluate their data practices, communicate them clearly to customers, stick to their word and create a better reputation for new technology.

Follow Common Civil Ethics

When something doesn't feel right, it probably isn't. We all know that consumers want better experiences, and they are not willing to give up their privacy. Digital spaces promise to deliver both, but with the abuse of data and personalization in marketing for monetary gain, the aspect of privacy doesn't seem like a priority. Trust is no longer the given, and once trust has been lost, it's nearly impossible for companies to rebuild sustainable, long-lasting and honest relationships with their consumers. Technology and AI play a big part in creating the gap of trust, but it also can work for rebuilding it.

GLOSSARY

Know Your Terms

MUST KNOW

Data

Data are individual units of information.

Customer data is defined as the information the customers provide while interacting with the business via your website, mobile applications, surveys, social media, marketing campaigns, and other online and offline avenues.

Source:"What Is Customer Engagement? A Complete Guide for 2020." Website, vwo.com/customer-engagement/.

Big Data

Big data refers to the large, diverse sets of information that grow at ever-increasing rates. It encompasses the volume of information, the velocity or speed at which it is created and collected, and the variety or scope of the data points being covered. Big data often comes from multiple sources and arrives in multiple formats.

Source: Investopedia

Data Mining

Data mining is a process used by companies to turn raw data into useful information that leads to understanding meaningful patterns and trends. By using software to look for patterns in large batches of data, businesses can learn more about their customers to develop more effective marketing strategies, increase sales and decrease costs.

Source: Investopedia

Data Broker / Information Broker

Beginning in the late twentieth century, technological developments such as the development of the Internet, increasing computer processing power and declining costs of data storage made it much easier for companies to collect, analyze, store and transfer large amounts of data about individual people. This gave rise to the information broker or data broker industry.

A Data Broker is a business that aggregates information from a variety of sources; processes it to enrich, cleanse or analyze it; and licenses it to other organizations. Data brokers can also license another company's data directly, or process another organization's data to provide them with enhanced results. Data typically is not "sold" (i.e., its ownership transferred), but rather it is licensed for particular or limited uses.

Source: Executive Office of the President Obama, Title Big Data: Seizing Opportunities, Preserving Values. Createspace Independent Pub, 2014.
Gartner_Inc. "Data Broker." Gartner, www.gartner.com/en/information-technology/glossary/data-broker.

Customer Profiling

Customer profiling is a way to create a portrait of a company's customers to help businesses make design decisions concerning their service. Customers are broken down into groups of customers sharing similar goals and characteristics and each group is given a representative with a photo, a name, and a description.

Source: Rees, Damian. "What Is Customer Profiling?" Experience UX, www.experienceux.co.uk/faqs/what-is-customer-profiling/.

Cookies

The small file that website's place on a visitor's computer that allows them to obtain personal information about that specific user.

Source: "How Do Websites Track Users?: Technologies and Methods: CCPA and GDPR Compliance." Cookiebot, www.cookiebot.com/en/website-tracking/.

Click-Path

Is the name given to the record of a user's actions on the internet; their 'digital footprints', if you will. Clickstream data, therefore, can show in detail exactly where a user goes and what they do, from search engine searches to websites visited, conversions made, and purchases carried out.

Source: Sentance, Rebecca. "Using Clickstream Data to Know Your Customer's Entire Online Journey." ClickZ, 9 Oct. 2019, www.clickz.com/using-clickstream-data-to-know-your-customers-entire-online-journey/112816/.

CHAPTER 1

Internet Of Things (Iot)

The Internet of things (IoT) is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to collect and transfer data over a network without requiring human-to-human or human-to-computer interaction.(Brown, Eric (20 September 2016). "21 Open Source Projects for IoT". Linux.com.)
The term is commonly used in the context of connectivity of smart home devices. These IoT devices, such as vehicles, wearables, appliances, and more, became embedded with sensors, control systems, and processors in order to enable horizontal communication throughout an open, multi node network.

Source: "Internet of Everything vs. Internet of Things." TechGenix, 26 Feb. 2018, techgenix.com/internet-of-everything/.

Internet Of Everything (Ioe)

IoE is the intelligent connection of people, process, data and things. The Internet of Everything (IoE) with four pillars: people, process, data, and things builds on top of The Internet of Things (IoT) with one pillar: things. In addition, IoE further advances the power of the Internet to improve business and industry outcomes, and ultimately make people's lives better by adding to the progress of IoT.

Source: Banafa, Ahmed, et al. "The Internet of Everything (IoE)." OpenMind, 1 Aug. 2018, www.bbvaopenmind.com/en/technology/digital-world/the-internet-of-everything-ioe/.

Digital Marketing

Digital marketing is the use of the Internet, mobile devices, social media, search engines, and other channels to reach consumers. Some marketing experts consider digital marketing to be an entirely new endeavor that requires a new way of approaching customers and new ways of understanding how customers behave compared to traditional marketing.

Source: Investopedia

Third-Party Data

Third-party data is any information collected by an entity that does not have a direct relationship with the user the data is being collected on. Oftentimes, third-party data is generated on a variety of websites and platforms and is then aggregated together by a third-party data provider such as a Data Management Platform (DMP). By aggregating data from a plethora of disparate websites, DMPs are able to create comprehensive audience profiles. These profiles contain information on users' web interactions and behaviors, which are then used to categorize users into

particular segments, such as dog lovers or sports fans. Data providers then sell this aggregated, anonymized data to advertisers to facilitate targeted ad buys, allowing advertisers to target and tailor ads to effectively engage those particular audiences.

Source:Shiffman, Eric. “What Is Third-Party Data?” SpotX, 6 Mar. 2020, www.spotx.tv/resources/blog/product-pulse/what-is-third-party-data/.

First Parties

First party data is defined as data that your company has collected directly from your audience -- made up of customers, site visitors, and social media followers. “First party” refers to the party that collected the data firsthand to use for re-targeting.

Source:Bernazzani, Sophia. “A Basic Definition of First Party, Second Party, & Third Party Data.” HubSpot Blog, blog.hubspot.com/service/first-party-data.

Impression

An “impression” represents an opportunity of an advertisement to be seen, heard, or make an influence on a potential consumer. In the tangible world, impressions might be glanced on the side of the road as a billboard, or played in the background on the radio.

Source: Power, Page One. “Impressions Definition in Marketing & Advertising: Page One Power.” Impressions Definition in Marketing & Advertising, www.pageonepower.com/search-glossary/marketing-impressions.

Cost Per Mille (CPM)

Cost per mille, also called cost per thousand, is a marketing term used to denote the price of 1,000 advertisement impressions on one webpage.

Source: Investopedia

Real-Time Bidding:

The buying and selling of online ad impressions through real-time auctions that occur in the time it takes a webpage or an app to load.

Source:“Ad Tech Simplified : What Is Real Time Bidding(RTB)?” GreedyGame, 25 Nov. 2019, greedygame.com/post/ad-tech-what-is-real-time-bidding-rtb/.

CHAPTER 2

Recommended Systems

A type of information filtering systems typically used in commercial applications (e-commerce websites: Amazon, music, and video streaming services and social media platforms. It provides end-users with personalized information about products or services relevant to them by means of eliciting user preferences.

Source: Luo, Shuyu. “Intro to Recommender System: Collaborative Filtering.” Medium, Towards Data Science, 6 Feb. 2019, towardsdatascience.com/intro-to-recommender-system-collaborative-filtering-64a238194a26.

Content-Based Filtering

Content-based filtering is also known as cognitive filtering, it recommends items based on a comparison between two major aspects. A user profile and the content of the items. The content of each item is descriptive and based upon words that are used to build a document. User profile is built up by analyzing content of items which have been seen by himself.

Source: Kumbhar, Shruti Sunil. “Improvised Book Recommendation System Based on Combine Features of Content Based Filtering, Collaborative Filtering and Association Rule Mining.” IJRAR, Mar. 2019.

Collaborative Filtering

To address some of the limitations of content-based filtering, collaborative filtering uses similarities between users and items simultaneously to provide recommendations. This allows for serendipitous recommendations; that is, collaborative filtering models can recommend an item to user A based on the interests of a similar user B. Furthermore, the embeddings can be learned automatically, without relying on hand-engineering of features.

Source: “Collaborative Filtering | Recommendation Systems | Google Developers.” Google, Google, developers.google.com/machine-learning/recommendation/collaborative/basics.

Targeting

Targeting, also known as multisegment marketing, is a marketing strategy that involves identifying specific personas or markets for specific content. Companies use target marketing to learn more about their consumers and thus create advertisements for specified groups to maximize response.

Source:Clevinger, Amanda. “What Is Targeting: Definition and Types.” Sales Glossary, snov.io/glossary/targeting/.

Segmentation

The process of organizing your target customers into groups determined by characteristics such as demographics (for example gender, income, location), behavior, interest, affiliation. With segmentation, it is the marketer who is determining the segments and the strategies that will be used to appeal to each.

Personalization

Personalized marketing, also referred to as one-to-one marketing, leverages data analysis and digital technology advancements such as machine learning and artificial intelligence, to deliver an individualized customer experience. While segmentation is controlled by the marketer and customization is controlled by the user, personalization is controlled by customer information, demographics, and behavior that is extracted from data (without explicit input from the customer.) Personalization does not rely on human input except for where it comes to what messaging and experience is delivered to the end-user. This is determined by the marketer.

Source: Wagner, Paul. “A Comprehensive Guide: The Difference Between Personalization, Segmentation, and Customization - Personalization Platform.” CloudEngage, 30 Nov. 2017, cloudengage.com/comprehensive-guide-difference-personalization-segmentation-customization/.

Customization

The process of determining which messaging and experience an end-user will receive through the manual input of preferences and information they provide, rather than predetermined customer segments dictated by the marketer when using a segmentation approach. This gives the customer control, where segmentation is controlled by the marketer. Customization essentially empowers the customer to determine which segment they are actually a part of, which can be more accurate targeting than segmentation. The marketer determines what messaging and experience is delivered to the customer-selected segments.

Source: Wagner, Paul. “A Comprehensive Guide: The Difference Between Personalization, Segmentation, and Customization - Personalization Platform.” CloudEngage, 30 Nov. 2017, cloudengage.com/comprehensive-guide-difference-personalization-segmentation-customization/.

Targeting vs. Personalization

Targeting is about marketer needs. Personalization is about consumer needs. Personalization stems from behavioral data. The first step of personalization involves grouping together customers who have similar behaviors and needs. Then comes understanding the customer journey for every audience segment you’ve defined.

Source: Wagner, Paul. “A Comprehensive Guide: The Difference Between Personalization, Segmentation, and Customization - Personalization Platform.” CloudEngage, 30 Nov. 2017, cloudengage.com/comprehensive-guide-difference-personalization-segmentation-customization/.

Personalization vs. Hyper-Personalization

Hyper-personalization leverages artificial intelligence (AI), machine learning, powered algorithms and IoT enabled devices, real-time data to deliver more relevant content, product, and service information to each user. This approach takes personalized marketing a step further.

Source:Hou, Zontee, et al. “Hyper-Personalization: What It Is and Why You Need It in Your 2019 Marketing.” Content Marketing Consulting and Social Media Strategy, www.convinceandconvert.com/research/hyper-personalization/.

CHAPTER 3

Filter Bubble

A term coined by Internet activist Eli Pariser – is a state of intellectual isolation that allegedly can result from personalized searches when a website algorithm selectively guesses what information a user would like to see based on information about the user, such as location, past click-behavior and search history.
Synonyms: echo chamber, tunnel vision.

Source: "Research Guides: Today's News: Separating Fact from Fiction: Filter Bubbles & Confirmation Bias." Filter Bubbles & Confirmation Bias - Today's News: Separating Fact from Fiction - Research Guides at J. Sargeant Reynolds Community College, libguides.reynolds.edu/fakenews/bias.

Confirmation Bias

The tendency to gather evidence that confirms preexisting expectations, typically by emphasizing or pursuing supporting evidence while dismissing or failing to seek contradictory evidence.

Source: APA Dictionary of Psychology

Algorithm

Algorithms are instructions for solving a problem or completing a task. Recipes are algorithms, as are math equations. Computer code is algorithmic. The internet runs on algorithms and all online searching is accomplished through them. Mastering algorithms is the key tool to advance data collection and targeting, from identifying behaviour to denying opportunity. Self-learning and self-programming algorithms are now emerging, so it is possible that in the future algorithms will write many if not most algorithms.

Source: Rainie, Lee, and Janna Anderson. "Experts on the Pros and Cons of Algorithms." Pew Research Center: Internet, Science & Tech, Pew Research Center, 31 Dec. 2019, www.pewresearch.org/internet/2017/02/08/code-dependent-pros-and-cons-of-the-algorithm-age/.

Machine Learning

Machine learning enables analysis of massive quantities of data. While it generally delivers faster, more accurate results in order to identify profitable opportunities or dangerous risks, it may also require additional time and resources to train it properly. Combining machine learning with AI and cognitive technologies can make it even more effective in processing large volumes of information. Machine learning focuses on the development of computer programs that can access data and use it learn for themselves.The process of learning begins with observations or data, such as examples, direct experience, or instruction, in order to look for patterns in data and make better decisions in the future based on the examples that we pro-

vide. The primary aim is to allow the computers learn automatically without human intervention or assistance and adjust actions accordingly.

Source: "What Is Machine Learning? A Definition." Expert System, 11 Nov. 2019, expertsystem.com/machine-learning-definition/.

Deep Learning

Deep learning is an artificial intelligence function that imitates the workings of the human brain in processing data and creating patterns for use in decision making. Deep learning is a subset of machine learning in artificial intelligence (AI) that has networks capable of learning unsupervised from data that is unstructured or unlabeled.
Synonyms: deep neural learning, deep neural network.

Source: Investopedia

Ethnic Affinity

Racial identity classification that Facebook uses. Ethnic affinity however is not gathere directly from the user, but instead Facebook draws on the user's liking of certain musical acts, support of certain political ideals, sharing of posts from certain sources, all combined with the location and language data the social network does collect.

CHAPTER 4

Cognitive dissonance

Cognitive dissonance is a theory in social psychology. It refers to the mental conflict that occurs when a person's behaviors and beliefs do not align.

Source:"Cognitive Dissonance." Psychology Today, Sussex Publishers, www.psychologytoday.com/us/basics/cognitive-dissonance.

CHAPTER 5

GDPR

The General Data Protection Regulation (GDPR) is a EU data privacy law that came into effect in 2018. It gives people more control over their personal data and forces companies to make sure the way they collect, process and store data is safe. The EU aims to achieve a fundamental change in the way companies think about data -- its central idea is “privacy by default.” Any organization that holds or uses data on people inside the European Union is subject to the new rules, regardless of where it is based. If a company fails to comply, European regulators can fine companies up to 4% of annual global sales, which for the big tech firms could run into billions of dollars. Penalties for smaller firms would be capped at €20 million ($23.5 million).

Source: “General Data Protection Regulation (GDPR) Compliance Guidelines.” GDPR.eu, gdpr.eu/.

GLBA

The Gramm-Leach-Bliley Act (GLB Act or GLBA) is also known as the Financial Modernization Act of 1999. It is a United States federal law that requires financial institutions to explain how they share and protect their customers’ private information. To be GLBA compliant, financial institutions must communicate to their customers how they share the customers’ sensitive data, inform customers of their right to opt-out if they prefer that their personal data not be shared with third parties, and apply specific protections to customers’ private data in accordance with a written information security plan created by the institution.

Source: “What Is GLBA Compliance? Understanding the Data Protection Requirements of the Gramm-Leach-Bliley Act in 2019.” Digital Guardian, 15 July 2019, digitalguardian.com/blog/what-glba-compliance-understanding-data-protection-requirements-gramm-leach-bliley-act.

HIPAA

Health Insurance Portability and Accountability Act (HIPAA) that was passed by Congress in 1996. It Mandates industry-wide standards for health care information on electronic billing and other processes; and requires the protection and confidential handling of protected health information

Source: Department of Health Care Services. “Health Insurance Portability & Accountability Act.” What Is HIPAA, www.dhcs.ca.gov/formsandpubs/laws/hipaa/Pages/1.00WhatisHIPAA.aspx.

COPPA

Children’s Online Privacy Protection Act (COPPA) was passed by U.S. Congress in 1998 to protect the privacy of children under the age of 13. COPPA requires parental consent before children can make online purchases as well as before ISPs can collect children’s personal information. In 2013, COPPA was revised so that it also applies to app developers and ad network entrepreneurs instead of just website operators.

Source:“The COPPA Law Explained.” RM Warner Law, rmwarnerlaw.com/the-coppa-law-explained/.

CCPA

The California Consumer Privacy Act (CCPA) went into effect in January, 2020. Under this act consumers “own” their privacy information, it provides them five general “rights” for their personal information. California consumers have the right to know what personal information is collected about them, to whom their personal information is sold/disclosed and can opt-out of its sale. They can also access their personal information that has been collected and ask businesses to delete their personal information. However, it is only applied to California residents.

Source: “Quick Overview: Understanding the California Consumer Privacy Act (CCPA).” Association of Corporate Counsel (ACC), www.acc.com/resource-library/quick-overview-understanding-california-consumer-privacy-act-ccpa.

DEAR READER,

IT IS TIME TO ADMIT: YOU ARE IN A LONG-TERM RELATIONSHIP WITH PERSONALIZATION,

SO REMEMBER,

LIKE IN ANY GOOD RELATIONAHIP, TRUST IS KEY.

ENDNOTES

1 Marr, Bernard. “Big Data: 20 Mind-Boggling Facts Everyone Must Read.” Forbes, Forbes Magazine, 19 Nov. 2015, www.forbes.com/sites/bernardmarr/2015/09/30/big-data-20-mind-boggling-facts-everyone-must-read/#12a46f5a17b1.

2 Auxier, Brooke, et al. “Americans and Privacy: Concerned, Confused and Feeling Lack of Control Over Their Personal Information.” Pew Research Center: Internet, Science & Tech, Pew Research Center, 31 Dec. 2019, www.pewresearch.org/internet/2019/11/15/americans-and-privacy-concerned-confused-and-feeling-lack-of-control-over-their-personal-information/.

3 “IDC Forecasts Revenues for Big Data and Business Analytics Solutions Will Reach $189.1 Billion This Year with Double-Digit Annual Growth Through 2022.” IDC, www.idc.com/getdoc.jsp?containerId=prUS44998419.

4 Internet Growth Statistics 1995 to 2019 - the Global Village Online, www.internetworldstats.com/emarketing.htm.

5 Clement, J. “U.S. Internet Reach by Age Group 2019.” Statista, 18 June 2019, www.statista.com/statistics/266587/percentage-of-internet-users-by-age-groups-in-the-us/.

6 Big Data: A Report on Algorithmic Systems, Opportunity ... obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016_0504_data_discrimination.pdf.

7 “Americans Conflicted about Sharing Personal Information with Companies.” Pew Research Center, Pew Research Center, 30 Dec. 2015, www.pewresearch.org/fact-tank/2015/12/30/americans-conflicted-about-sharing-personal-information-with-companies/.

8 “The Internet Changes Everything.” The Internet of Things, 2015, doi:10.7551/mitpress/10277.003.0004.

9 “How Do Websites Track Users: Technologies and Methods: CCPA and GDPR Compliance.” Cookiebot, www.cookiebot.com/en/website-tracking/.

10 Singer, Natasha. “Mapping, and Sharing, the Consumer Genome.” The New York Times, The New York Times, 16 June 2012, www.nytimes.com/2012/06/17/technology/acxiom-the-quiet-giant-of-consumer-database-marketing.html.

11 Arkansas Business. “Acxiom Had Data on 11 of 19 Hijackers in 9/11 Attack.” Arkansas Business, Arkansas Business, 25 June 2012, www.arkansasbusiness.com/article/59991/acxiom-had-data-on-11-of-19-hijackers-in-911-attack.

12 “The Four Faces of Digital Marketing”. American Marketing Association.

13 “Display Advertising – The Ultimate Beginner’s Guide.” Bannersnack, 1 July 2019, blog.bannersnack.com/display-advertising-guide/.

14 Lops, Pasquale, et al. “Content-Based Recommender Systems: State of the Art and Trends.” Recommender Systems Handbook, May 2010, pp. 73–105., doi:10.1007/978-0-387-85820-3_3.

15 Graber, Christoph B. “The Future of Online Content Personalisation: Technology, Law and Digital Freedoms.” SSRN Electronic Journal, 2016, doi:10.2139/ssrn.2847008.

16 Hu, Yajing. “CCTP-607: ‘Big Ideas’: AI to the Cloud.” CCTP607 Big Ideas AI to the Cloud, 28 Jan. 2019, blogs.commons.georgetown.edu/cctp-607-spring2019/2019/01/28/the-mystery-behind-instagram-recommendation-system/.

17 Romeo, Saverio. “What Is Market Segmentation and Is It Crucial for Your Business?” Entrepreneur Handbook, 8 Sept. 2019, entrepreneurhandbook.co.uk/why-market-segmentation-is-crucial-for-your-business/.

18 “Targeting in Marketing: How to Include It in Your Strategy.” Alexa Blog, 15 Oct. 2019, blog.alexa.com/targeting-in-marketing/.

19 Davis, Phil. “What Is the Difference Between Personalization and Customization?” Email Intelligence, Email Validation, Email Append, www.towerdata.com/blog/what-is-the-difference-between-personalization-and-customization.

20 Bodle, Robert. “Predictive Algorithms and Personalization Services on Social Network Sites.” Writing in a Technological World, 2019, pp. 273–288., doi:10.4324/9780429507014-19.

21 World Leaders in Research-Based User Experience. “Customization vs. Personalization in the User Experience.” Nielsen Norman Group, www.nngroup.com/articles/customization-personalization/.

22 Robles, Patricio. “Advanced Personalization Can Generate $20 in ROI for Every $1 Invested: Report.” Econsultancy, 1 Oct. 2019, econsultancy.com/advanced-personalization-marketing-can-generate-big-roi/.

23 Hyken, Shep. “Personalized Customer Experience Increases Revenue And Loyalty.” Forbes, Forbes Magazine, 31 Oct. 2017, www.forbes.com/sites/shephyken/2017/10/29/personalized-customer-experience-increases-revenue-and-loyalty/#2c43d89b4bd6.

24 Keane, Lorna. “10 Brilliant Personalized Marketing Examples.” GlobalWebIndex Blog, 23 Jan. 2020, blog.globalwebindex.com/marketing/personalized-marketing-works/.

25 Dennis, Steve. “Compelling, Creepy, Annoying Or Just Bad? Retail’s Personalization Opportunity.” Forbes, Forbes Magazine, 12 Dec. 2017, www.forbes.com/sites/stevendennis/2017/12/11/compelling-creepy-annoying-or-just-bad-retails-personalization-opportunity/#c57b689f5151.

26 “Personalized Search for Everyone.” Official Google Blog, 4 Dec. 2009, googleblog.blogspot.com/2009/12/personalized-search-for-everyone.html.

27 Statt, Nick. “Google Personalizes Search Results Even When You’re Logged out, New Study Claims.” The Verge, The Verge, 4 Dec. 2018, www.theverge.com/2018/12/4/18124718/google-search-results-personalized-unique-duckduckgo-filter-bubble.

28 MacKenzie, Ian.“How Retailers Can Keep up with Consumers.” McKinsey & Company, www.mckinsey.com/industries/retail/our-insights/how-retailers-can-keep-up-with-consumers.

29 “AccuWeather and Spotify Launch ‘Climatune’, Combining Weather and Listening Data to Reveal Perfect Playlists, Rain or Shine.” Local Weather from AccuWeather.com - Superior Accuracy™, www.accuweather.com/en/press/63672538.

30 “Outdo You with Nike .” Outdo You with Nike . Nike.com, www.nike.com/us/en_us/c/cities/ouryear.

31 Hill, Kashmir. “How Target Figured Out A Teen Girl Was Pregnant Before Her Father Did.” Forbes, Forbes Magazine, 31 Mar. 2016, www.forbes.com/sites/kashmirhill/2012/02/16/how-target-figured-out-a-teen-girl-was-pregnant-before-her-father-did/#4a3616cc6668.

32 Newton, Casey. “Google Introduces the Feed, a Personalized Stream of News on IOS and Android.” The Verge, The Verge, 19 July 2017, www.theverge.com/2017/7/19/15994156/google-feed-personalized-news-stream-android-ios-app.

33 DiMaggio, Paul, et al. “The Internet’s Influence on the Production and Consumption of Culture: Creative Destruction and New Opportunities.” OpenMind, www.bbvaopenmind.com/en/articles/the-internets-influence-on-the-production-and-consumption-of-culture-creative-destruction-and-new-opportunities/.

34 Bakshy et al. 2012; Goel, Watts, and Goldstein 2012
35 Nicholas Negroponte, Being Digital, 4th edn, New York: Vintage Books, 1995, at p. 153.

36 Kartik Hosanagar et al., ‘Will the Global Village Fracture into Tribes: Recommender Systems and their Effects on Consumers’, University of Pennsylvania, NET Institute Working Papers, Working Paper No. 08-44 (2012), available at http://ssrn.com/abstract=1321962, at p. 6.

37 Brooker, Katrina, et al. “‘I Was Devastated’: The Man Who Created the World Wide Web Has Some Regrets.” Vanity Fair, www.vanityfair.com/news/2018/07/the-man-who-created-the-world-wide-web-has-some-regrets.

38 Falcon, Ernesto, and Katharine Trendacosta. “Net Neutrality.” Electronic Frontier Foundation, www.eff.org/issues/net-neutrality.

39 “History of the Web.” World Wide Web Foundation, webfoundation.org/about/vision/history-of-the-web/.

40 “How Filter Bubbles Distort Reality: Everything You Need to Know.” Farnam Street, 14 Nov. 2019, fs.blog/2017/07/filter-bubbles/.

41 YatriTrivedi. “What Are Computer Algorithms, and How Do They Work?” How, How-To Geek, 28 Sept. 2016, www.howtogeek.com/howto/44052/htg-explains-what-are-computer-algorithms-and-how-do-they-work/.

42 “What Is Artificial Intelligence (AI)? - Definition from Techopedia.” Techopedia.com, www.techopedia.com/definition/190/artificial-intelligence-ai.

43 “A Closer Look at the Legality of ‘Ethnic Affinity.’” Center for Democracy and Technology, 7 Nov. 2016, cdt.org/insights/a-closer-look-at-the-legality-of-ethnic-affinity/.

44 Cadwalladr, Carole. “‘I Made Steve Bannon’s Psychological Warfare Tool’: Meet the Data War Whistleblower.” The Guardian, Guardian News and Media, 18 Mar. 2018, www.theguardian.com/news/2018/mar/17/data-war-whistleblower-christopher-wylie-faceook-nix-bannon-trump.

45 Ito, Joi. “Supposedly ‘Fair’ Algorithms Can Perpetuate Discrimination.” Wired, Conde Nast, www.wired.com/story/ideas-joi-ito-insurance-algorithms/.

46 Rendermang2018, graphics.pixar.com/library/RendermanTog2018/index.html.

47 Dunbar, Brian. “Automated Planning and Scheduling.” NASA, NASA, www.nasa.gov/centers/ames/research/technology-onepagers/automated_planning_scheduling.html.

48 Facebook Data for Good, dataforgood.fb.com/.

49 “Federal Trade Commission (FTC).” Inc.com, Inc., 30 Nov. -1, www.inc.com/encyclopedia/federal-trade-commission-ftc.html.
50 Green, Andy. “Complete Guide to Privacy Laws in the US: Varonis.” Inside Out Security, 30 Mar. 2020, www.varonis.com/blog/us-privacy-laws/.

51 “Facebook Settles FTC Charges That It Deceived Consumers By Failing To Keep Privacy Promises.” Federal Trade Commission, 28 Feb. 2019, www.ftc.gov/news-events/press-releases/2011/11/facebook-settles-ftc-charges-it-deceived-consumers-failing-keep.

52 “Brands Are Getting More Transparent About Data Collection.” EMarketer, www.emarketer.com/content/brands-are-getting-more-transparent-about-data-collection.

53 Cochrane, Kevin. “To Regain Consumers’ Trust, Marketers Need Transparent Data Practices.” Harvard Business Review, 13 June 2018, hbr.org/2018/06/to-regain-consumers-trust-marketers-need-transparent-data-practices.

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Iana Prakheeva is a graduating student majoring in the Business of Art and Design at Ringling College. As a graduate in a time of a pandemic outbreak and as a girl who grew up in a small town in post-soviet Russia, she believes that the strategy and human connection are the two main pillars that solve any problem - big or small. This guide was written to demonstrate the importance of personalization in today's world, and analyze the challenges it faces. With this understanding of the dynamics of digital marketing and consumers' perception, Iana is excited to implement the knowledge in her career.

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