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## Data in Digital Advertising

Where goes the line between benefit and privacy?

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<p>Data has never been as plentiful as it is today in our age of information and never has it been such a powerful tool for marketers as with digital advertising, but at what cost? Where does the line between benefit and privacy go and how do we know when it's being crossed?</p> <p>The aim of this thesis is to explore the relationship of data as part of targeted advertising and the possible privacy issues that might arise from excessive data collection and use. This poses a fundamental question on the ethics of governments and corporations alike taking part in this data business and hopefully brings more light to the issues of data privacy.</p> <p>The research methods chosen were exploratory in nature and therefore both qualitative and quantitative methods were used to collect data. Individual interviews with three experts from the media house Dentsu Aegis Network Finland were conducted, along with a survey on data privacy. Secondary data was collected from various literature, articles and news.</p> <p>The study shows that most people are aware of their information being collected and used, but not exactly to what extent. This suggests that the overall public opinion and conversation on the issue of data privacy is still in its infancy and is yet to be addressed properly.</p>	
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## Contents

1	Introduction	1
2	Research question	4
3	Literature Review	5
4	Key Concepts	8
4.1	Big data	9
4.2	Data mining	10
4.3	Data Management Platforms (DMP)	10
4.4	The Internet of Things (IOT)	11
4.5	Datafication	12
4.6	Data-driven Advertising	13
4.7	What is Programmatic Buying?	14
4.8	Complications	16
4.9	Conclusions	19
5	Research methodology	20
6	Interview Analysis	21
6.1	Arto Hasu of Insights & Analytics	21
6.2	Tuomas Autio of Dentsu Aegis Network	22
6.3	Timo Petänen of Amnet	25
6.4	Conclusions	27
7	Survey Results / Analysis	28
8	Conclusions and discussion	42
8.1	Reliability and validity	42
8.2	Limitations and future research recommendations	43
	Bibliography	44
	Appendix 1. Interview Guide	
	Appendix 2. Survey on Data Privacy	

## 1 Introduction

Traditionally the image of marketing has been somewhat of a black box where you insert money, hope for the best and see what happens. It's a very stereotypical way to put it, but a lot of chief marketing officers (CMO) nevertheless still count on their hunch when it comes to marketing decisions.

This lack of focus, as well as accountability, might be the reason why marketing is usually the first to undergo budget cuts when a business is in decline. Advertising has been the funny sidekick that gives marketing its artistic, not-much-to-do-with-business kind of image, which in turn has taken some credibility from marketing.

With digitalization shaking the traditional business practices and values, especially marketing has gone through a metamorphosis in the last couple decades, with advertising being possibly the biggest driver of this change. And it won't be stopping there: As people's ways of communicating and behaviour in the market place change, marketing will have to follow: Advertising will have to get smarter, more targeted and connected with our everyday lives and our individual preferences.

The Internet has been perhaps the greatest revolution in the history of advertising; not because it has changed the core values of marketing, but because it has brought the customer right to the hands of the marketer. This new platform, coupled with some fundamental changes in technology (smartphones are worth mentioning here), has in turn affected our behaviour, keeping us online 24/7.

From the point of view of advertising this is a big shift, since it offers marketers a never-before-seen holistic view of the consumer's online life and real-time buying behaviour. This close contact provides the advertiser with a whole lot more than just knowing what we are buying and at what time of the day. Being able to follow our every move in the traditional "sales funnel" the advertiser can collect plenty of useful information that can be turned into meaningful insights about their customers and lead to concrete marketing decisions.

Information about the consumers and their behaviour can be anything from their sex, age, income level, or family situation to their choice of breakfast cereal, but all of this is data that can be turned into insights and used to target potential customers. The best part is that with more data the targeting will get more and more precise as time goes on.

Through the use of cookies and IP-address tracking we're leaving a digital trail of breadcrumbs behind our every online move, which can then be traced back to what kind of advertising we saw or interacted with. This is why data is more valuable than ever and why digital advertising is so revolutionary for today's marketing.

Using data as part of the advertising makes the process of marketing a lot more targeted as well as profitable. By offering concrete metrics and hard facts about your customers and their buying behaviour, data-driven advertising can reach the consumer at the right time and place with next to no wasted impressions or marketing money.

Obviously data plays a key part in this revolution and there is a lot of it available right now. Google CEO Eric Schmidt said in a 2010 Technomony conference that: "Every two days now we create as much information as we did from the dawn of civilization up until 2003. That's something like five exabytes of data." (Techcrunch, 2010). Although it has been revealed that Schmidt's claim has been slightly dramatized in the face of the truth, it doesn't undermine the fact that we are practically drowning in data.

Just the image of having this much data is quite hard to grasp and the possibilities hard to understand, but the real challenge is taking this data and making it into meaningful insights and decisions. Otherwise we might as well not have any data at all, since there is no value in it if it can't be translated into meaningful connections and causalities. This is why data management and analytics will grow in importance in the future.

Data will continue accumulating and it will most likely increase its importance in the future. Media companies and digital advertisers might be the biggest winners in this revolution as online data can be turned into valuable insights and used for more and more specific targeting. This can translate into increased revenue and naturally makes advertising more accountable than ever, which makes digital marketing as a whole a lot more lucrative.

At the same time, with this amount of data come a lot of uncertainties; should everything be turned into data? How anonymous can data really be? What is the responsibility of the one analysing the data and who really owns it? Do we have any say in the data that is collected about us and used for other things? How transparent is it? Where goes the line between benefit and privacy?

There are still a lot of unanswered questions connected to data and its' usage that will need to be answered, especially if practically everything we do is going to be translated into data. Today's legislation is not going to be enough if we want to protect our privacy and even human rights in the future. Some governments are already taking steps towards more well-rounded legislation relating to data privacy and protocol, but bureaucracy is always a couple steps slower than technology.

The reason everyone should be interested in this subject is that it will affect all industries, advertising maybe the most of all as we start trading data for insights and targeting.

This change has already been put into motion by Internet giants, such as Google, Facebook and Microsoft, who have unlimited access to data and use increasingly it as a major part of their revenue logic. As Mark Hackman quotes Robert A. Heinlein in his article *The price of free (2015)*: "There ain't no such thing as a free lunch."

This just proves the need for a more of an open discussion about data usage, the ethics behind it and its possible complications. Big corporations such as Google and Facebook should be the advocates for this discussion, as they are at the centre of this issue, but none has really taken any big initiative so far. Most companies still believe that the consumer pushing the "I agree" button is enough of an excuse to do anything they wish with their data.

Through this thesis I want to address both the good and dark side of data:

I want to discuss the power of data within the context of digital advertising and what extra value it can offer for marketing and business strategy. As another point of view I want to address the ethical side of data usage and the possible complications it might present for our privacy. All in all, I want to figure out if data doing us more good than harm.

## 2 Research question

Through this thesis I intend to argue both for and against the extensive use of data in advertising; I want to discuss to what extent data can bring extra value to digital advertising, but also question the hype around the revolutionizing effect of data on marketing. Although the benefits of data cannot be denied, data privacy and ethics are some of the biggest concerns within this subject. I want to bring more light to the possible complications of data-usage within digital advertising, as well as in the wider spectrum of things.

Data as part of digital advertising and its implications on targeting is going to be my main focus point in this thesis, but I will touch upon other data-related concepts, such as data management, analysis and data ethics and privacy.

What are the benefits versus complications concerning data and its use in digital advertising? What extent should we collect data and use it? Who really owns our data? What are we actually agreeing to when we click the “I Agree” button? These are the themes I will touch upon in this thesis and my overall research question is a mix of two: Until what point is data doing us more good than harm and will we, as consumers, be losing more than we’re gaining from giving our data away?

For my research design I have decided to conduct an expert interview within the company Dentsu Aegis Network Finland that specializes in media, digital and creative communication services. I chose three experts from different fields of media, but all somehow connected to data. A survey on data privacy was also conducted as part of my research.

My overall hypothesis is that average people are aware of their information being collected and used, but probably don’t know to what extent this data is being used.

As a supporting source of knowledge I have done a literature review on related literacy introducing what is already known about the subject and speculating how it will turn out in the future. I will introduce related concepts on digital advertising and data (big data) in the same section. At the end I will conclude on my findings from the literary review, the expert interview and the survey results. Lastly I will consider how this research relates to my research question and whether or not it corresponds with my initial hypothesis.

### 3 Literature Review

My main inspiration for choosing this topic is a book by Viktor Mayer-Schönberger and Kenneth Cukier: *Big Data: A revolution that will transform how we live, work and think*.

According to the two authors, big data is not merely a current phenomenon, but has been present since the time humans learned to measure our world and record our history. Only recently though, has the size of our databases grown to be able to hold a great deal of data (big data) and the price of recording and storing it has also gone down a tenfold. Together with the technological development and the age of Internet, this has opened doors to collecting more data than ever, as well as unlocking new value in already existing datasets and combining them with others.

The main point of the book is to reassure big data's place in the world as a disruption to our lives, in ways that will change the way we interpret the world. According to the two we will have to go through three big changes on our mind sets to truly embrace big data:

1.  $N=all$
2. Messiness
3. Correlation over causality

In practice this means that when everything can be measured and made into data ( $n=all$ ) we also need to change the way we see the world from today; we're used to the idea that there are things that cannot be quantifiably measured and changing that core belief will affect the way we see the world in the future.

With huge sets of data, we need to get used to the idea of messiness; that the pure size of the sample is so big and messy that we lose the sense of full control at some point. This is also the case with predictions made from this data; we need to start trusting more on probabilities than absolute truths, since with big data there is none. At the same time, as humans our first instinct is to look for causalities, but actually the full potential of big data can be found in correlations of things.

In conclusion, we have to start changing the way we see the world to fit these three assumptions in order to truly embrace big data and its full potential to our lives.



Moving from big data to privacy, in the article on *Protection of Big Data Privacy* (2016) by Abid Mehmood, Iynkaran Natgunanathan, Yong Xiang, Guang Hua and Song Guo, the five authors discuss the potential of big data as well as the complications that come with the collection, storage and usage of such huge sets of especially personal data.

Despite big data could be effectively utilized for us to better understand the world and innovate in various aspects of human endeavours, the exploding amount of data has increased potential privacy breach. For example, Amazon and Google can learn our shopping preferences and browsing habits. Social networking sites such as Facebook store all the information about our personal life and social relationships. Popular video sharing websites such as YouTube recommends us videos based on our search history. With all the power driven by big data, gathering, storing and reusing our personal information for the purpose of gaining commercial profits, have put a threat to our privacy and security.

*Protection of Big Data Privacy (2016)*

In the article they go through the whole lifecycle of big data from data generation to storage and processing and how our privacy can be breached at any of these points. They offer a variety of different means of protecting our privacy through big data, but also touched upon the problem considering too much anonymization of data and how it can in turn affect the utility of data. This is a common theme when talking about data privacy.

In the same theme, *Big Data Privacy in the Internet of Things Era* (2015) by Charith Perera, Rajiv Ranjan, Lizhe Wang, Samee U. Khan and Albert Y. Zomaya is an article on big data within the Internet of Things (IoT), and what privacy complications this poses.

In the IoT era, the amount of user data that can be collected will be significantly higher than in the past. For example, recent wearable technologies such as Google Glass, Apple iWatch, Google Fit, Apple Health Kit, and Apple Home Kit can collect sensitive information about users ranging from their health conditions to financial status by observing or recording their daily activities.

*Big Data Privacy in the Internet of Things Era (2015)*

The authors discussed some pain points concerning privacy with the IoT, such as user consent, anonymity, responsibility etc. They speculated that in the future we might move towards two models; either you pay for services to keep your privacy or you use it for free, giving out some of your information in return. Since the IoT will make the world more connected than ever we have to make some fundamental choices, both as individuals, as well as organisations and governments.

As digital advertising and targeting play a big role in this thesis, a study by Avi Goldfarb and Catherine Tucker on online display advertising was more than insightful. The two authors conducted research on how people react to online display advertising; how contextual and obstructive advertising worked separately versus together. Their findings were quite interesting and had some implications on privacy as well:

Our study of 2,892 online display advertising campaigns across a variety of categories and website yields three core conclusions. First, we find that although obtrusive (or highly visible) online advertising and context-based online advertising work relatively well independently, they appear to fail when combined. This result is more pronounced in categories of products likely to be more private and for people who seem to guard their privacy more closely. This suggests that the ineffectiveness of combining contextual targeting and obtrusiveness in advertising is driven by consumers' perceptions of privacy.

*Goldfarb and Tucker (2011)*

This highlights the importance of data in online advertising, both in good and bad: it can be used to target you with something you actually need, but at the same time it might feel like someone knows a bit too much about you than you would like them to.

According to the authors, contextually targeted ads work best when they are plain and text-based. This would explain the success of Google's targeting products, such as AdSense. On the other hand, obstructive, in-your-face kind of ads also work in catching the consumers' attention and can convert into sales as much as the targeted ads. But most importantly, if you put these two together and target an obstructive ad to a consumer, there's a high chance they will feel that this is too intrusive.

This is an interesting implication on how we define our privacy and a challenge for governments and organizations to solve. According to the research, people dislike information being collected about them, but at the same time highly visible and obstructive adverts are more likely to annoy consumers and damage the brand image. So the core challenge for online advertising is how to weight privacy and preference.

I feel like the balance has already sifted from 2011 when this study was conducted, as more and more data is used in online advertising and people have gotten more used to targeted ads, but privacy is still a big question mark in this mix.

## 4 Key Concepts

Data has never been as plentiful as today in our age of information. This is partly due to the fact that in the past when our technology wasn't up to the task most data was lost in translation. There was no way of actually collecting and storing as much information in the 90's, purely because the technology at the time was not up to the task. But thanks to the development in storage sizes and data management we are able to capture more data than ever today, and put it into use.

Data itself is subjective; No data is useful just by itself. Without a context and a goal there is no use analysing the data, and even less uses for the results of the analysis. This is why data management and analysis are growing their importance in almost all industries.

This is the case especially for big data, which includes thousands and thousands of data points that have no meaning by themselves. This huge amount of raw data offers us nothing more than never-ending lines of excel unless we give meaning to the correlation between the points. Only by connecting the dots will data's true power be unleashed.

This data is collected from various sources and by various players, depending on the needs of the collector. But no one can deny the fact that the real winners of this data society are the big internet giants, such as Google and Facebook, who have the deepest integration to our everyday lives and such unlimited information on our every online move.

The data is mostly used to make these companies' offering better and advertising more targeted, which in turn makes our online experience a lot smoother as well, but these are business motives more than anything. One has to remember that a big part of their revenue comes from selling ad space to other companies. So what they are basically doing is selling your information and making money out of it.

This is a beneficial symbiosis for both to a point, as these companies have a stable source of revenue through selling our data and we get more personalized ads targeted to us. But the real question is: until what point does this give us, as consumers, more than it takes away?

## 4.1 Big data

As Mayer-Schönberger and Cukier put it in their book *Big Data: A revolution that will transform how we live, work and think*: “Big data refers to things one can do at a larger scale that cannot be done at a smaller one, to extract new insights or create new forms of value, in ways that change markets, organizations, the relationship between citizens and governments, and more” (2013).

Big data is exactly what it sounds like; a great amount of data. At the same time, however, it is so much more. Since practically everything around us can be captured as data, big data can be a representation of our physical world; It can unleash new value in already existing data, as well as combine different datasets to produce new insights.

The true value of data is in its ‘option value’, aka its latent value. Mayer-Schönberger and Cukier describe data as an iceberg: “Data’s true value is like an iceberg floating in the ocean. Only a tiny part of it is visible at first sight, while much of it is hidden beneath the surface.” (2013). The peak of the iceberg is our primary use of the data, whereas what is hidden underneath are all the possibilities that data can offer in the future.

‘Data exhaust’ is another concept worth mentioning: It is a term illustrating the digital trail we leave behind our online lives. This could be what we searched on the Internet, how long we stayed at a website, what we clicked and the list goes on. These seemingly unimportant actions can be used as valuable data to be analysed and used to improve a website’s performance or to make advertising more effective.

This has many implications for our everyday lives; machines and applications, such as voice recognition and language translation services use this type of data to constantly get feedback on their performance and in fact ‘learn’ to be better at what they do. This information is what today’s advertising tools also use to make their algorithms more self-learning and constantly improving their targeting without the need for human touch.

It is important to remember that these connections on such huge sets of information, such as in big data, are purely based on quantity over quality, which can reveal some surprising things about the world, but should be taken with a grain of salt as well.

## 4.2 Data mining

When we mention big data there is another concept that should be mentioned: data mining is an important concept that is deeply connected with huge sets of data. Data mining is exactly what it sounds like: mining the raw data to find “jewels” or meaningful patterns and connections that unleash the true potential of the data.

Bill Palace explains data mining in his notes on *What is data mining?* (1996) in the following way: “Generally, data mining (sometimes called data or knowledge discovery) is the process of analysing data from different perspectives and summarizing it into useful information - information that can be used to increase revenue, cuts costs, or both.”

Without this process of extracting, storing and analysing the data, big data wouldn't be as valuable as it is, nor would it make much sense. So you could say that analysis is half of the work, if not even more, when talking about data.

## 4.3 Data Management Platforms (DMP)

When dealing with a big sets of data, be it raw or analysed, storage and data management become more crucial than ever; Google wouldn't be able to know which search words were used most in the Helsinki area last Friday at 2 in the morning without storage that could hold all that data. Neither would they be able to suggest your favourite Nike shoes to you. This is all data that has been collected from you and your behaviour.

There is a reason why Data Management Platforms or DMPs are gathering so much attention nowadays. And what they do is collect and store data from various sources, sorting it, making it into meaningful sets of information and providing it to advertisers and agencies. Data management platforms or “DMPs are essentially the data warehouses for advertising” as Michael Goldberg puts it in his Programmatic Matters-series (2015).

As you can probably guess, advertisers and media houses are in a very close contact with one or more DMPs, since the information they hold is usually related to possible customers, their profiles and behavioural data. This is what all advertisers are after, since it brings more focus to targeting and makes advertising more efficient as well.

These data sets can include a range of different data, but connected to how people behave online, first and third party data cookies are the most common items of exchange:

1<sup>st</sup> party data is the data you collect from your customers; their website behaviour, search queries and other information the users might provide while signing up. This is data that you own and represents your customer base, so it's considered to be the most valuable.

2<sup>nd</sup> party data is secondary data from peoples' web behaviour which is usually used to conclude something about the user and suggest other content based on it. It's not as comprehensive or detailed as first or 3<sup>rd</sup> party data, but valuable for other uses.

3<sup>rd</sup> party data is data provided by a third party data provider. It can include huge sets of information alike to 1<sup>st</sup> party data, but from an outside source, which you usually have to pay to use. This is the most common source of data for advertising after 1<sup>st</sup> party data.

#### 4.4 The Internet of Things (IOT)

The Internet of Things (IOT) is network of networks; it's a concept of connecting machine to machine (M2M) communication with our everyday life, using smart technology and cloud services to make our lives truly interconnected with technology. Smart houses and cars that can optimize their usage according to the person's needs are what comes to most peoples' mind at first, but this is only the tip of the iceberg:

As Daniel Burrus in his article on Wired (2014) on the Internet of Things says people aren't thinking big enough when it comes to the Internet of Things; he paints a picture of a world so deeply interconnected with data that entire cities could turn into smart cities where information flows effortlessly without human touch. This could mean that buildings could be reconstructed, bridges fixed and infrastructure redone before anything actually breaks down. The possibilities are endless, just like the amount of accessible data.

Big data has deep implications for the Internet of Things, as its underlying assumption is that everything around us can be translated into quantifiable data; Anything from our health to our relationships and interactions with other people could possibly be translated into sets of data then analysed for correlations and causalities in the future.

## 4.5 Datafication

This brings us to datafication, which is different from digitalization. Where digitalization means transforming offline information into digitalized form, what datafication does is translating everything around us into data. This is still a thing of the future, but a very current topic with the amount of data that keeps accumulating every day.

Datafication is fundamentally a change in the way we perceive the world, making everything around us quantifiable. It is a matter of connecting the physical with the digital in a whole new way, basically making the unmeasurable measurable.

According to C. E. A Mulligan it could disrupt not just our lives but our society as a whole:

In contrast to digitalisation, which enabled productivity improvements and efficiency gains on already existing processes, datafication promises to completely redefine nearly every aspect of our existence as humans on this planet. Significantly beyond digitalisation, this trend challenges the very foundations of our established methods of measurement and provides the opportunity to recreate societal frameworks, many of which have dictated human existence for over 250 years.

Mulligan (2014)

Although datafication today seems to be more of a thing from sci-fi novels, it will have real implications on our lives in the future: Turning everything around us into quantifiable data will most likely change how we perceive the world around us and how we interact with data. This matter of datafication will likely have major implications on our lives both off and online, digital advertising being one of the big winners in this revolution of data.

We are already using huge sets of behavioural and transactional data to target people according to the way they act online, from their buying behaviour to what they like on social media. So turning offline data into digital information is just the next step.

This is actually not so far away from today as you might expect: Some car companies are already testing seats that can identify the driver by their weight and posture; information that couldn't have been translated into data before today. And this is only the beginning of the countless possibilities of datafication.

#### 4.6 Data-driven Advertising

Data-driven advertising is not a new concept in the world of marketing, neither is the growing importance of data for any industry or business, but these are probably the most talked about concepts in today's business; It seems that nowadays everyone is talking about being data-oriented or data-driven without even knowing what it means.

Data-driven advertising in its' simplest form is using data to target certain audiences or people by their profile or behaviour. This can include gender, age, geo-location, what sites they have visited or what ads they have clicked. Almost anything you do online can be translated into data, and in turn into targeted advertising.

Truly data-driven marketing should have data deeply integrated within the system, so that digital advertising is not merely a reactive channel, but an active part of the whole business strategy, but it's easier said than done. Most companies today are not ready to give marketing such responsibility, even with the cost of losing in the long run.

The traditional way to target people in digital advertising is to buy advertising space from sites representing what the target audience might be interested in; Toyota ads in the car sections of news sites or sites fully dedicated to car-fanatics. This represents the traditional way of marketing; distributing your ad so that a lot of people can see it and hope that someone catches interest and buys your product. This is still the pre-dominant way most companies spend their digital marketing money on.

This is where we are in the media buying business today, but the direction is clear: data is growing its importance as part of all decisions, be it human or machine.

Speaking of which, a new way of buying that same advertising space, but with more automation and data-driven precision is a concept called programmatic advertising, or programmatic buying, that has emerged in the last couple of years or so.

It has been said to revolutionize the whole media buying industry (Murphy, 2015), and looking at the trend of the last three years or so, it seems to hold up to that prophecy.



#### 4.7 What is Programmatic Buying?

Programmatic buying is a fairly new piece of technology in the media-buying field. Basically what it does is automate the buying process between media owners and buyers. This is a highly mechanical system, including different platforms and algorithms, but in its simplicity it is an innovation that has disrupted the whole media buying industry.

Programmatic buying is naturally data-driven, as it uses IP-addresses and cookies to target the right people at the right place at the right time. This helps get rid of unnecessary middlemen and opens up possible new audiences. 3<sup>rd</sup> party data can also be included in the targeting alongside your own, so the options for targeting are endless.

Basically what the aim is to show the right ad to right person at the right time.

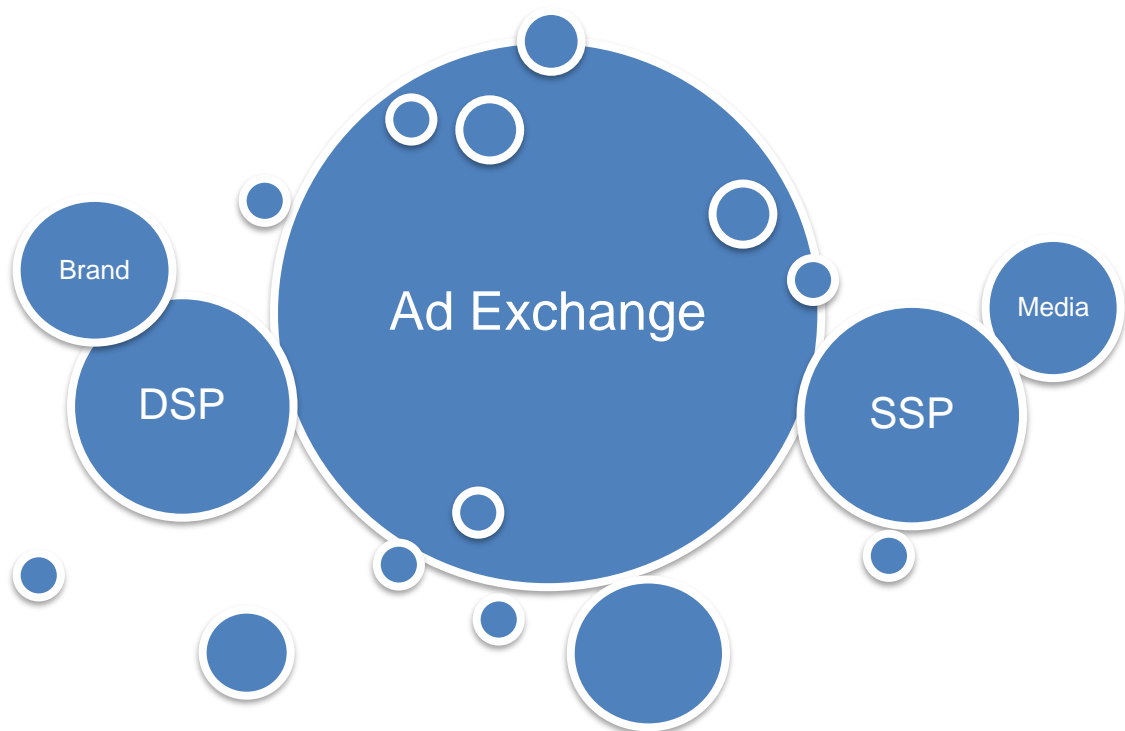


Figure 1. the Programmatic Buying System

The system behind programmatic buying is usually divided into the five sections you can see in Figure 1. Ad Exchange is the place where the actual bidding (buying) happens. This is where the Demand Side Platforms (DSPs) and Supply Side Platforms (SSPs) meet. These two are trading desks from the brand and the media's side.

The brand or media-house trading desk (DSP) is the one bidding for the ad spaces, whereas the media's trading desk (SSP) offers the available ad space for bidding. There are differences between buying types even within Programmatic.

The most common one is called open auction or Real-Time Bidding (RTB):

Real-time bidding happens within a millisecond when a web page is requested. During this time bidding for the available ad space happens within the ad exchange where the supply side offers available ad space and the demand side bids for it. All of this happens automatically following the preferred bid rates assigned by the traders. Targeting can be added on top of this which rises the bid price by the cost of the 3<sup>rd</sup> party data.

One thing everyone should remember is that RTB is only one part of programmatic buying, but what usually represents the concept, since it is at the heart of the technology. Aside from this open auction type of buying there are more ways of buying within programmatic, such as private market place (PMP) where the publisher chooses only a few buyers to privately bid for the available ad space.

Other buying types include programmatic direct where you can buy guaranteed ad space directly from the publisher. It's a very similar process as with the classic media buying, but without the need for human intervention. These agreements are made directly with the publisher who promises a certain amount of impressions, giving a special buying ID to the buyer that they can use only within the programmatic system.

Algorithms that are at the heart of this technology are getting smarter every day: Ads can be shown to the right person at the right time with more precision as time goes. These systems are so highly automated that it leaves the human error out of the equation, which makes the whole process a lot more effective compared to the traditional media buying practices, saving both time and money.

As with everything to do with data, programmatic buying has been under a lot of hype recently. Many media houses have declared it to be the future of media buying; that in the future all ad space will be bought through programmatic. The Interactive Advertising Bureau (IAB) has for consecutive years reported that the percentage of programmatic buying from display advertising has been doubling since 2013 (Takala, 2016).

At a conference dedicated to programmatic buying organised by IAB Finland most of the experts from the media buying field believed that programmatic will take over the traditional media buying in 2017 and reach close to 100% somewhere in the 2020's. Finland is always a bit behind compared to the rest of the world, but looking at the current hype in the Finnish media field this could become a reality in the near future.

These are speculation of the media industry leaders, but there is data backing up this direction of change; programmatic doubling its share of media buying every year being the biggest indicator. Clearly it's doing something right growing this fast year to year.

Only future will tell if Programmatic will really become the new industry standard for media buying, but so far it seems to be growing its importance year to year in the media buying industry (Takala, 2016).

#### 4.8 Complications

There's no denying that data makes everything better, more informative and effective, especially if we're talking about digital advertising and audience targeting. Data is at the core of targeting and will always correlate with extra value, but at what cost?

Data challenges our sense of privacy in our information society where our every online move is transferred into data that is collected and used by others. This poses the question on whether we are losing our privacy through the accumulation of data?

When talking about data and privacy there are still a lot of complications and challenges we need to solve; anonymity and misuse of data being maybe the most evident, as well as meaningful analysis and ethical use of data. These are issues that we are fighting at the same time as more and more data keeps on accumulating, so it's both a race against technology and time.

Data itself is just numbers on an excel-sheet, but how we collect, read and use those numbers is where most problems arise: without data analytics and machines that go through that data we would not be able to put all that data into use. But these processes, starting all the way from data collection to analysis, are naturally filled with errors.

With today's technology it is nearly impossible to have a full data set of anything, something will always be left in the dark. The way the data is collected also has an effect on the quality of data; be it human observations or sensors that take care of the collection.

Misuse of data is another challenge that needs to be addressed properly in the future. Ethical issues with data are an arising problem in our digital world, where our every move is counted and transferred into zeros and ones. This information is collected, stored and used by individuals and companies that might or might not have asked your permission for it. The real problem is that the average internet user probably has no idea where and for what their information is collected and used.

This ambiguity is also a challenge for our governments to create reliable legislation that can truly protect our rights and privacy even in the age of information and the Internet. This is an especially current issue as there is a new EU-wide legislation concerning data protection that will strengthen individuals' rights (European commission, 2016).

In practice this would result in clear information on what is collected of your online life and give you a chance to opt-out or the 'right to be forgotten', aka the choice to delete your data if you wish. This puts a lot of pressure on businesses that work with data, such as data providers and media houses, but is a step in the right direction in making data privacy legislation more comprehensive across country borders.

Nevertheless, there are still huge steps that need to be taken concerning data privacy and legislation, since businesses are only one side of the coin. This is the responsibility of our governments and international organisations.

Hacking is the newest phenomenon in the challenges on our information privacy; recent cases like the attack on the US election on the democratic candidate's emails, or the more recent distributed denial of service (DDoS) on some of America's biggest internet

companies (USA Today, 2016) show that none of our information is ever completely safe from the hands of those who want to misuse it.

This might not have any impact on most of our lives, but is a case in point that we are living in a false sense of security when it comes to our information online.

Data privacy has been a hot topic and constantly on the news in recent years, especially since the revelations by Edward Snowden of the extent of NSA's surveillance on American citizens (the Guardian, 2013). Another interesting case on privacy versus the government was the encryption case of Apple vs. the FBI earlier this year (CNBC, 2016).

Just the fact that these issues are coming into daylight and we are talking about them is a sign that people are starting to become more aware of their privacy rights and starting to question both companies as well as our governments on how they treat our data.

But do we really know to what extent our data is being collected and used? And even if we think we are in control of our data, can we ever truly be? The big questions concerning privacy include; can data ever be anonymous or deleted? What will this mean for our lives now and in the future when more and more data is accumulated and stored of us?

My question is wherever data will really revolutionize our lives and to what extent? Will it change the way we see the world and interact with information, or will it just affect how companies see us as consumers? In the end will we become just zeros and ones?

At the core of it all, will this deep integration with data do us more good than harm? Considering the benefits of data, such as ease of use, efficiency, targeted ads etc. versus the inevitable loss of privacy, what do we value more? Where does the line between benefit and harm go and how will we know when it's being crossed?

Considering all of this, the most important question we should ask ourselves is when will we be losing more than we are gaining from giving our data away, and how much we value our privacy compared to the benefits we get in return for giving our data away?

#### 4.9 Conclusions

While generalisations are difficult to make on the subject of digital advertising and the ethical use of data in targeting, all these authors agree that data is plentiful and always growing its importance as part of our lives. Especially big data is getting bigger and bigger by the day; it's the core of many services today and combined with the Internet of Things it will most likely become more interconnected with our lives in the future.

With all this information being collected from us and used by these services and companies to make our lives more datafied and smoother, we are faced with the question on what happens with our privacy; where goes the line between utility and privacy?

Especially with big data we are challenged by the sheer amount of data that could be compromised or misused at any point from the collection to the storing and analysis. This is also the case in digital advertising where cookies and IP-addresses are used to target specific people, most who have no idea how much data is collected of them.

The interesting point about privacy and digital advertising is the line between contextually targeted and obstructive adverts, that by themselves don't seem to bother most people, but when put together seem intrusive. I wonder if this is still the case today, now that we're getting closer and closer to the 'segment of one' with programmatic buying. Adverts have never been smarter than today, but how will that affect our view of privacy?

The biggest question is whether we feel that our privacy is being breached, be it by digital advertising or friend suggestions on Facebook, and where does that line go? This is something I couldn't find an answer to in the literature for this subject and why I feel that the theme of my thesis is very appropriate. It's a topic that will become even more crucial for us, as consumers, in the future.

Inspired by the study by Goldfarb and Tucker, I intend to conduct a research of my own to answer my research question on whether the use of data in digital advertising is doing us more good than harm, and where the line between privacy and benefit goes.

## 5 Research methodology

For my research method I decided to conduct semi-structured expert interviews within the company Dentsu Aegis Network Finland (Referred to as Dentsu from now on).

I chose three experts of different fields all connected to data:

- **Arto Hasu** of Insights and Analytics (I&A)
- **Tuomas Autio** the Chief Data officer
- **Timo Petäjä** of Amnet (Programmatic buying)

These were qualitative individual interviews touching upon their views on data and its uses in digital advertising, as well as the possible complications connected to data use. The ethical aspects of data were a big theme in the interview structure, as well as in the actual conversations with the experts. All of the three were very interested in the subject.

I conducted the interviews throughout October of 2016 as a half an hour to an hour meetings with each of the experts. These were held in a conference room within Dentsu and recorded for later transcription, translation and analysis. Two of the three interviews were held in Finnish and one in English, so I have taken the liberty to translate comments from the two into English. I checked with the two that the translations matched their ideas.

At the same time, I conducted a survey on data privacy with a sample of a bit over a hundred people to see how people thought about the collection and use of their data and related privacy issues. I thought this would be a great addition to the experts' insights, as I could compare the views of industry professionals with average people.

I decided on the expert interviews after working at Dentsu for a couple months, realizing that I was surrounded by experts of different fields. Data has an especially big part in the business of the media house so it was more than appropriate to look for experts to interview inside the company. The survey came to me later, when I was wondering how to balance out the qualitative results from the interviews with actual quantitative data.

Overall I got a 103 answers to the survey versus the three interviews.

## 6 Interview Analysis

### 6.1 Arto Hasu of Insights & Analytics

As a quick recap on Arto Hasu; Arto is the Head of Insight & Analytics in Dentsu Aegis Network Finland and leads the Insight and Analytics team within the company. Arto has a long history in digital marketing, especially on the web analytics side. He started the I&A two years ago as a way to centralize all the analytics talents within Dentsu Aegis in Finland.

The I&A team is a mix of different talents concerning data and analytics: Research; audience segments etc., Continuous measuring; collecting the information from all teams and media channels and making sure we're going towards the right direction as a corporation; how the digital marketing is working, web analytics etc., Modeling; which marketing channels contribute the most towards sales etc. These four blocks; research, web analytics, modeling and data infrastructure, are what I&A is built upon and what it in turn contributes to Dentsu's offering.

As the head of Analytics, Arto's main job today is to hold all the strings in his hands, since all the people under I&A have such varying talents concerning data and analytics, and to make sure they are supporting Dentsu's analytics needs.

He mentioned two future goals digital marketing and analytics wise for Dentsu:

- Predictability (to be able to reliably predict 'the future')
- The segment of one (truly personalized marketing)

Talking about data and the possible complications that come with it I want to quote Arto: *"Data is always imperfect when predicting (marketing) outcomes. The assumption should always be that we will never have the perfect set of data for a given task or project."*

This sense of imperfection challenges data's reliability, but at the same time gives room for understanding and industry expertise. In a sense it's better that we can't trust data 100%. According to Arto there are only probabilities that can be derived from data and if we learn to live with them (like weather forecasts for example), then data will reveal its true power. This in turn affects the way we should interpret data; Instead of trusting in absolute numbers, Arto suggested we put more emphasize on revealing trends.



When talking about privacy, he wanted to emphasize that the personal choice is of most importance; as long as you have the choice to know what is collected of you and that you can delete that data at any time, this shouldn't be a problem for most people.

He suggested that as long as we get something out of data; as long as it makes our lives easier, it will be accepted as part of our lives and seen as a positive trade between benefit and our privacy by the majority. This shift towards a more data-oriented lifestyle is still on its way, since most people today don't seem to see the full benefits of giving out their information.

At the moment people don't seem to understand the benefits of data; we know that data is collected from us, but we can't seem to see any of the benefits yet; hence the current negative atmosphere concerning data and privacy issues. It's very understandable. We as people have a tendency to be afraid of what we don't understand.

Arto Hasu

The intricate changes data brings to our lives are still too unnoticeable for the Joe Average to truly appreciate. But nevertheless, Arto was certain that the change is on its way; *"I'm quite sure the mind shift concerning data will change over time when we start seeing the real benefits in our everyday lives."*

## 6.2 Tuomas Autio of Dentsu Aegis Network

A quick recap on Tuomas Autio; Tuomas has a long background with data, not from the marketing perspective like Arto, but from the customer-intensive consulting side. He has been working with data for the past 14 years with varying sets of customers, but only started in the media field about two months ago. At the moment his official title is the Nordic Chief Data Officer (CDO) in Dentsu Aegis Network Finland.

His responsibilities include developing the data strategy and talents within Dentsu, especially on the Nordic side.

Data has a big part in his everyday work, although it might not be physically working with sets of data, but more around the overall data architecture and strategy in the company.

When I asked him in what role he sees data both in his work as well as in Dentsu Aegis, his answer was that data drives everything we do, especially in the media business.

*“Data makes the world go around; it’s the gasoline to what we do”*

Tuomas Autio

When talking about the importance of data Tuomas mentioned the word ‘Digitalization’ and that data and the technologies developed around it are at the core of the concept: Without data and ways to store, analyze and utilize it, there wouldn’t be such a phenomenon as digitalization that everyone has been talking about since the 1990s’.

Thanks to the technological development we can collect and store more data than ever, and as Tuomas put it: *“If we’re not using that data then we’re losing in the global market”*. Especially for Dentsu Aegis, data seems to have a big part on all sides of the business.

When directing the conversation more towards privacy issues and mentioning corporations like Google collecting huge amounts of data about us and using it for their business objectives, Tuomas admitted that there are always two sides we’re balancing in this setting: The risk of losing your privacy and the benefits you get from giving out your data.

He mentioned digital advertising and data in targeting as one example of these possibilities offered by data, such as in creating segments of one; personal advertising for every individual tailored to their profile and preferences. And this is just one example of what you can do with data today. The possibilities are endless in the future, he said.

Risk-wise, Tuomas speculated on the effects of losing control of our own data in the future; *“Who knows what Google might use our profiles and the data they have collect from us in five or twenty years from now?”* The question of our privacy isn’t just about today, but about tomorrow as well. If you agree on the Apple terms and conditions (T&Cs) today, what guarantee do you have that data you have given access to will only be used now to make your smartphone experience smoother, and not on something else twenty years from now?

Tuomas had a great interest in the legislative side of privacy, especially concerning the coming EU legislation. He emphasized the role of the government in creating a trustworthy legislation that would protect our privacy. According to him we cannot live in a

world where the business-oriented company takes care of our privacy issues, since they out of all entities have an incentive to use our data for their own devices.

He was certain that we needed common ground in the legislation on the global scale, although it's mainly Europe we keep hearing about today. His main concern with the coming EU legislation was about whether it will affect the competition between markets: Will it put Europe into somewhat of a handicap compared with the U.S. for example? Is the rest of the world going to follow and how will that affect our lives?

When moving the discussion to where the line goes between benefit and privacy he used colours to explain the vague line between the two: *"It's hard to say what is black and what is white, since there's a whole lot of grey in between"* In the end it comes down to our psyche he said: *"It's usually not anything physical or concrete that makes us conscious of our privacy, it's what makes us cringe psychologically that makes us question things"*. As an example Tuomas gave LinkedIn and its highly effective algorithm; where some of the suggestions of people you might know were a bit too accurate and made people turn away from the service. This is what he called the 'creep factor'.

On the other hand, Tuomas felt that as we get more used to the idea of our data being collected and used in a way that benefits us there will be an overall mind shift concerning data and privacy in our society: As we learn to live with the balance of the two it will become something we take for granted, something as obvious as smartphones today.

At the same time, he felt that there should be a choice of what happens to your own data, very much alike to what Arto mentioned: "As long as there is a personal choice what happens with your data, there isn't that big of a conflict with privacy and benefit."

*"How much should we trust data then?"*, was my next question. According to Tuomas data itself is neutral, it's the 'reflection of the truth' in a way. So it's not data that we should consider when thinking about possible complications; it is the processes, human or not, that are filled with errors and affect the result of the analysis. So in the light of today's technology, we cannot trust data completely, although data itself is absolute.

As I asked Tuomas to speculate on the future of data and how it will affect our lives, he painted a picture of an almost sci-fi-movie like future, in which data will have a bigger part than we could ever imagine:

*“The implications on our lives will be huge; a lot of the things we experience today will be transferred into data and could be experienced through data alone.”*

Tuomas Autio

Technological development has been exponential in the last 20 or so years, and at the core of it is data, so as data will keep accumulating and we learn how to utilize it even further who knows what will come next? Maybe in the future we could connect our brains with technology and input data straight into our minds or if machine to machine learning is taken further, maybe even the function of human will be challenged?

Tuomas had a lot of ideas on how our future will look like if we become more intertwined with data, but he himself said that these were nothing but speculations for now.

### 6.3 Timo Petänen of Amnet

Timo is the head of Amnet Finland, the programmatic buying section within Dentsu Aegis Network Finland. His role is more of a managerial as well as a pioneering-one; pushing Amnet, as well as the whole industry, forward with programmatic. He has seen the industry around programmatic develop since the conception of the term and is very passionate in pushing it to the next level especially in Finland and the Nordics.

When asked what data means to him, Timo gave a simple answer: “Data is a currency”. According to him data is what brings true value into programmatic; without data there wouldn’t be programmatic buying, since targeting is at the heart of the technology. But in contrast, he also mentioned that without the analysis and infrastructure of programmatic there’s no value in data itself. So quite interestingly, he seemed to see the relationship of the two quite interconnected; without the one the other doesn’t make sense.

Nevertheless, Timo’s overall opinion seems to be that nothing works without data and by transforming that data into information, insights and actions we get new commodities. In the end it all comes down to the technology and to what extent we can leverage it for the use of data, as Timo mentioned.

If we don't have the right technology to utilize data, then we might not have any data at all. A good example is purely the amount of storage of data that has been growing exponentially in the last 50 or so years; it wouldn't have been even possible to talk about big data 50 years ago, since there just wasn't enough space for that amount of data.

When talking about data and privacy, Timo was sure that people don't want to be data-driven at first. He mentioned the 'creep-factor' that Tuomas also used. But once the benefits of data start to become more obvious, then people might start to feel differently.

When talking about the mind shift that people will have to go through in order to truly give in to data, Timo mentioned the way mobile has changed the way we look at the world: Before smartphones it was unheard of being always available and online, most people didn't even want that. But since we have started to use smartphones, we have gotten used to the fact that everyone is always online and it's changing our behaviour in turn.

"The choice to be anonymous is at the heart of the problem", as all of the interviewees mentioned before. Timo also felt that the feeling of control over your own data and the option to delete it has a big role in the acceptance of data in our everyday lives.

Much alike to Tuomas' opinion, Timo also put a lot of the responsibility on the governments or international organisations like the EU to protect our privacy through legislation. He was expectant of the new legislation to come in Europe, but also slightly sceptical of how it will be implemented in real life; how it will affect businesses as well as individuals.

As a tradition, I asked Timo to speculate on the future of data and us as humans. His way of seeing it was that in the future we will be even more data-driven, and with this connection with data comes a new way of perceiving the world; in 20 years it might be completely normal for us to share all of our information with the world.

Will the same thing happen as with smartphones; will we numb to the constant presence of data and its collection and see it as a necessary evil to live our everyday lives?

These were Timo's speculations when talking about the future of data and us.

## 6.4 Conclusions

Looking back at the three interviews, I feel that these three had a lot of common ideas about data and its role in our lives; how data will grow its importance in the future and become even bigger of a part of the world we perceive, both at work as well as in private.

All of them saw data as something of a driving force in the media industry and especially at Dentsu Aegis; data should be at the core of the company and touch all the different sides of the business. Two of them mentioned this as a competitive advantage of Dentsu; how Dentsu can offer the whole package of media solutions with data running through all those processes and driving the decision-making and so forth the results.

At this point it's important to remember that although all these three experts have slight different viewpoints on data and its use, they are all under one media house: Dentsu Aegis Network Finland. This fact alone can have a lot of emphasis on their views of the industry and how data is to be used in media buying and digital advertising. I am currently working in the same company so I recognise this in myself as well.

Nevertheless, these are professionals with many years of experience who have seen the industry from different sides and different companies as well, so I trust their views more than my own.

Regarding data privacy and complications concerning data collection and use I was surprised how aware of the possible threats related to the misuse of their own data they were, but at the same time how easily all of them admitted that they didn't mind the risks as long as they got something out of it; targeted advertising for example. I guess this was to be expected of people working in a media house, where one of our biggest merits is the use of data in targeting of ads to the right people at the right time.

They all recognised the possible complications with data and privacy, but at the same time made the point that it's practically impossible to live in today's society without surrendering your data to some extent to the use of companies. This balance between benefit and risk is always present in our (online) lives and will most likely become even vaguer of a line between what's good for us and what's not.

## 7 Survey Results / Analysis

Altogether I got 103 answers to my survey, most of the recipients being Finnish (82%). As can be seen from the chart below, there were a few different nationalities represented in the results, but Finnish clearly being the dominant group of people. Analysis wise it would have been interesting to see more of a varying set of ethnicities, but it just means that this study will reflect more of the Finnish mind set than any other.

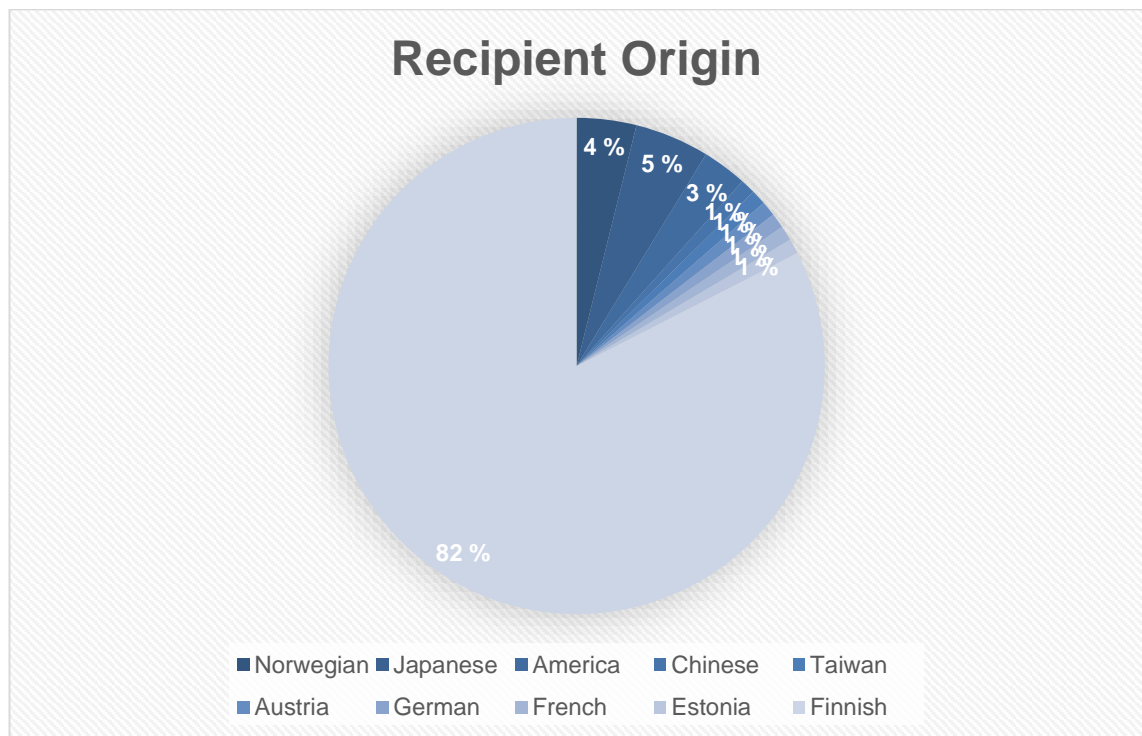


Figure 2. the Origins of the recipients

First there were some questions on the recipients' personal information, such as the age of the recipients and their current level of education, just to establish the base of the data pool; what generation we are addressing and what their education background might be.

A dominant group of the recipients were either university students at the end of their studies or people just out of school, as can be seen from the graphs in the next page.

I must mention that this survey happened to circulate within Dentsu Aegis Network Finland on the week it was open for responses, which will most likely show in the analysis.

### How old are you? (103 responses)

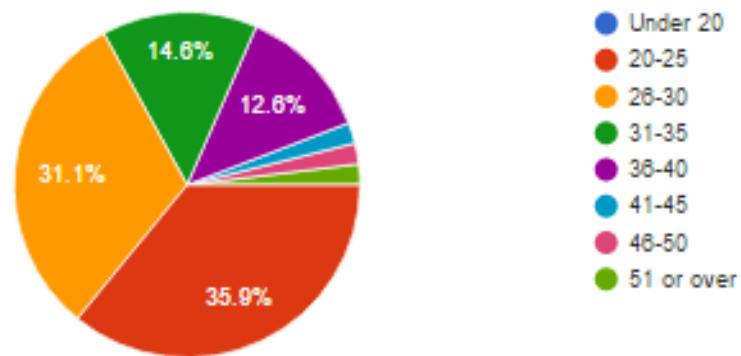


Figure 3. How old are you?

Most of the recipients were between ages 20 to 30 and had either a bachelor's or a master's degree in university, as you can see from the graphs above and below. Although the 20s' were the dominant group of people there were still at least a couple of answers per each age group. Thanks to this I got quite a varied sample on all the age groups. On the other hand, the educational backgrounds were quite similar no matter the ages, which can reflect the closeness of culture or work situation of the recipients.

### What's your current level of education? (103 responses)

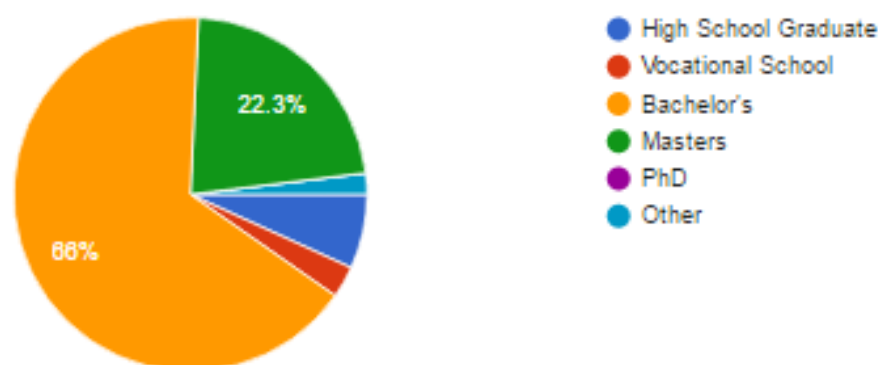


Figure 4. What's your current level of education?



## Technology

The next section was concerning the technologies the recipients use in their everyday life. I thought this was an interesting point to make concerning data collection and use, since most of our electrical devices now are connected to a global network or a Wi-Fi.

### What electrical devices do you use everyday? (103 responses)

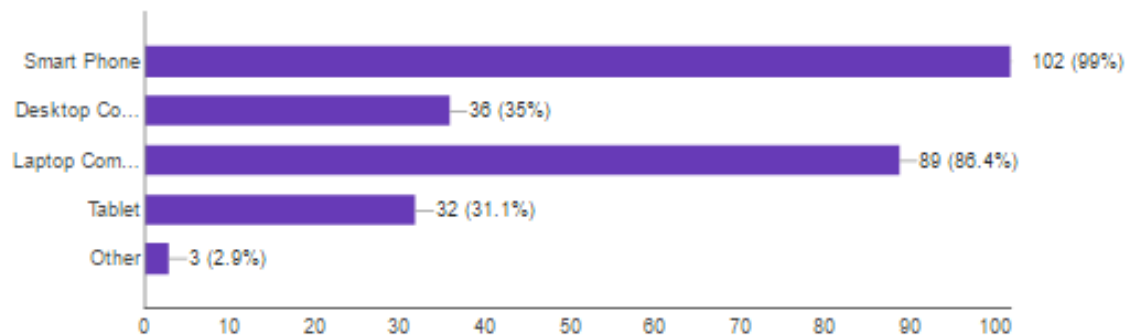


Figure 5. What electronic devices do you use every day?

Looking at the graph above, I'd like to point out that only one person didn't put a smartphone as one of the technologies they use daily, which is an important point to make: most people today are always available and connected by smartphones. At the same time, it's good to notice that most people chose more than one, which suggests that were using two or three electrical devices every day.

### Which operating system do you prefer? (103 responses)

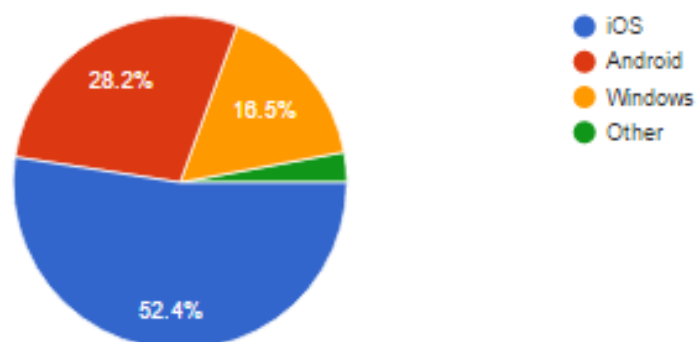


Figure 6. Which operating system do you prefer?

Relating to my question on the electrical devices the recipients use in their daily lives, I wanted to know further which operating system they prefer, as well as the most common applications they can find on their smartphones:

### Which of these apps can you find on your phone? (103 responses)

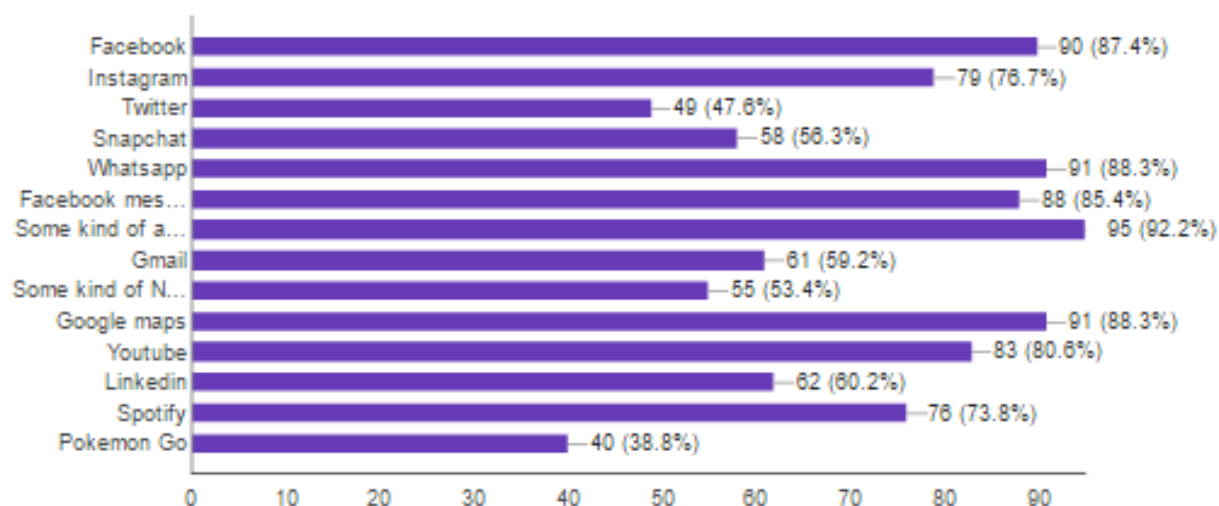


Figure 7. Which of these apps can you find on your phone?

I'd like to specify why I asked this question; All of these applications use some kind of data of the user to offer their services. For example, Facebook may access your contacts, location, camera and even your phone's microphone, if you give access to it.

The amount of data that these applications collect can be controlled to some degree, but what I wonder is how many of the recipients have really thought about this issue and done something about it. Personally I haven't changed any of my privacy setting on my smartphone, even though I am aware of the issue.

On a side note, these were all applications I could find on my own phone and use almost every day. Not surprisingly, these seem to be some of the most common applications among the survey takers and most likely among Finnish people as well, considering the profile of the recipients. It just shows how connected we are all, both in good and bad.

## Data

Do you feel like you are in control of your own data? (103 responses)

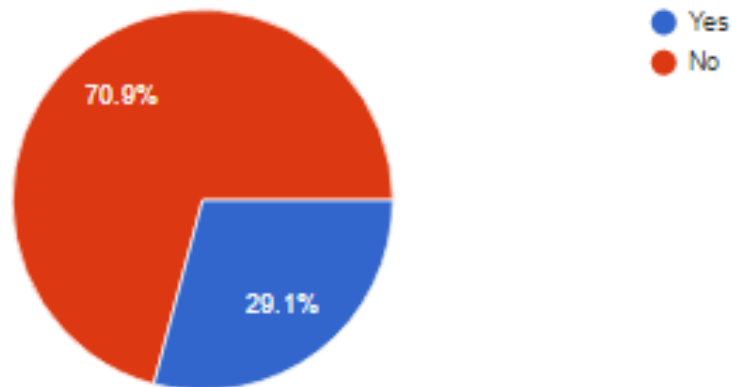


Figure 8. Do you feel like you are in control of your data?

As a way to start the next section on data with more of a thought provoker, I wanted to know how people felt about their data and if they feel they are in control of it. I left the question quite open on purpose in order to make people think why they felt this way and asked for further comments to explain their opinion.

Here are some of the comments I received:

*"Google knows everything"*

*"I feel like my phone and different apps are able to collect data about me without me even knowing about it"*

*"Haven't read T&C's of any of the mentioned apps/services so I really don't know what data they collect of me (everything I suppose tho)"*

*" There is no free lunches - services that appear free will steal everything they can, that's how they make their money"*

*"I am quite strict about what kind of data I have in different social media, but still I feel like one can be quite a little in control of his own data."*

*“I feel like the companies are too much in control. I have to agree on a lot of things. The apps are updated for me etc. People can also share pictures of me online that I do not agree with necessarily. Some webpages have cookies that collect information that can be used as commercials for us on f. ex Facebook.”*

*“I only grant applications access to the data and features that are mandatory for them to work. If an application requires access to data/features that don't have anything to do with the application's primary use (e.g. a dictionary app requiring access to camera or location) then I most likely won't install it at all. I've also just kind of accepted that for example Google will be getting and storing all your data no matter what you do so it's no use trying to fight it.”*

*“Even if I try, I think I don't understand everything”*

*“Everyday life is not anymore possible without giving your data to tech companies “*

*“I don't think that anyone would be especially interested in the data of my everyday use”*

*“I don't have much data anyway”*

Quite interestingly, most people didn't feel that they are in control of their own data and the common theme in the comments was that in today's information society it's not even possible to have full control of what data is collected of you. A lot of the recipients seemed to have come to terms with the fact that “There is no free lunch in this world”.

Some even went as far as to say that they don't have that much data to collect or that it wouldn't even be of any interest to anyone. This is an interesting opinion to consider, especially in today's data-intensive lifestyle. On the other hand, it might be expected after being bombarded with constant information and notifications on changed T&Cs. People might feel that there's no point trying to control your data considering all of this.

### What kind of information are you willing to share online? (103 responses)

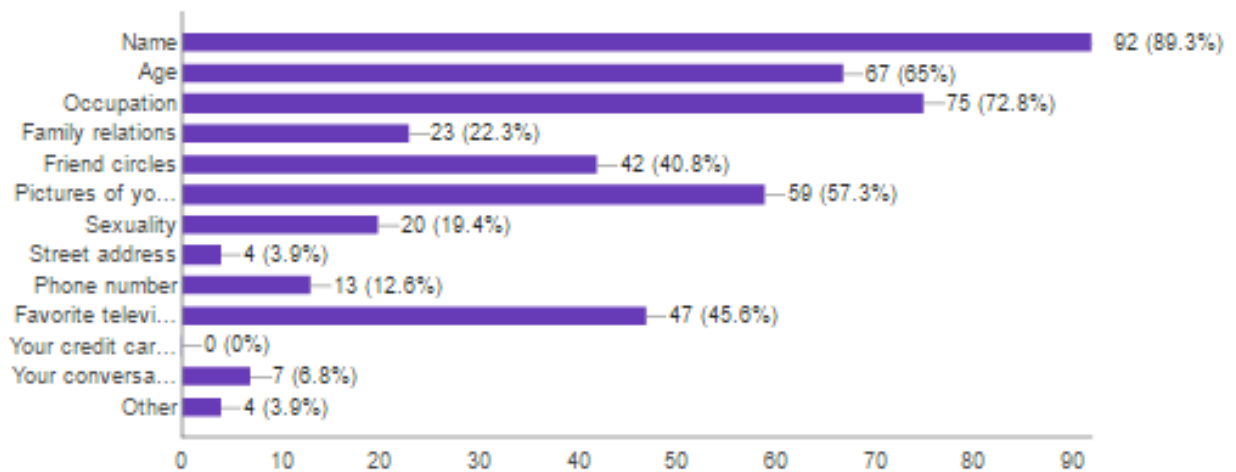


Figure 9. What kind of information are you willing to share online?

Next I wanted to specify what kind of information people were willing to share and what they would never share online (graphs above and below). As you can see, the two graphs are almost in perfect contrast to each other, since the options were exactly the same.

### What kind of information would you never share online? (103 responses)

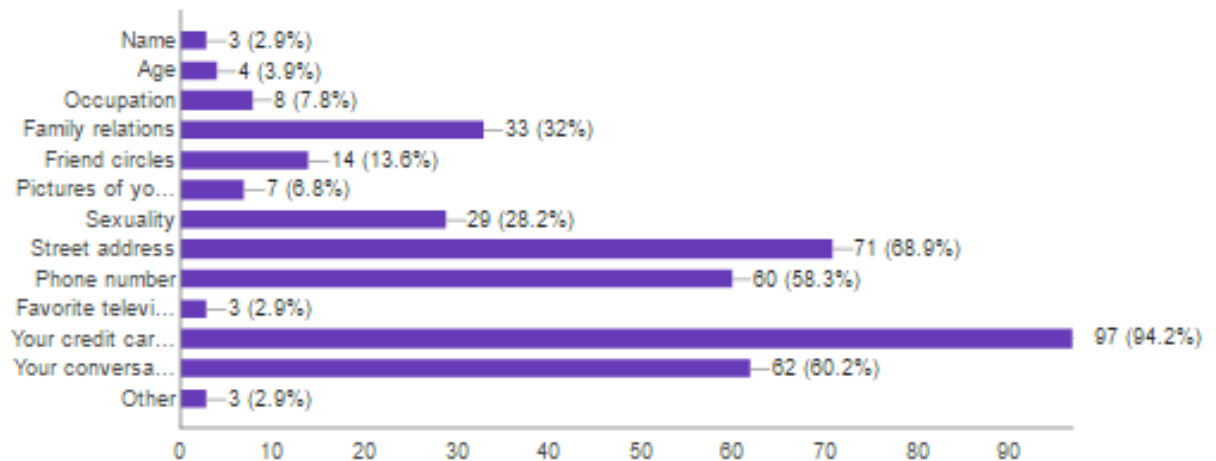


Figure 10. What kind of information would you never share online?

Do you usually read the whole Terms of Agreement before pushing the "I Agree" button?  
(103 responses)

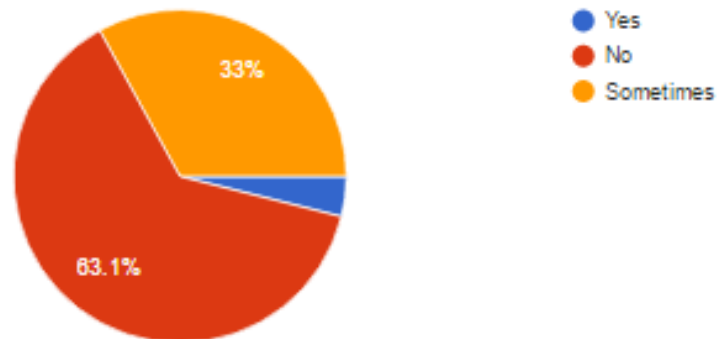


Figure 11. Do you usually read the whole Terms of Agreement (Terms and Conditions) before pushing the "I agree" button?

Just to prove my own hypothesis, I wanted to know if anyone actually read all the Terms and Conditions before pushing the "Agree button" and as I expected, the bulk of the people didn't bother reading or only sometimes read the T&Cs before agreeing on them.

I feel like this is a common problem for most of the world. For most people it's not even humanly possible to go through hundreds of pages of fine print just to make sure that you're not agreeing on something you don't understand. Another problem is the legal lingo that average people are not fluent in. This puts people in an unfair advantage.

But the point behind this question was to challenge the recipients' behaviour and why they read or don't read the T&Cs and what implications this might have on their lives.

### How much do you care about companies collecting data about you? (103 responses)

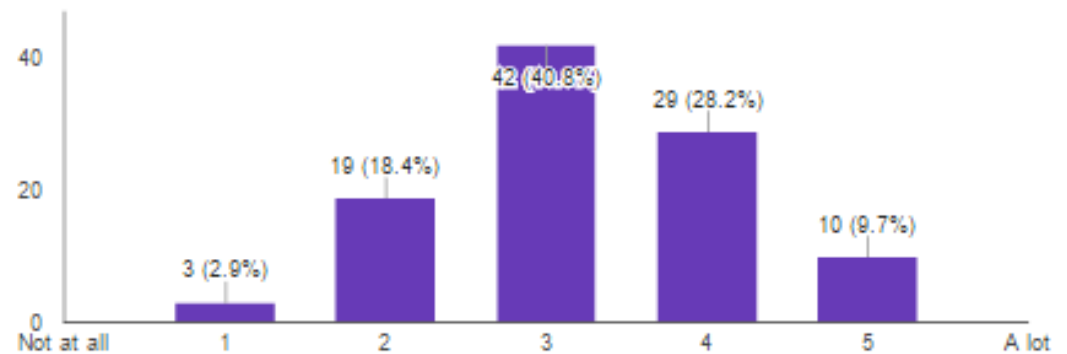


Figure 12. How much do you care about companies collecting data about you?

With the next two questions I wanted to clarify how much the recipients cared about companies collecting and using their information on a scale from “Not at all” to “A lot”. If you look at the two graphs above and below, most of the answer were positioned right in the middle with a clear tilt on the side of “A lot” especially in the usage of data.

### How much do you care about companies using your data? (103 responses)

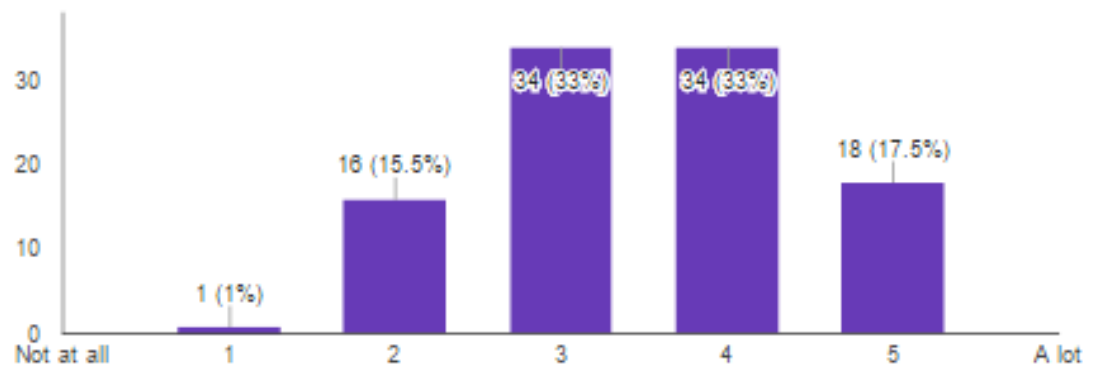


Figure 13. How much do you care about companies using your data?

It seems that almost all of the recipients were worried to some extent about their data in the hands of companies, but in contrast they don't seem to mind them collecting their information as much as using it.

### Have you ever felt uneasiness about your personal data being used? (103 responses)

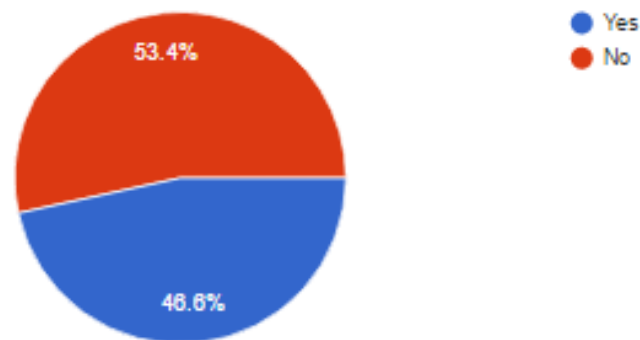


Figure 14. Have you ever felt uneasiness about your personal data being used?

Here are some of the comments on the question on whether the recipients have ever felt uneasiness about their personal data being used, and in what kind of situation:

*"Mainly targeted advertising"*

*"When the banners show up on my feed about topics I've discussed with people."*

*"With personal discussions in Whatsapp and Messenger"*

*"When e.g. some apps require data that I self don't see need for"*

*"Registering in to a new service by using Google or Facebook credentials."*

*"I don't like it when ads of products I've looked at pop up e.g. in Gmail. It feels invasive and stalkerish."*

I was quite surprised how 50/50 the answers were divided on this question. Judging from the people who answered yes, it has been quite the normal everyday things that make them aware of their privacy being invaded. Some of the big internet companies were mentioned more than once. Personal conversations with other people being recorded and collected seemed to be the biggest concern among the recipients.



## Privacy

How much do you value your privacy compared to the advantages you get from giving out your information (ease of use, instant access etc.)?

(103 responses)

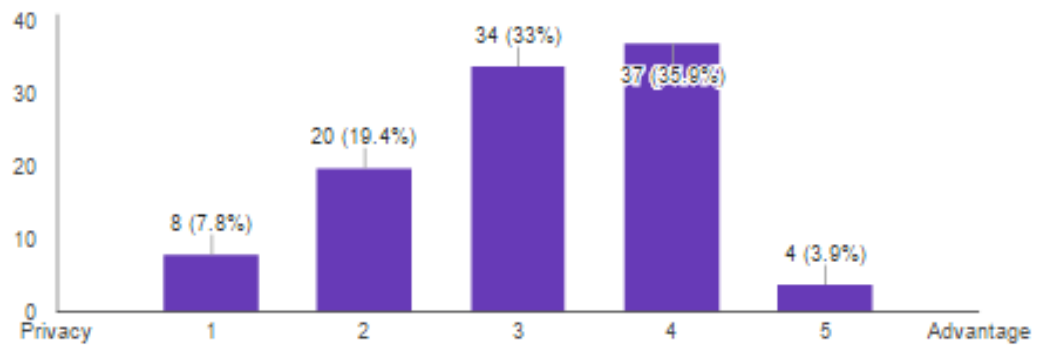


Figure 15. How much do you value your privacy compared to the advantages you get from giving out your information?

This was one of the most important question within this survey in my opinion, and really the core of my thesis as well; in what way do people value their privacy compared to the benefits they get from giving out their information?

I also asked for some comments on why people rated their preferences this way and it really reflected the constant battle or balance between these two:

*"I'm too lazy to care anymore"*

*"I only give out information that is required as I want companies having as little information as possible in the event that the data is compromised by an outside source."*

*"My private data does not really belong to anyone else but me."*

*"Advantage over privacy as so far no one has misused my data or violated my privacy"*

*"I could accept some kind of inconvenience, but I don't like to allow websites to store my credit card number or some sensitive information because I never know when the data would be sold or the server would be hacked."*

*"I would like to get more privacy but the alternative is that you stop using all free services. I'd be willing to pay something to keep my info private"*

*“As we progress more into the digital age it will become nearly impossible to maintain the older forms of privacy.”*

*“Lost advantages are easy to regain, lost privacy is not.”*

*“I am not too concerned about my privacy (probably should be), until my details are used in illegal manner, e.g. purchases with my credit card, burglar to my home while away, etc.”*

*“Thin line. I value privacy absolutely more, but then again I want the full scope of digital services. Can't have both nowadays.”*

*“Ease of access is important to me and I often don't think about the consequences”*

*“i am still unaware of the pros and cons... it is easy to understand the possibilities but it is a lot harder to see how it would impact in a long term --> where should we draw the line”*

*“I tried to keep high privacy level with certain services, but they were way too difficult to use after that. Nowadays I prefer ease of access and use over privacy.”*

*“Being in the business, I know data isn't (or at least shouldn't be) processed with any PII, or by humans at this level. As such the advantages weight more than the compromised privacy.”*

*“Terms of use should be easier to read for people. Privacy is important.”*

*“I understand that if I want to get more personalized service I must also give something”*

*“Privacy can be lost only once”*

Do you feel that you get something in return for giving out information for services like Google or Yahoo?  
(103 responses)

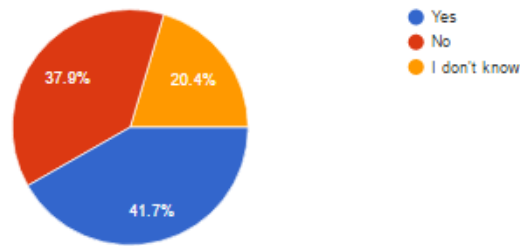


Figure 16. Do you feel that you get something in return for giving out information for services like Google or Yahoo?

Do you feel that you get something in return for giving out information for services like Facebook or Twitter?  
(103 responses)

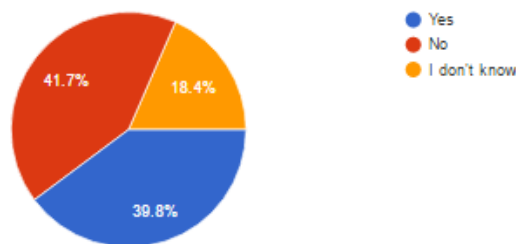


Figure 17. Do you feel that you get something in return for giving out information for services like Facebook or Twitter?

Do you feel that you get something in return for giving out information for services like Whatsapp, messenger or LINE?  
(103 responses)

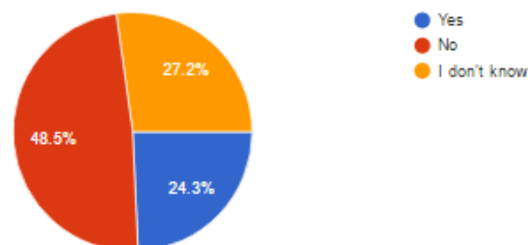


Figure 18. Do you feel that you get something in return for giving out information for services like Whatsapp, Messenger or LINE?

Next I asked if the recipients felt they get something in return for their personal information for three sets of services: Search engines, Social media and messaging apps.

Here are some of the comments from people who saw this as a positive trade:

*"They are free to use, Gmail and Google drive are great/useful services, Facebook has become a part of normal socializing"*

*"Most of the people are using them so it's access to these circles"*

*"Ads that I actually want to see instead of non-targeted annoying ads"*

*"More relevant information, advertising etc"*

*"Data processed by the used services provider gives advantage and makes life easier, Google suggested searches, Spotify suggested artists, Netflix suggested series, Facebook suggested stories etc. Sharing this data across providers or to 3rd party providers is what makes me cringe."*

### Last but not least...

After taking this survey are you concerned with what I will do with this data?  
(103 responses)

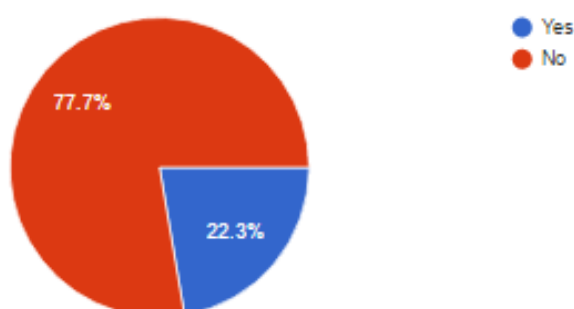


Figure 19. After taking this survey are you concerned with what I will do with this data?

Interestingly enough, over  $\frac{3}{4}$  (77,7%) of the recipients didn't seem to be too concerned with what I would do with their data from this survey, which surprised me to be honest.

## 8 Conclusions and discussion

### 8.1 Reliability and validity

There are some points concerning the survey results that should be mentioned:

Most of the recipients were Finnish, which makes the results of research inapplicable to the rest of the world, but on the other hand, it could be a good representation of the Finnish mind set. A big group of these people are people from my circle of friends or acquaintances, so the results might represent my mind set as well.

Another thing worth noting is that the survey circulated within the company Dentsu Aegis Network Finland and a lot of the answers came from the people working in the media house. This might distort the results, since most of the people have somewhat of a background in digital marketing, some even working with data and targeting.

Lastly, I tried to pose the questions in the most objective manner I possibly could, but they might nevertheless be understood differently depending on the person.

Especially the question on how much the recipients value their privacy compared to the advantages they get from giving out their information was a hard question to put on a scale of one to five (one being privacy and five being advantage). It was one of the core questions I wanted address through this thesis, but surprisingly difficult to put into a survey form. The results could have been more insightful with a better formed question.

Nevertheless, I believe that the research I conducted, both in survey and interview form, really got at the heart of my research question: Until what point is data doing us more good than harm and where does that line go? Most importantly I made people think.

Whereas the interviews were from the expert point-of-view, the survey results gave a view of the cross-section of how average people see the issues on data and privacy. All in all, both of the research results complimented each other and supported my hypothesis, so I would consider this as a valuable addition to the field of study.

## 8.2 Limitations and future research recommendations

For limitations of the research I want to mention the small sample of expert interviews, with all of the interviewees being employees of the same company. For a more wholesome and conclusive research more experts from all sides of the industry should be interviewed and asked more concrete questions on the subject. People from outside of the media industry should also be included to raise the criticality of the theme.

As for the survey, the research could have been taken one step further by collecting a bigger sample of different ethnicities, along a longer period of time with more specific questions on how people react to, for example, targeted advertising and suggestions. An actual experiment, for example showing targeted ads to a test group and asking them questions regarding them, would be even more insightful for this type of research.

For future research, understanding whether age or nationality influences the individual's opinions on data and privacy would be an interesting continuing point. Differences between different countries and age groups could offer a lot to the field of study.

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**Interview Guide:**  
**Data in Digital Advertising**

Name:

Profession / Position:

How many years in this field?

*Q1 What is data to you? How do you interact with data in your work?*

*Q2 How do you see data as part of Media Buying / Advertising?*

*Q3 How important is Data to Dentsu Aegis Network / Amnet / I&A?*

*Q4 How much should we trust data?*

*Q5 What are possible complications with data?*

*Pseudo-Anonymity? Ownership? Analysis? Accountability? Miss-use of data?*

*Q6 Where goes the line between benefit and privacy?*

*Will be losing more than what we're gaining from giving our data away?*

*Q7 How do you feel about big corporations collecting constant information on our every move online and even offline? Do you see it as an opportunity or a threat?*

*Q8 Do you feel that the "I Agree" button is enough of a confirmation that the consumer understands what they are agreeing upon?*

*Q9 What is the future of data?*

*Will it change the way we work and live?*

*Q10 What is the future of us?*

*Will there be any secrets left or will data decide everything for us?*

## Survey on Data Privacy

10/22/2016

Data &amp; Privacy

19. Do you feel that you get something in return for giving out information for services like Facebook or Twitter? \*

Mark only one oval.

- ☐ Yes  
☐ No  
☐ I don't know

20. Do you feel that you get something in return for giving out information for services like Whatsapp, messenger or LINE? \*

Mark only one oval.

- ☐ Yes  
☐ No  
☐ I don't know

21. If you answered yes to any of these, what kind of extra value do feel you get from these services?

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### Last but not least...

22. After taking this survey are you concerned with what I will do with this data? \*

Mark only one oval.

- ☐ Yes  
☐ No

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 Google Forms

10/22/2016

Data & Privacy

5. Which operating system do you prefer? \*

Mark only one oval.

- ☐ iOS
- ☐ Android
- ☐ Windows
- ☐ Other: \_\_\_\_\_

6. Which of these apps can you find on your phone?

Check all that apply.

- ☐ Facebook
- ☐ Instagram
- ☐ Twitter
- ☐ Snapchat
- ☐ Whatsapp
- ☐ Facebook messenger
- ☐ Some kind of a web browser (Google Chrome, Firefox, Safari, Internet Explorer etc.)
- ☐ Gmail
- ☐ Some kind of News (HS.fi, CNN, BBC, NY Times etc.)
- ☐ Google maps
- ☐ Youtube
- ☐ LinkedIn
- ☐ Spotify
- ☐ Pokemon Go

## Data

7. Do you feel like you are in control of your own data? \*

Mark only one oval.

- ☐ Yes
- ☐ No

8. Why? \*

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10/22/2016

Data & Privacy

9. What kind of information are you willing to share online? \*

Check all that apply.

- ☐ Name
- ☐ Age
- ☐ Occupation
- ☐ Family relations
- ☐ Friend circles
- ☐ Pictures of your pet
- ☐ Sexuality
- ☐ Street address
- ☐ Phone number
- ☐ Favorite television series
- ☐ Your credit card history
- ☐ Your conversations with people
- ☐ Other: \_\_\_\_\_

10. What kind of information would you never share online? \*

Check all that apply.

- ☐ Name
- ☐ Age
- ☐ Occupation
- ☐ Family relations
- ☐ Friend circles
- ☐ Pictures of your pet
- ☐ Sexuality
- ☐ Street address
- ☐ Phone number
- ☐ Favorite television series
- ☐ Your credit card history
- ☐ Your conversations with people
- ☐ Other: \_\_\_\_\_

11. Do you usually read the whole Terms of Agreement before pushing the "I Agree" button? \*

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ Sometimes

12. How much do you care about companies collecting data about you? \*

Mark only one oval.

	1	2	3	4	5	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	A lot

10/22/2016

Data & Privacy

13. How much do you care about companies using your data? \*
- Mark only one oval.

	1	2	3	4	5	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	A lot

14. Have you ever felt uneasiness about your personal data being used? \*
- Mark only one oval.

☐ Yes

☐ No

15. If yes, in what kind of situation have you felt this way?

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## Privacy

16. How much do you value your privacy compared to the advantages you get from giving out your information (ease of use, instant access etc.)? \*
- Mark only one oval.

	1	2	3	4	5	
Privacy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Advantage

17. Why? \*

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18. Do you feel that you get something in return for giving out information for services like Google or Yahoo? \*
- Mark only one oval.

☐ Yes

☐ No

☐ I don't know

10/22/2016

Data & Privacy

19. Do you feel that you get something in return for giving out information for services like Facebook or Twitter? \*

Mark only one oval.

☐ Yes

☐ No

☐ I don't know

20. Do you feel that you get something in return for giving out information for services like Whatsapp, messenger or LINE? \*

Mark only one oval.

☐ Yes

☐ No

☐ I don't know

21. If you answered yes to any of these, what kind of extra value do feel you get from these services?

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### Last but not least...


22. After taking this survey are you concerned with what I will do with this data? \*

Mark only one oval.

☐ Yes

☐ No

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The survey was conducted from the 17th of October to the 23rd.